

ENCYCLOPEDIA OF  
*Social*  
*Psychology*



Roy F. Baumeister  
Kathleen D. Vohs  
EDITORS

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Social  
*P*psychology

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Psychology

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Roy F. Baumeister

*Florida State University*

Kathleen D. Vohs

*University of Minnesota*

EDITORS

A SAGE Reference Publication

 SAGE Publications  
Los Angeles • London • New Delhi • Singapore

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*For information:*



SAGE Publications, Inc.  
2455 Teller Road  
Thousand Oaks, California 91320  
E-mail: order@sagepub.com

SAGE Publications Ltd.  
1 Oliver's Yard  
55 City Road  
London EC1Y 1SP  
United Kingdom

SAGE Publications India Pvt. Ltd.  
B 1/I 1 Mohan Cooperative Industrial Area  
Mathura Road, New Delhi 110 044  
India

SAGE Publications Asia-Pacific Pte. Ltd.  
33 Pekin Street #02-01  
Far East Square  
Singapore 048763

Printed in the United States of America.

*Library of Congress Cataloging-in-Publication Data*

Encyclopedia of social psychology/editors, Roy F. Baumeister, Kathleen D. Vohs.  
p. cm.

Includes bibliographical references and index.

ISBN 978-1-4129-1670-7 (cloth)

1. Social psychology—Encyclopedias. I. Baumeister, Roy F. II. Vohs, Kathleen D.

HM1007.E53 2007

302.03—dc22

2007014603

This book is printed on acid-free paper.

07 08 09 10 11 10 9 8 7 6 5 4 3 2 1

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|                                   |                                |
|-----------------------------------|--------------------------------|
| <i>Publisher:</i>                 | Rolf A. Janke                  |
| <i>Acquisitions Editor:</i>       | Michael Carmichael             |
| <i>Developmental Editors:</i>     | Carole Maurer, Paul Reis       |
| <i>Reference Systems Manager:</i> | Leticia Gutierrez              |
| <i>Project Editor:</i>            | Tracy Alpern                   |
| <i>Copy Editors:</i>              | Colleen B. Brennan, Robin Gold |
| <i>Typesetter:</i>                | C&M Digitals (P) Ltd.          |
| <i>Indexer:</i>                   | Julie Sherman Grayson          |
| <i>Cover Designer:</i>            | Candice Harman                 |
| <i>Marketing Manager:</i>         | Carmel Withers                 |

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# Reader's Guide

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This Reader's Guide performs two functions within the encyclopedia. One, the headings alone describe, at a broad level, the kinds of topics covered in the field of social psychology. Looking at the overarching categories, one can see that social psychology studies cognition (thought) and action, helpful and hurtful behaviors, emotions and decisions, culture and evolution, the self and social relationships, as well as health and problematic behaviors. That's quite a range of topics! The second purpose of the Reader's Guide is related to the first in that it helps readers who are already interested in a topic find new topics that may be of interest. In this way, the Reader's Guide provides links among topics. Either way it is used, we hope that you find yourself reading entries from all of the general categories, given the wealth of interesting and important information to learn here.

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Action Identification Theory  
Adaptive Unconscious  
Apparent Mental Causation  
Approach-Avoidance Conflict  
Authenticity  
Auto-Motive Model  
Autonomy  
Behavioral Contagion  
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Mindfulness and Mindlessness  
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Nonconscious Processes  
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Regulatory Focus Theory  
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Relational Models Theory  
Sexual Economics Theory  
Terror Management Theory

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Affect-as-Information

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Anger  
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Reference Group  
Resisting Persuasion  
Scarcity Principle  
Self-Fulfilling Prophecy  
Sleeper Effect

Social Power  
Stealing Thunder  
Supplication

## **Interpersonal Relationships**

Attachment Theory  
Betrayal  
Close Relationships  
Communal Relationships  
Companionate Love  
Complementarity, of Relationship Partners  
Decision and Commitment in Love  
Dependence Regulation  
Empathic Accuracy  
Equity Theory  
Exchange Relationships  
Forgiveness  
Gossip  
Interdependence Theory  
Interpersonal Cognition  
Intimacy  
Intimate Partner Violence  
Loneliness  
Love  
Marital Satisfaction  
Matching Hypothesis  
Mimicry  
Need to Belong  
Nonverbal Cues and  
    Communication  
Ostracism  
Pornography  
Propinquity  
Rejection  
Romantic Love  
Romantic Secrecy  
Self-Disclosure  
Self-Evaluation Maintenance  
Self-Expansion Theory  
Self-Fulfilling Prophecy  
Sex Drive  
Sexual Desire  
Sexual Economics Theory  
Similarity-Attraction Effect  
Social Exchange Theory  
Social Exclusion

Social Support  
Social Value Orientation  
Teasing  
Transactive Memory  
Triangular Theory of Love  
Trust  
Unrequited Love

## **Judgment and Decision Making**

Behavioral Economics  
Decision Making  
Fast and Frugal Heuristics  
Free Will, Study of  
Grim Necessities  
Group Decision Making  
Group Polarization  
Hindsight Bias  
Hot Hand Effect  
Hyperbolic Discounting  
Illusion of Transparency  
Illusory Correlation  
Ingroup-Outgroup Bias  
Integrative Complexity  
Law of Small Numbers  
Loss Aversion  
Mental Accounting  
Mere Ownership Effect  
Naive Cynicism  
Naive Realism  
Omission Neglect  
Overconfidence  
Planning Fallacy  
Pluralistic Ignorance  
Preference Reversals  
Prisoner's Dilemma  
Prospect Theory  
Public Goods Dilemma  
Recency Effect  
Representativeness Heuristic  
Risk Taking  
Risky Shift  
Satisficing  
Sequential Choice  
Simulation Heuristic  
Simultaneous Choice  
Social Dilemmas

Spreading of Alternatives  
Sunk Cost  
Visceral Influences

## **Methods**

Autobiographical Narratives  
Behavioral Economics  
Bennington College Study  
Big Five Personality Traits  
Bobo Doll Studies  
Bogus Pipeline  
Content Analysis  
Control Condition  
Critical Social Psychology  
Cross-Lagged Panel Correlation  
Deception (Methodological Technique)  
Demand Characteristics  
Discursive Psychology  
Dynamical Systems Theory  
Ecological Validity  
Ethnocentrism  
Experimental Condition  
Experimental Realism  
Experimentation  
Experimenter Effects  
Falsification  
Forced Compliance Technique  
Identity Status  
Implicit Association Test  
Individual Differences  
LISREL  
Logical Positivism  
Lost Letter Technique  
Meta-Analysis  
Mundane Realism  
Nonexperimental Designs  
Operationalization  
Order Effects  
Path Analysis  
Placebo Effect  
Quasi-Experimental Designs  
Reductionism  
Research Methods  
Self-Reports  
Semantic Differential  
Social Desirability Bias

Social Relations Model  
Sociometric Status  
Structural Equation Modeling  
Thematic Apperception Test  
Twin Studies

## **Personality**

Achievement Motivation  
Agreeableness  
Androgyny  
Attachment Styles  
Authoritarian Personality  
Babyfacedness  
Big Five Personality Traits  
Central Traits Versus  
    Peripheral Traits  
Control Motivation  
Curiosity  
Defensive Pessimism  
Depression  
Expertise  
Extraversion  
Gender Differences  
Genetic Influences on Social Behavior  
Hardiness  
Hostile Masculinity Syndrome  
Identity Status  
Implicit Personality Theory  
Individual Differences  
Introversion  
Locus of Control  
Masculinity/Femininity  
Metraits  
Narcissism  
Narcissistic Entitlement  
Need for Affiliation  
Need for Closure  
Need for Cognition  
Need for Power  
Neuroticism  
Personalities and Behavior Patterns,  
    Type A and Type B  
Personality and Social Behavior  
Power Motive  
Rejection Sensitivity  
Self-Complexity

Self-Concept Clarity  
 Self-Control Measures  
 Self-Esteem  
 Self-Esteem Stability  
 Self-Monitoring  
 Sensation Seeking  
 Sex Drive  
 Sex Roles  
 Shyness  
 Social Desirability Bias  
 Testosterone  
 Thematic Apperception Test  
 Traits  
 Uniqueness

## Prejudice

Aversive Racism  
 Benevolent Sexism  
 Contact Hypothesis  
 Discrimination  
 Jigsaw Classroom  
 Prejudice  
 Prejudice Reduction  
 Racism  
 Scapegoat Theory  
 Sexism  
 Stereotypes and Stereotyping  
 Stereotype Threat  
 Stigma  
 Symbolic Racism

## Problem Behaviors

Binge Eating  
 Bulimia  
 Bullying  
 Coping  
 Counterregulation of Eating  
 Date Rape  
 Deception (Lying)  
 Depression  
 Narcissistic Reactance  
   Theory of Sexual Coercion  
 Objectification Theory  
 Rape  
 Self-Defeating Behavior

Self-Handicapping  
 Shyness  
 Social Loafing  
 Suicide

## Prosocial Behaviors

Altruism  
 Altruistic Punishment  
 Attraction  
 Bystander Effect  
 Compassion  
 Cooperation  
 Decision Model of Helping  
 Distributive Justice  
 Empathic Accuracy  
 Empathy  
 Empathy–Altruism Hypothesis  
 Gratitude  
 GRIT Tension Reduction Strategy  
 Helping Behavior  
 Negative-State Relief Model  
 Positive Psychology  
 Prisoner's Dilemma  
 Prosocial Behavior  
 Public Goods Dilemma  
 Reciprocal Altruism  
 Religion and Spirituality  
 Search for Meaning in Life  
 Volunteerism

## Self

Actor–Observer Asymmetries  
 Apparent Mental Causation  
 Barnum Effect  
 Basking in Reflected Glory (BIRGing)  
 Brainwashing  
 Close Relationships  
 Collective Self  
 Contingencies of Self-Worth  
 Deindividuation  
 Downward Social Comparison  
 Egocentric Bias  
 Ego Shock  
 Escape Theory  
 Executive Function of Self

Exemplification  
Facial-Feedback Hypothesis  
Identity Crisis  
Illusion of Control  
Illusion of Transparency  
Impression Management  
Independent Self-Construals  
Ingratiator's Dilemma  
Interdependent Self-Construals  
Introspection  
Looking-Glass Self  
Mental Control  
Mere Ownership Effect  
Misattribution of Arousal  
Moral Development  
Mortality Salience  
Name Letter Effect  
Objectification Theory  
Optimal Distinctiveness Theory  
Overjustification Effect  
Personal Space  
Phenomenal Self  
Positive Illusions  
Procrastination  
Projection  
Psychological Entitlement  
Reactance  
Regulatory Focus Theory  
Roles and Role Theory  
Schemas  
Self  
Self-Affirmation Theory  
Self-Attribution Process  
Self-Awareness  
Self-Categorization Theory  
Self-Complexity  
Self-Concept  
Self-Concept Clarity  
Self-Control Measures  
Self-Deception  
Self-Defeating Behavior  
Self-Determination Theory  
Self-Disclosure  
Self-Discrepancy Theory  
Self-Efficacy  
Self-Enhancement  
Self-Esteem

Self-Esteem Stability  
Self-Evaluation Maintenance  
Self-Expansion Theory  
Self-Fulfilling Prophecy  
Self-Handicapping  
Self-Monitoring  
Self-Perception Theory  
Self-Presentation  
Self-Promotion  
Self-Reference Effect  
Self-Regulation  
Self-Reports  
Self-Serving Bias  
Self-Stereotyping  
Self-Verification Theory  
Social Comparison  
Social Identity Theory  
Spotlight Effect  
Stigma  
Symbolic Self-Completion  
Terror Management Theory  
Threatened Egotism  
    Theory of Aggression  
Uniqueness  
Value Priorities  
Zeal

## **Social Cognition**

Accessibility  
Accountability  
Action Identification Theory  
Actor–Observer Asymmetries  
Adaptive Unconscious  
Alcohol Myopia Effect  
Anchoring and Adjustment Heuristic  
Assimilation Processes  
Associative Networks  
Attention  
Attributional Ambiguity  
Attributions  
Attribution Theory  
Automatic Processes  
Availability Heuristic  
Bad Is Stronger Than Good  
Barnum Effect  
Base Rate Fallacy

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Basking in Reflected Glory (BIRGing)  
Belief Perseverance  
Blaming the Victim  
Central Traits Versus Peripheral Traits  
Confirmation Bias  
Consciousness  
Contrast Effects  
Controlled Processes  
Correspondence Bias  
Correspondent Inference Theory  
Counterfactual Thinking  
Creativity  
Curiosity  
Debiasing  
Defensive Attribution  
Depressive Realism  
Diagnosticity  
Dilution Effect  
Discounting, in Attribution  
Distinctiveness, in Attribution  
Downward Social Comparison  
Dual Process Theories  
Egocentric Bias  
Emotional Intelligence  
Encoding  
Excuse  
Expectancy Effects  
Expectations  
Eyewitness Testimony, Accuracy of  
False Consciousness  
False Consensus Effect  
False Uniqueness Bias  
Focalism  
Fundamental Attribution Error  
Gain–Loss Framing  
Gambler’s Fallacy  
Halo Effect  
Heuristic Processing  
Heuristic-Systematic Model of Persuasion  
Hostile Attribution Bias  
Hostile Media Bias  
Hot Hand Effect  
Illusory Correlation  
Implicit Personality Theory  
Inference  
Integrative Complexity  
Interpersonal Cognition  
Justice Motive  
Just-World Hypothesis  
Kelley’s Covariation Model  
Lay Epistemics  
Lowballing  
Matching Hypothesis  
Meaning Maintenance Model  
Memory  
Metacognition  
Mimicry  
Mind-Wandering  
Misattribution of Arousal  
Moral Emotions  
Moral Reasoning  
Motivated Cognition  
Motivated Reasoning  
MUM Effect  
Nonconscious Processes  
Norms, Prescriptive and Descriptive  
Omission Neglect  
Personality Judgments, Accuracy of  
Person Perception  
Person-Positivity Heuristic  
Positive–Negative Asymmetry  
Primacy Effect, Attribution  
Primacy Effect, Memory  
Priming  
Projection  
Prototypes  
Recency Effect  
Responsibility Attribution  
Risk Appraisal  
Saliency  
Satisficing  
Schemas  
Scripts  
Self-Fulfilling Prophecy  
Self-Reference Effect  
Self-Serving Bias  
Self-Verification Theory  
Shifting Standards  
Similarity-Attraction Effect  
Social Categorization  
Social Cognition  
Social Cognitive Neuroscience  
Social Comparison  
Social Impact Theory

Social Projection  
Spontaneous Trait Inferences  
Spreading of Alternatives  
Subliminal Perception  
Subtyping  
Symbolic Interactionism  
Theory of Mind  
Thin Slices of Behavior  
Three-Dimensional Model of Attribution  
Transactive Memory  
Value Pluralism Model

### **Subdisciplines**

Applied Social Psychology  
Consumer Behavior  
Critical Social Psychology  
Discursive Psychology

Environmental Psychology  
Ethology  
Evolutionary Psychology  
Eyewitness Testimony, Accuracy of  
Forensic Psychology  
Health Psychology  
History of Social Psychology  
Organizational Behavior  
Peace Psychology  
Personality and Social Behavior  
Political Psychology  
Positive Psychology  
Religion and Spirituality  
Social Cognitive Neuroscience  
Social Neuroscience  
Social Psychophysiology  
Sociobiology  
Sociological Social Psychology

# About the Editors

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**Roy F. Baumeister** holds the Eppes Eminent Professorship in the Department of Psychology at Florida State University. He received his Ph.D. in experimental social psychology from Princeton University in 1978. He has also taught and conducted research at the University of California at Berkeley, Case Western Reserve University, University of Texas, University of Virginia, the Max-Planck Institute in Munich (Germany), and Stanford's Center for Advanced Study. He has contributed more than 300 professional publications (including 18 books), spanning such topics as self and identity, performance under pressure, self-control, self-esteem, finding meaning in life, sexuality, decision making, thoughts on free will, aggression and violence, suicide, interpersonal processes, social rejection, the need to belong, and human nature. His research on self-regulation has been funded for many years by the National Institute of Mental Health and the Templeton Foundation.

**Kathleen D. Vohs** is Assistant Professor in the Department of Marketing, Carlson School of Management, University of Minnesota. Vohs received her Ph.D. in psychological and brain sciences from Dartmouth College in 2000, after which she conducted research at the University of Utah and Case Western Reserve University. In 2003, she joined the Marketing Division at the University of British Columbia, where she was awarded the Canada Research Chair in Marketing Science and Consumer Psychology. In 2007, Vohs was named a McKnight Land-Grant Professor at the University of Minnesota. Vohs has contributed to more than 80 professional publications, including coediting 3 books. Her theories highlight the role of the self, and her research has been extended to the domains of chronic dieting, bulimic symptoms, sexuality, and impulsive and compulsive spending. Her work has been funded by the National Institutes of Health, the Social Sciences and Humanities Council of Canada, and the American Cancer Society.

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# Introduction

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Social psychology is the study of how normal people think, feel, and act. In that sense, social psychology is at the core of all the fields that study the human experience. As one colleague (not a social psychologist) remarked to us once, social psychology is one, and perhaps the only, field that can communicate with every other department in the university.

It was not always thus. The field of social psychology only began to take shape after World War II. Early on it consisted of a handful of creative researchers trying to figure out how to use laboratory techniques to test theories about people. In those early days, the ideas were simple to the point of simplistic, the methods primitive, the journals and conferences sparse and obscure.

Through the decades, social psychology has blossomed into a major enterprise. The 2007 conference of the Society for Personality and Social Psychology, held in Memphis, Tennessee, attracted more than 2,000 researchers. Now the Society has more than 5,000 members worldwide. There are dozens of journals, including the largest journal published by the American Psychological Association. (In fact, it is so large that at one point someone calculated that if it were split in half, the result would be the two largest journals published by the APA!)

All this remarkable progress has, however, made it difficult for outsiders to benefit from what social psychologists are learning. Thousands of researchers working in laboratories scattered around the world produce many individual facts and findings, which then appear in the journals one at a time. How can one wade through all of this material to find what one needs?

The *Encyclopedia of Social Psychology* is designed to make it easy for outsiders to gain access to and

benefit from this rapidly growing and important field. It provides brief, clear, readable introductory explanations to the vast number of ideas and concepts that make up the intellectual and scientific content of the field. We think of it as a map and tour guide to the field.

What is entitativity? How about erotic plasticity? What is the Prisoner's Dilemma (and what do social psychologists use it for)? What's the Ringelmann effect? Or the availability heuristic, or the facial-feedback hypothesis? What is door-in-the-face technique useful for? Or the lost letter technique? What's the problem with the illusion of transparency?

The encyclopedia does more than just answer these questions. It gives some background to each concept and explains what researchers are now doing with it. It also explains where it stands in relation to other concepts in the field.

Why are there so many terms? Social psychologists have been accused of making up jargon just to flatter themselves, to confuse others, or to disguise simple ideas to look like scientific theories. Here and there, such accusations may have some truth to them, but for the most part they miss the point. Jargon is needed for precision. Scientists need precise terms with clear definitions, and using the language of everyday speech, with its multiple meanings and connotations and emotional baggage, falls short. Hence, social psychologists, like those in most other fields, have had to develop their own terminology.

Jargon makes it easier for scientists to communicate with each other—but it makes it much harder for outsiders to gain access and understand what is being said. Hence, another important function of the encyclopedia is to translate jargon into plain terms. The biggest part of our job as editors of this encyclopedia

was to push the authors to describe their concepts in plain, clear, everyday language rather than speaking in the secret language of the discipline. We think they have succeeded magnificently (for the most part!). For some, it was not easy, because they are accustomed to writing about their ideas and working in the specialized terms that experts use to communicate with each other. But we were relentless on this, and the result is a wonderfully clear and readable set of entries.

Students are a particular target audience for the encyclopedia. We told our authors to imagine the reader as a young student, fresh out of high school, taking a first psychology course. (We thought that if things were explained at that level, the entries would also be very useful even for experts in other fields, who may know a great deal about their own field but whose knowledge of social psychology might be comparable to that of an undergraduate. After all, even if you have a Ph.D. in English literature or cultural studies, if you have not taken a course in psychology, your knowledge of this field is not all that different from that of an undergraduate!)

The encyclopedia began in conversations between us and the Sage editors several years ago. The need for such an encyclopedia had first been recognized in comments by librarians and others who field questions from students. Simple dictionaries do not cover all the terms that social psychologists use, and even when they do provide definitions, these definitions do not necessarily correspond to the current usage in the field. And, crucially, dictionary definitions are typically very short, providing the bare minimum of information rather than explaining a concept along with its background, significance, and relation to other concepts. What was needed was an easy way for ordinary people (including students) to find out what experts mean when they use a term like *entitativity*.

Developing the list of entries was a formidable challenge. We wanted to cover everything, but how can someone generate a list of several hundred concepts and terms and be sure it is complete? As a first step, the in-house research staff at Sage combed through the textbooks and other reference sources to create a first list. It was an impressive start, but when the two of us (both currently active researchers in the

field) looked it over, we quickly noticed that it missed quite a few, especially ones that had emerged in recent years (and therefore might be extremely important to what social psychologists are discussing today). And so we had to do a massive overhaul. Our first conversation—sitting outside at a sidewalk café at the Dam square in Amsterdam, a place that is richly stimulating for social psychologists because there is so much activity to observe—lasted for hours and generated many changes.

We soon realized, however, that the task was so big and important that we were not willing even to trust ourselves, though we have spent many years in the field, have written a textbook and attended numerous conferences, and so forth. Hence, we recruited a blue-ribbon Advisory Board and gave them the mission of reviewing the list to make changes. The Advisory Board consisted of prominent, well-respected researchers spanning the many subfields of social psychology and collectively had a truly amazing span of expertise. These busy men and women went far beyond the call of duty. They scrutinized the list of terms, identified which ones could be replaced and, more important, what needed to be added. They also pondered the importance of each term in the field and suggested how long each entry should be. Several Advisory Board members later reported that they had initially thought of the task as a bit of burden, but found the process of coming up with topics and who would be best to write about them to be quite enjoyable. As editors, we then had further meetings to integrate all their suggestions and add a few of our own.

The next step was to recruit people to write the entries. Many reference works such as this are written by anyone who is willing to contribute. But we wanted the best. We asked the Advisory Board to name the most prominent authority on each topic. And then we invited that person. We didn't just send a standard invitation—we sent a letter explaining how important we thought this project is and why it would be worthwhile for an internationally acclaimed expert to take the time and effort to produce this. To our very pleasant surprise, more than 95% of these leading authorities consented to write for us. For us, one of the high points was seeing the astonished expression on our Sage editor's face when we next met: "You got all the A-list

people—how did you manage that?” Fortunately for us, social psychology has recently recognized that its explosive growth has resulted in a vital need for sources like this that can help communicate our knowledge to students and to people in other disciplines.

From there, it was all over but for the hard (but also fun) part of editing the entries and finalizing the product. We hope you will share our enthusiasm for this product.

We want to thank several people without whom this project could not have been as enjoyable as it was, or as high quality. Michael Carmichael at Sage was a terrific help and champion of this project, and our meetings with him gave us renewed excitement. Our developmental editors, Paul Reis and Carole Maurer, were indispensable aids; without them, this project either would not have been completed or it would have been completed with a great deal of consternation on our parts. We needed help from them almost daily during the more intense phases of the project, and they were ready and willing to guide us in all aspects of the work. Our thanks to the tireless copy editors, Colleen Brennan and Robin Gold, who worked hard to get the encyclopedia into top shape. Catherine Rawn was a great help with cross-referencing so that readers would be able to find related entries. We also

want to extend thanks to Rolf Janke, whose meetings with us provided a broad overview of this encyclopedia and its placement within the suite of Sage books.

Our Advisory Board members deserve much praise for allowing us to put some structure to the generation of topics and potential authors. They are Galen Bodenhausen, Ap Dijksterhuis, Wendi Gardner, Michael Hogg, Jay Hull, Doug Kenrick, Tony Manstead, Sandra Murray, Abe Tesser, and Penny Visser. Last, our sincerest and most heartfelt thanks go to Nicole Mead who was an invaluable assistant at each step along the way. Thank goodness we had Nicole’s help, we thought at countless points during the process.

If you are still reading this, we must ask, why? Are you our parents? If so, hi mom. If not, you really should get a life. Or, better yet, move on to some of the entries in this encyclopedia. (We especially recommend the entry Sexual Economics Theory!) There is plenty of fascinating stuff in these pages. We hope you will use this not just to look things up: You can learn quite a bit just by browsing through these pages. We learned quite a bit just by editing this project! Enjoy and learn!

*Roy F. Baumeister and Kathleen D. Vohs*

# A

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## ACCESSIBILITY

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### Definition

Accessibility refers to the ease with which an idea or concept can be retrieved from memory. Accessible constructs are those that are quickly retrieved from memory. Concepts that are accessible are important because a concept must be activated to be useful in guiding behavior or in influencing judgments. Concepts that an individual has thought about recently or thinks about frequently tend to be more easily retrieved than other concepts. In social psychology, accessibility has often been considered in relation to attitudes. That is, attitudes that come to mind quickly are accessible attitudes. Accessible attitudes are generally stronger, more resistant to persuasion, and more predictive of behavior than are less accessible attitudes.

### Background

The study of attitudes has been an important part of the research landscape in social psychology since the early 1900s. Historically, attitudes were thought to be an important topic to study because early researchers assumed that attitudes are strongly related to behavior. However, the assumption that attitudes are reflected in behavior was criticized in 1969 by Allan Wicker, who observed that the bulk of research findings examining the correlation of attitudes to related behaviors found only a weak relationship. Later, as part of the ensuing debate about whether and how strongly attitudes guide behavior, Russell Fazio and colleagues found that accessible attitudes (those that are quickly brought to

mind) are more strongly related to behavior than attitudes that take longer to bring to mind.

The concept of accessibility has also been applied to other judgments people make in their everyday lives. Stereotypes of minority groups, for example, can vary in their accessibility. Priming, or presenting stereotype-related information to make the stereotype more accessible in the short term, has been shown to increase the reliance on stereotypes in making judgments of members of minority groups. Similarly, information that is relevant to a person's self-concept, or that is relevant to the attainment of a goal, tends to be accessible. The accessibility of self-relevant and goal-related information makes that information more likely to be relied on in making judgments.

A classic investigation of the accessibility of social stereotypes was conducted by Tory Higgins and his colleagues in 1977. They conducted an experiment in which they made trait categories accessible by having research participants remember them during an unrelated perceptual task. Afterward, participants read an ambiguous description of a stimulus person. The activated trait categories influenced participants' ratings and descriptions of the stimulus person. This study demonstrated that trait categories that are made accessible through priming are important in the interpretation of social information.

### Mechanism

To understand how accessible concepts affect judgments, it is important to understand how concepts like attitudes and stereotypes are represented in memory. Concepts are thought to reside in a semantic network in memory. The mental representation of an object or

concept is stored as a node in this network. The network is organized such that related concepts or nodes are linked through associative pathways. These associations, or links, vary in their strength: A strong association is created if a concept is frequently activated with another concept. Strong associations exist among members of categories and the concept of the category. Category members that are highly typical of the category are more strongly associated with the category than less typical members. For example, a robin will have a stronger link to the category label “bird” than will an ostrich. It is efficient to be able to quickly categorize objects that one encounters in the world: It enables quick decisions about whether or not to approach a novel object. Social stimuli appear to be represented similarly, and the categories people use to understand other people are called stereotypes.

Attitudes are similarly represented in semantic networks. An attitude object is represented as a node in the network. The evaluation of this attitude object is also represented in the network. The strength of the association between the object and the evaluation of it will determine the accessibility of the attitude. For highly accessible attitudes, there is a strong association between the attitude object and its evaluation. That is, when the node for the attitude object is activated, the strength of the association ensures that the node containing the evaluation of the object is also activated. In this way, judgments can be made rapidly and without extensive reflection. In contrast, for attitudes that are not accessible, the associations between the object and the evaluation of that object are not as strong. In this case, the activation of the object does not spontaneously activate the evaluation of the object. Consequently, it may take more time to activate the judgment.

Having accessible attitudes toward objects in our world is efficient. Accessible attitudes allow us to decide quickly what to approach or avoid without having to consider each object’s attributes and whether we consider each attribute desirable or undesirable. Therefore, accessible attitudes serve a knowledge function, or as a frame of reference for how we interpret and understand our world, and often determine what we attend to, how we perceive objects and situations, and how we act.

## **Implications**

Our use of categories to organize our understanding of social stimuli relies strongly on the accessibility of the categories we have in memory. Recent research in the

use of stereotypes has shown that accessible constructs are used extensively in categorizing novel social stimuli. That is, we rely on the stereotypes that are accessible to us in deciding how to categorize, think about, and react to new people we meet. Importantly, the use of stereotypes to categorize individuals can be overcome: Work on dual process models of social cognition has demonstrated that the stereotypic judgment, which relies on accessible categories, is a heuristic judgment that occurs spontaneously. With sufficient motivation and time to think about it, this immediate judgment can be modified by a more effortful process or by encouraging individuals to bring to mind a counterstereotypic example.

An important implication of accessible attitudes is that they serve to maintain behavior based on those judgments. Accessible attitudes tend to be stronger than less accessible attitudes: People who hold accessible attitudes are likely to have thought carefully about the reasons supporting those attitudes. Accessible attitudes are also more resistant to persuasion than less accessible attitudes, probably because of this greater awareness of the reasons for holding the attitude. Furthermore, people with accessible attitudes have also probably thought somewhat about the types of arguments that might be used to persuade them to change their attitude and thus are prepared to counterargue efforts to change their minds. Finally, accessible attitudes are more predictive of behavior than less accessible attitudes. Because these attitudes are thought about frequently, they easily come to mind in the presence of the attitude object and thus are more likely to guide behavior.

Accessible attitudes provide unique challenges to people concerned with persuasion, such as health professionals seeking to change unhealthy behavior. For example, cigarette smokers have been found to have highly accessible prosmoking attitudes, and these attitudes serve to maintain their smoking behavior: The more people smoke, the more frequently they think about their reasons for smoking, and the more strongly entrenched their attitudes and their smoking behavior become. Because accessible attitudes can bias the interpretation of persuasive information, these smokers may become more resistant to the idea of quitting smoking. To change such attitudes, it may be useful to find components of the attitude that are less accessible and less central to the arguments to continue smoking. For example, change may be possible by persuading smokers to support laws to limit the access of minors to cigarettes.

In contrast, there may be times when an accessible attitude is desirable, such as an antismoking attitude or an attitude that is favorable toward healthy eating. Attitudes can be made more accessible by repeated expression. That is, someone who reports his or her attitude more times will have a more accessible attitude. Therefore, strengthening positive attitudes toward healthy behaviors may occur in settings in which people are given repeated opportunities to judge the attitude object or behavior. Interventions that engage at-risk groups in discussions of healthy behaviors and allow them to express positive attitudes toward those behaviors may be effective in fostering the desirable behaviors.

*Nancy Rhodes*

*See also* Associative Networks; Attitudes; Person Perception; Priming; Social Cognition; Stereotypes and Stereotyping

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## ACCOUNTABILITY

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### Definition

Accountability is the condition of having to answer, explain, or justify one's actions or beliefs to another. It often includes the possibility that you will be held responsible and punished if your acts cannot be justified, or rewarded if your actions are justified. Accountability is a composite of numerous factors: being held

responsible for one's actions, presence of another, being identifiable as an actor, evaluation by an audience, and providing validation for one's behavior.

### History and Modern Usage

The most salient component of accountability, the idea that we are responsible for our actions, is central to a long-standing debate among philosophers and psychologists: that of determinism versus free will. Determinism suggests that people act based on cause-and-effect relationships and therefore could not have acted any differently than what they actually did, whereas theories of free will suggest that people act of their own volition. Proponents of free will admit that genetics and environment influence decisions; nevertheless, decisions ultimately depend on individual choice. The distinction between the two perspectives lies in the degree of accountability to which people are held. Determinism does not give people the power of choice and therefore denies accountability. Supporters of free will, however, hold people accountable for their behavior in that people ultimately have some choice in what they do.

Many current psychological perspectives follow a deterministic line of thinking. Behavioral psychology explains all of human behavior as a response to expected consequences of environmental stimuli. Neuroscience examines human behavior from the perspective of brain activity and neurotransmitters. Cognitive psychologists liken the mind to a complex processor of information that receives input, processes that input in a systematic manner, and spits out behavior. Even social psychology focuses mainly on deterministic perspectives, rooting the cause of behavior in situational determinants. This focus on deterministic perspectives may be due to the cause and effect nature of science itself, making the study of free will almost impossible from a scientific standpoint. Nevertheless, this places the role of accountability at nil for most explanations of behavioral responses.

Despite the difficulties of studying accountability in its purest sense, recent social psychological research has focused on the effects of choice, control, responsibility, and accountability for one's actions. Evidence has shown that people feel responsible for their behavior, and that people often feel and act as if they may be held accountable for the things that they do. People like to have choices and react aversively when those choices are restricted. Also, accountability seems to be a necessary component to many emotions. It is hard to imagine a situation in which a person would feel

pride, guilt, shame, or embarrassment for acts that he or she does not feel accountable for. Indeed, perceived accountability seems to have a large effect on the way people act.

### **Effects of Accountability**

The mere presence of others is likely responsible for many of the effects of accountability. Human beings are the only animals that participate in complex societies and cultures. Much of our success as individuals hinges on our ability to play by society's rules. Thus, people display a strong need to belong and want to be evaluated positively by others in the group. Those who do so are more likely to reap the positive benefits inherent in group living. When others are in our presence, we have a sense that our behavior is being evaluated. This increases our sense of accountability and results in increased adherence to unspoken social rules and laws outlined by culture.

Nevertheless, accountability is a multifaceted phenomenon. Therefore, its effect on behavior can vary from situation to situation. First of all, the presence of others is not entirely necessary for people to feel accountable. People can feel accountable if they simply believe they will be evaluated and have to justify their decisions.

Increased accountability will alter decision-making strategies. When expecting evaluation from an audience, people will think more carefully about their decisions than they normally would. They will consider the outcomes of their judgments and process the relevant information more deliberately. Under low-accountability situations, people can process the relevant information superficially, knowing that any decision made will not be scrutinized. Nevertheless, when under increased accountability, a greater consideration of possible counterarguments is necessary as the person must be able to fend off criticism during the evaluation process.

Critical to the decision-making process is whether the opinions of the audience are known or not. If the opinions of the evaluator are known, people will tend to conform to that opinion, as any argument against the majority opinion will be more difficult to defend. Conversely, when the opinions of the evaluator are unknown, people will think more analytically and self-critically about their decision and attempt to look at the issue from multiple perspectives. This is in people's best interest, as they may be asked to justify their decision if it is against what the audience believes.

The effects of accountability will also vary depending on when the person is informed that he or she will be evaluated. If informed about evaluation before making a decision, people will expend more effort to make what they feel to be the correct decision. If informed after their decision has been made, however, people will stick with their original decision and more effort will be expended toward justification of that decision.

The presence of others does not always increase accountability. As group size increases, accountability can decrease. Through a process called deindividuation, people lose their sense of self and become an inseparable part of a collective group. As group size increases, each individual member becomes less identifiable and consequently perceives him- or herself as less accountable for the actions of the group. The reduction in felt responsibility is said to account for the behaviors of people during riots, though this is undoubtedly an extreme example. Deindividuation can also have an effect on group performance at a much smaller level.

Social loafing occurs when the individual members of a group perform at a lower level than they would if they were to perform the task alone. The performance of a group is often measured as the final output of the group rather than individual output. In this low-accountability situation, individuals decrease their own effort in the hopes that others in the group will pick up the slack. Nevertheless, this is only true when individual performance is not measured. If members of a group are told that their individual performance will be assessed, they are more likely to perform as they would if executing the task alone. Under these conditions, people are under an increased degree of accountability, and individual and group performance will increase. Therefore, two heads can be better than one, but only when the individuals are held accountable.

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*See also* Deindividuation; Free Will, Study of; Need to Belong; Social Loafing

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## ACHIEVEMENT MOTIVATION

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### Definition

The term *achievement motivation* may be defined by independently considering the words *achievement* and *motivation*. *Achievement* refers to competence (a condition or quality of effectiveness, ability, sufficiency, or success). *Motivation* refers to the energization (instigation) and direction (aim) of behavior. Thus, *achievement motivation* may be defined as the energization and direction of competence-relevant behavior or why and how people strive toward competence (success) and away from incompetence (failure).

Research on achievement motivation has a long and distinguished history. In fact, researchers have focused on achievement motivation concepts since the emergence of psychology as a scientific discipline (i.e., the late 1800s), when William James offered speculation regarding how competence strivings are linked to self-evaluation. Achievement motivation is currently a highly active area of research, particularly in the fields of educational psychology, sport and exercise psychology, industrial/organizational psychology, developmental psychology, and social-personality psychology. Achievement motivation research is conducted both in the experimental laboratory (where variables are typically manipulated) and in real-world achievement situations such as the classroom, the workplace, and the ball field (where variables are typically measured).

The task of achievement motivation researchers is to explain and predict any and all behavior that involves the concept of competence. Importantly, their task is *not* to explain and predict any and all behavior that takes place in achievement situations. Much behavior that takes place in achievement situations has little or nothing to do with competence; limiting the achievement motivation literature to behavior involving competence is necessary for the literature to have coherence and structure. That being said, competence concerns and strivings are ubiquitous in daily life and are present in many situations not typically considered achievement situations. Examples include the following: a recreational gardener striving to grow the perfect orchid, a teenager seeking to become a better conversationalist, a politician working to become the most powerful leader in her state, and an elderly person concerned about losing his or her skills and abilities. Thus, the study of achievement motivation is quite a broad endeavor.

Many different achievement motivation variables have been studied over the years. Prominent among these variables are the following: *achievement aspirations* (the performance level one desires to reach or avoid not reaching; see research by Kurt Lewin, Ferdinand Hoppe), *achievement needs/motives* (general, emotion-based dispositions toward success and failure; see research by David McClelland, John Atkinson), *test anxiety* (worry and nervousness about the possibility of poor performance; see research by Charles Spielberger, Martin Covington), *achievement attributions* (beliefs about the cause of success and failure; see research by Bernard Weiner, Heinz Heckhausen), *achievement goals* (representations of success or failure outcomes that people strive to attain or avoid; see research by Carol Dweck, John Nicholls), *implicit theories of ability* (beliefs about the nature of competence and ability; see research by Carol Dweck, Robert Sternberg), *perceived competence* (beliefs about what one can and cannot accomplish; see research by Albert Bandura, Susan Harter), and *competence valuation* (importance judgments regarding the attainment of success or the avoidance of failure; see research by Jacqueline Eccles, Judy Harackiewicz). Achievement motivation researchers seek to determine both the antecedents and consequences of these different variables.

Many achievement motivation researchers focus on one of the aforementioned variables in their work, but others strive to integrate two or more of these constructs into an overarching conceptual framework. One such model that has received significant research attention of late is the hierarchical model of approach-avoidance achievement motivation (see research by Andrew Elliot and colleagues); this model is described in the following paragraphs.

Achievement goals are the centerpiece of the model, and these goals are differentiated according to two basic aspects of competence: how it is *defined* and how it is *valenced*. Competence is *defined* by the standard used to evaluate it, and three such standards are identified: an absolute (i.e., task-inherent) standard, an intrapersonal (i.e., the individual's past attainment or maximum possible attainment) standard, and an interpersonal (i.e., normative) standard. At present, absolute and intrapersonal standards are collapsed together within a "mastery goal" category, and normative standards are placed within a "performance goal" category. Competence is *valenced* by whether it is focused on a positive possibility that one would like to approach (success) or a negative possibility that one would like to avoid (failure).

Putting the definition and valence aspects of competence together yields four basic achievement goals that are presumed to comprehensively cover the range of competence-based strivings. Mastery-approach goals represent striving to approach absolute or intrapersonal competence, for example, striving to improve one's performance. Mastery-avoidance goals represent striving to avoid absolute or intrapersonal incompetence, for example, striving not to do worse than one has done previously. Performance-approach goals represent striving to approach interpersonal competence, for example, striving to do better than others. Performance-avoidance goals represent striving to avoid interpersonal incompetence, for example, striving to avoid doing worse than others.

These achievement goals are posited to have an important and direct impact on the way people engage in achievement activities and, accordingly, the outcomes they incur. Broadly stated, mastery-approach and performance-approach goals are predicted to lead to adaptive behavior and different types of positive outcomes (e.g., mastery-approach goals are thought to optimally facilitate creativity and continuing interest, and performance-approach goals are thought to optimally facilitate performance attainment). Mastery-avoidance and, especially, performance-avoidance goals, on the other hand, are predicted to lead to maladaptive behavior and negative outcomes such as selecting easy instead of optimally challenging tasks, quitting when difficulty or failure is encountered, and performing poorly. A substantial amount of research over the past decade has supported these predictions.

Achievement goals are viewed as concrete, situation-specific variables that explain the specific aim or direction of people's competence pursuits. Other variables are needed to explain why people orient toward different definitions and valences of competence in the first place, and why they adopt particular types of achievement goals. Higher-order variables such as achievement needs/motives, implicit theories of ability, general competence perceptions, and features of the achievement environment (e.g., norm-based vs. task-based performance evaluation, harsh vs. lenient performance evaluation) are used to explain achievement goal adoption. These variables are not posited to have a direct influence on achievement outcomes, but they are expected to have an indirect influence by prompting achievement goals that, in turn, exert a direct influence on achievement outcomes.

Achievement needs/motives may be used as an illustrative example. Two types of achievement

needs/motives have been identified: the need for achievement, which is the dispositional tendency to experience pride upon success, and fear of failure, which is the dispositional tendency to experience shame upon failure. The need for achievement is predicted to lead to mastery-approach and performance-approach goals, whereas fear of failure is predicted to lead to mastery-avoidance and performance-avoidance goals. Fear of failure is also predicted to lead to performance-approach goals, a need/motive to goal combination that represents an active striving toward success to avoid failure (i.e., *active avoidance*). The need for achievement and fear of failure are posited to have an indirect influence on achievement outcomes through their impact on achievement goal adoption. A number of empirical studies have provided evidence in support of these predictions, as well as many other hierarchically based predictions (involving other higher-order variables) derived from the model.

Models of achievement motivation are of theoretical importance because they help to explain and predict competence-relevant behavior in a systematic and generative fashion. Such models are also of practical importance because they highlight how factors besides intelligence and ability have a substantial impact on achievement outcomes. Competence is widely considered a basic need that all individuals require on a regular basis for psychological and physical well-being to accrue. The bad news from the achievement motivation literature is that many people exhibit motivation in achievement situations that leads to maladaptive behavior, undesirable achievement outcomes, and, ultimately, ill-being. The good news from the achievement motivation literature is that motivation is amenable to change.

Andrew J. Elliot

*See also* Regulatory Focus Theory; Self-Efficacy; Self-Regulation; Social Comparison

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## ACTION IDENTIFICATION THEORY

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### Definition

People usually know what they are doing, intend to do, or have done in the past. How people achieve an unambiguous understanding of their behavior is rather remarkable when one considers the variety of ways in which any action can be identified. “Taking a test,” for example, could be identified as “showing one’s knowledge,” “earning a grade,” or “answering questions.” Action identification theory, developed by Robin Vallacher and Daniel Wegner, specifies the principles by which people adopt a single *act identity* for their behavior and outlines the conditions under which people maintain this act identity or adopt a new one. The interplay of these principles has implications for central issues in social psychology, including self-regulation, vulnerability to social influence, and self-concept.

### Action Identification and Behavior

The potential identities for an action, although diverse by many criteria, are hierarchically related in an *identity structure*. Lower-level identities in this structure convey the details of the action and thus indicate *how* the action is done. Higher-level identities convey a more general understanding of the action, indicating *why* the action is done or what its effects and implications are. Identification level is relative, so whether a particular identity is considered a means or an end, a detail or an implication, depends on the identity with which it is compared. The hierarchical level of two identities is indicated when a person performs one act identity *by* performing another. “Showing one’s knowledge” is a higher-level identity than “taking a test,” for example, because one does the former *by* doing the latter rather than vice versa. “Taking a test,” however, is a high-level identity with respect to “answering questions,” since one takes a test *by* answering questions.

Action identification is important for the personal control of behavior. Principle 1 of the theory holds that action is undertaken with respect to the act identity that

stands out in consciousness. This means that people have an idea of what they are doing or want to do and use this act identity as a frame of reference for implementing the action and monitoring its occurrence. Because act identities exist at different levels in an identity structure, this principle specifies that people can perform an action at different levels. A person may intend to “give a speech,” for instance, and monitor his or her behavior to see whether this intention has been fulfilled, or the person may intend to “talk in a deliberate tone” (a lower-level identity) or “persuade others” (a higher-level identity) and monitor the attainment of whichever identity is foremost in his or her mind.

### Change in Action Identification

Action identification is a dynamic process, undergoing periods of stability and change in accordance with two principles. Principle 2 holds that when both a lower- and a higher-level act identity are available, there is a tendency for the higher-level identity to become dominant. This means that people prefer to think about their behavior in terms of its goals, effects, and implications, rather than in terms of its more mechanistic components. Thus, when a person has only a low-level understanding of his or her behavior, he or she is predisposed to adopt a higher-level identity offered by other people or made available by the action context. If the person is induced to think about the details of his or her behavior in a recent interaction, for example, he or she is sensitive to how this behavior is identified by other people, because such feedback may provide a more comprehensive (higher-level) understanding of the behavior. As a result, the person might come to believe his or her behavior reflects whatever interpersonal tendency (e.g., cooperation or competition) is conveyed in the feedback. If the feedback is evaluative (i.e., flattering vs. critical), it can affect the person’s self-evaluation. The tendency to embrace new high-level identities in favor of current lower-level identities is referred to as the *emergence process*.

Because people act on the basis of their dominant act identity, the emergence process can promote new courses of action. If a person embraces feedback suggesting that his or her behavior reflects competitiveness, for example, he or she may seek out competitive (as opposed to cooperative) activities in the future. Research has established the relevance of the emergence process for behavior change, including the development of new goals (e.g., college activities) and change in habitual behavior (e.g., alcohol consumption).

The emergence process can change even the simplest act with significance. If it were the only means by which action identification changed, people's minds would be populated by increasingly broad, abstract, and evaluative notions of what they do and what they are like. This possibility is constrained, however, by Principle 3: When an action cannot be maintained in its dominant identity, there is a tendency for a lower-level identity to become dominant. A person may set out to "persuade others," for instance, but unless the action is easily accomplished, he or she may have to think about the action in lower-level terms such as "show command of the facts," "demonstrate sincerity," or "choose the right words." Even if an action is easy, its details may stand out in consciousness if it is somehow disrupted. A poor quality sound system, for example, might disrupt a person's normally persuasive appeal, causing him or her to think about his or her speech clarity or word choice at the expense of the higher-level "persuade" identity. An action's lower-level identities also tend to become conscious when performance is imminent rather than in the distant future or distant past, especially if the action is difficult or complex.

### Optimality in Action Identification

The principles of the theory work together to promote a level of identification that is most appropriate or *optimal* for performing the action. There is a press for higher-level action understanding and control, but the emergent identity gives way to lower-level identities if it proves to be an ineffective guide to action execution. But when action control is regained at a lower level, the emergence process is engaged again, making the person sensitive to higher-level identities (including those that differ from the original high-level identities). Over time and with repeated action, the person converges on an identity at a level that enables that individual to perform the action up to his or her capacity. The more difficult or disruption-prone the action, the lower the optimal level of identification. Conversely, *action mastery* is signaled by optimality at high levels of identification, such that action details are integrated into larger action units, which then become the basis for conscious control of the action.

Despite the tendency toward optimality, people sometimes identify what they do at a level that does not reflect the action's difficulty. The potential for *non-optimal identification* is manifest in two ways. First, the action context can make higher-level identities dominant even

when the action's difficulty or unfamiliarity warrants lower-level identification. The promise of external reward, the threat of punishment, evaluation by other people, and competition, for example, all call attention to the outcomes, consequences, and other higher-level meanings of action and thus can impair performance on difficult tasks that require attention to lower-level details. Second, an easy action can be impaired if conscious attention is drawn to its lower-level aspects by some means (e.g., disruption, verbal instruction). Low-level identities are not only unnecessary for easy-to-maintain action, they can also disassemble an action normally integrated with respect to a higher-level understanding. In both cases, non-optimal identification not only impairs performance, but also has been shown to promote anxiety and self-consciousness.

### Individual Differences

Vallacher and Wegner developed a scale, the *behavioral identification form*, to assess people's characteristic level of identification. Research employing this scale has found theoretically meaningful differences between individuals who tend to identify what they do in relatively high-level terms (high-level agents) and those who routinely identify their action in lower-level terms (low-level agents). Specifically, low-level agents demonstrate less expertise across different action domains, have a weaker sense of personal control, are more impulsive, are more vulnerable to social influence, are less certain of what they are like with respect to personality traits, and have a less stable self-concept.

### Action Identification as a Dynamical System

In emphasizing the link between mental representations and behavior, action identification theory has clear relevance to models of self-regulation. But the theory also depicts processes that are similar to the operation of self-organizing dynamical systems in many areas of science. Thus, an action can be viewed as a set of interdependent elements (lower-level identities) that influence each other to achieve a coherent macro-level state (a higher-level identity). The interplay between Principles 2 and 3, meanwhile, captures the repeated episodes of emergence and disassembly that underlie the evolution of complex systems. This dynamic scenario has been invoked by social psychologists in recent years to establish similarity among very different topics, from

the formation of self-concept to the development of social norms and values in society.

*Robin R. Vallacher*

*See also* Dynamical Systems Theory; Goals; Self-Regulation; Temporal Construal Theory

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## ACTOR–OBSERVER ASYMMETRIES

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### Definition

Social psychologists speak of an *observer* perspective when someone perceives, thinks about, or makes a judgment about another person, and they speak of the *actor* perspective when someone thinks or makes a judgment about himself or herself. So if Jared storms out the door and Evelyn wonders why he does that, Evelyn is in the observer perspective and Jared is in the actor perspective. When the actor and the observer arrive at different judgments, we are faced with an *actor–observer asymmetry*.

### Importance

Why are actor–observer asymmetries interesting? Actor and observer are the two fundamental perspectives in social cognition: People make judgments either about self or about others; there is no third. So to understand the nature of social cognition, scientists must understand

the nature of these two perspectives, especially the conditions under which they differ. That is because some of the biggest challenges of social life involve the discrepancy between actor and observer perspectives. For example, people typically know why they act the way they do, but often they are confused about why others act the way they do. Similarly, to get along with others it isn't enough to understand our own goals and attitudes; we need to understand other people's goals and attitudes as well—especially when they might be different from our own. Actor–observer asymmetries cause gaps in people's understanding of the social world, and scientific research on actor–observer asymmetries tries to identify these gaps and perhaps sharpen people's tools to bridge the gaps—tools such as explanation, perspective taking, and negotiation.

### The Classic Hypothesis

The primary actor–observer asymmetry social psychologists have studied is an asymmetry in causal attribution—in how actors and observer *explain* social behavior or social outcomes. Suppose a student received a D on the statistics exam; why did he or she receive this grade? As observers, we might think the student didn't study or just isn't good at statistics. But if the student is asked to explain the D, the student might say that the exam was very hard or that the teacher must have graded it harshly. This difference in explanations is typically described as one between observers citing *person causes*—causes that reside in the actor (*the student didn't study or lacks ability*)—and the actor citing *situation causes*—causes that lie outside the actor (*the exam was hard or the teacher graded harshly*). This is in fact what social psychologists Edward E. Jones and Richard Nisbett formulated in 1972 as the now classic actor–observer hypothesis: Actors tend to explain their own behavior with situation causes, whereas observers tend to explain the actor's behavior with person causes. Virtually all textbooks in social psychology and general psychology mention this hypothesis and describe it as a well-established truth. But a hypothesis is only as good as the research evidence that supports it, so what does the research say?

### Empirical Tests

Recently, Bertram Malle reviewed more than 100 research articles that had tested the classic actor–observer hypothesis. When the results of all these

articles were averaged, there was very little evidence that the hypothesis is true. How little evidence? Researchers can measure the strength of a hypothesis by determining how much better it allows them to predict an event than a blind guess would. If researchers try to predict whether an actor will cite a person cause or a situation cause, they could either guess (e.g., flip a coin), and will by chance be correct in 50% of cases, or they could use the actor–observer hypothesis. If they rely on this hypothesis, they will be correct in 53% of the cases. Thus, the classic actor–observer hypothesis is barely better than a blind guess.

There are situations, however, when the classic actor–observer hypothesis does better. If researchers want to predict how actors and observers explain *negative* events and if they follow the hypothesis that the actor will provide a situation cause, they will be right in about 57% of the cases. Unfortunately, the opposite happens when they want to predict how actors and observers explain *positive* events. If they bet again on the actor giving more situation causes, they will be *wrong* in 56% of the cases. This means that the *opposite* hypothesis is actually true: For positive events, actors give more person causes and observers give more situation causes. If the classic actor–observer hypothesis holds reasonably true for negative events but the opposite hypothesis holds true for positive events, it means that on average (across events), there may just be no actor–observer asymmetry.

But this finding contradicts intuitions. Actors do know more about their own goals and feelings and about their own history (e.g., past exam grades, past actions). Shouldn't that lead to an asymmetry between actors and observers in how they explain behaviors and outcomes (even positive ones)? The answer is yes—but the relevant differences cannot be seen if the explanations are interpreted as simple decisions between “person causes” and “situation causes.”

### New Hypotheses

People's explanations of behaviors and outcomes are more complex than the person–situation dichotomy suggests. First, people make a sharp distinction between unintentional and intentional events. Unintentional events (e.g., tripping, being sad) are explained by *causes*, and—if needed—these causes can be classified as located in the person or in the situation. But when it comes to intentional actions, people have a more sophisticated approach. They recognize that one can

explain a person's action by mentioning the *reasons* the person had for acting—in light of the goal and beliefs held by the person pursuing the action (e.g., “I studied all week because . . . I knew the test counted for 60% of my grade, and I really want to do well in this class”). Such *reason explanations* are the most common explanations people give for intentional actions. In addition, people sometimes explain intentional actions by referring to background factors, such as the person's personality, culture, childhood experiences, unconscious forces—all things that can influence intentional actions but are not the *reasons* for which the agent chose them (e.g., “She studied all week, never went out because . . . she is from a hardworking family, she's very dedicated”). These explanations are called *causal history of reason* explanations. When Ann says, “I voted for him because I wanted to see a more open-minded social policy,” she is giving a reason explanation; when Blake says, “Ann voted for him because she grew up in a liberal family,” Blake is giving a causal history of reason explanation. Blake's explanation implies that Ann had *some* reason, but he may not know the specific reason and therefore offers a background factor that he does know about.

Research shows that actors give far more reason explanations (relative to causal history of reason explanations) than observers do. Knowing about this asymmetry allows us to be right in 67% of cases (and wrong in 33% of cases) when predicting actors' and observers' explanations. So this is a powerful asymmetry, and it holds whether the explained action is negative or positive.

There are other features of explanation that show actor–observer asymmetries. Among the reasons people give to explain actions are some that refer to the agent's thoughts or beliefs that went into the action (called *belief reasons*) and some that refer to the agent's goals or desires (called *desire reasons*). Desire reasons focus on what the agent wants (and doesn't have), whereas belief reasons highlight the agent's thinking and rational consideration of the world. Research has found a strong actor–observer asymmetry here: Actors offer more belief reasons (relative to desire reasons) than observers do, and knowing about this asymmetry allows researchers to be right in 62% of the cases when predicting actors' and observers' explanations.

There are a few other interesting asymmetries, described in more detail in the literature, but this much is clear: The intuition that actors and observers give different explanations is true after all. But to capture

these differences, it isn't enough to talk about person and situation causes; researchers must consider how people actually explain behavior: with causal histories of reasons, reasons, belief reasons, and so on.

Researchers also have begun to explore why these asymmetries exist and have identified two main processes. One is cognitive: how much the explainer knows about the behavior or outcome. Giving reason explanations, especially belief reasons, requires specific knowledge that observers sometimes lack, and that is in part why actors offer more (belief) reasons. The second process is motivational: whether the explainer is specifically trying to portray the agent (self or other) in a positive light. Here, reasons and especially belief reasons make the agent look more rational and "in control," so actors prefer to offer those kinds of explanations.

Research on the original actor–observer asymmetry in attributions had a strong impact on the study of other asymmetries, and social psychologists discovered a number of them. For example, in social interactions, actors focus their attention more on their own experiences, whereas observers focus more on the other person's actions. Also, most people consider their own personality to be more complex and less fixed than other people's personalities.

What social psychologists have learned from this research is that people face a fundamental challenge in social life: Perceiving, understanding, and reasoning about people are different when they are about oneself than when they are about another person. This challenge must be met, and the gaps between actors and observers overcome, if social interactions are to be successful.

*Bertram F. Malle*

*See also* Attributions; Attribution Theory; Self-Serving Bias; Social Cognition

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## ADAPTIVE UNCONSCIOUS

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### Definition

Automatic processes are processes that are unconscious, unintentional, uncontrollable, and efficient (i.e., they do not require cognitive resources). The term *adaptive unconscious* refers to the fact that these automatic processes evolved because they are beneficial to people who rely on them. People have to process extensive amounts of information on a daily basis to be able to function effectively and navigate their social worlds. Because people have limited amounts of cognitive resources, there would be no way to process all of this information at a conscious level. In other words, people can only consciously think about a very small amount of the information with which they are confronted. Therefore, people have developed a set of automatic processes that can help them to accomplish all of their daily tasks. Due to the usefulness and helpfulness of these unconscious processes, they are collectively referred to as the *adaptive unconscious*.

### History and Modern Usage

The existence and characteristics of the unconscious have been important areas of study in philosophy and psychology. Although many people discussed unconscious processes prior to the work of Sigmund Freud, most psychologists would acknowledge that he was one of the first people to recognize that many mental processes occur without conscious awareness. Because some of Freud's ideas have not been supported, the unconscious processes that he discussed are somewhat different from the unconscious processes that form the adaptive unconscious.

It is difficult to list all of the unconscious processes that are a part of the adaptive unconscious because there are so many of them. Some processes are unconscious because they evolved before consciousness did. For example, some parts of the human mind simply cannot be understood consciously. People have no conscious access to perceptual processes (e.g., light

waves transforming into images, sound waves transforming into sound), how memories are formed, how humans balance while walking, or how people learn and process language. Yet all of these processes occur, and it is the adaptive unconscious that allows them to happen. Beyond these sensory processes, there also are higher-order processes that are part of the adaptive unconscious. People often express emotions and personality, make judgments and decisions, form impressions and evaluations, learn information, and even pursue goals without conscious awareness or attention. Thus, the cognitive processes that form the adaptive unconscious are both useful and sophisticated.

It is important to note that although these unconscious processes are called adaptive, that does not mean that they always result in accurate knowledge or correct decisions. For example, relying on unconscious processes to form impressions could result in using stereotypes to understand another person's behavior. More often than not, however, these processes allow people to survive in their social worlds, which was, and still is, an evolutionary adaptation.

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*See also* Automatic Processes; Controlled Processes

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## AFFECT

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### Definition

Affect refers to the positive or negative personal reactions or feelings that we experience. *Affect* is often used as an umbrella term to refer to evaluations, moods, and emotions. Affect colors the way we see the world and how we feel about people, objects, and events. It also has an important impact on our social interactions, behaviors, decision making, and information processing.

### Distinctions Among Types of Affect

Evaluations are general positive or negative feelings in response to someone or something specific. For example, if you experience negative feelings in response to your new roommate, your evaluation of the person is based upon these feelings. Such evaluations are said to be affect based.

Moods, like evaluations, are also experienced as general positive or negative feelings; however, they are not elicited in response to anyone or anything specific. When you are in a bad mood, you are unable to identify the specific cause of your feelings. For this reason, people sometimes say that they are in a bad mood because they “woke up on the wrong side of the bed.” Moods are not directed toward a person or an object. Thus, for example, while you may have a negative reaction to your roommate, you would not have a negative mood toward your roommate. Moods are like evaluations in that they tend to be relatively long-lasting.

In contrast to both evaluations and moods, emotions are highly specific positive or negative reactions to a particular person, object, or event. Emotions tend to be experienced for relatively short periods of time and generally have shorter durations than moods or evaluations. Emotions tend to be more intense than moods and allow us to describe how we feel more clearly than do moods or evaluations. That is, we can specify exactly what type of negative feelings we are experiencing. For example, if your roommate steals your book, you may say that you feel angry, rather than simply say that you feel negatively. Further, other negative emotions (e.g., sadness and fear) can be differentiated from anger by the different situations and circumstances that produced them and how they are experienced.

### Relationship Between Affect and Cognition

Affect is often contrasted with cognition (i.e., thoughts), but their relationship is not clear-cut. Some researchers believe that affect cannot occur without cognition preceding it, whereas others believe that affect occurs without a preceding cognitive component. Much of this debate has to do with the specific type of affect that individuals are referring to. Many scholars agree that cognition is necessary in order for emotions to be experienced, whereas cognition may not be necessary for individuals to express preferences or evaluations.

Affect can exert an influence on cognitive processes. For example, one's affect can influence one's tendency to use stereotypes. Individuals in happy moods are more likely to use stereotypes when forming impressions of others than are people in sad moods. Further, individuals in happy moods are less influenced by the strength of a persuasive argument than are those in sad moods. Happy moods also lead to increased helping behavior.

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*See also* Affect-as-Information; Emotion; Nonconscious Emotion; Positive Affect

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## AFFECT-AS-INFORMATION

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### Definition

How do we know whether or not we approve of some action or like some person? According to the affect-as-information hypothesis, our feelings provide such information. Just as our smiles and frowns provide information about our reactions to others, our positive and negative feelings provide such information to ourselves. Like many psychological processes, emotional appraisals are generally unconscious. Hence, having evaluative information available from affective feelings can be highly useful.

Affective reactions are forms of evaluation, and experiencing one's own affective reactions provides information that something good or bad has been encountered. Such information can be compelling, because it may involve not only thoughts but also feelings, bodily reactions, and even action. Thus, specific

emotions, like embarrassment, involve distinctive thoughts, feelings, and expressions, whereas general moods are less differentiated. Affective states can be thought of as having two components— affective valence, which provides information about how good or bad something is, and affective arousal, which signals its importance or urgency. Most research focuses on valence, but recent studies also examine arousal. They find that assessing events as important causes a release of adrenaline, which results in its consolidation into long-term memory. Thus, people remember well the events of September 11, 2001, but perhaps not so well those of September 10, 2001. For victims of highly traumatic events, such arousal-powered memories can become stressful and even disabling.

### Judgment

Psychologists have traditionally argued that attitudes and evaluations depend on people's beliefs about what they are judging. In the early 1970s, social psychologist Charles Gouaux examined how variation in feelings (from mood-inducing films) and beliefs (about another person's political opinions) influenced liking. Gouaux found that the affective feelings of one person influenced attraction or dislike of another over and above the influence of the cognitive beliefs about that person.

But even after many demonstrations that affect influences attitude, the assumption persisted that such evaluative judgments must reflect evaluative beliefs. Positive or negative feelings were assumed to activate positive or negative beliefs about the person, which in turn influenced judgment. In contrast, the affect-as-information view said that evaluative judgments are often made simply by asking oneself, "How do I feel about it?"

As part of a study of this process, people were telephoned and asked questions about their life satisfaction. They were called on early spring days that were either warm and sunny or cold and rainy. People reported more positive moods and greater life satisfaction on sunny than on rainy days. The explanation was that the weather influenced satisfaction ratings, because people misattributed their feelings about the weather as feelings about their "life as a whole." To test this explanation, experimenters said they were calling from another city, so that they could ask some respondents, "How's the weather down there?" When

respondents' attention was directed to the weather, the mood influences on life satisfaction disappeared. Asking about the weather did not influence the feelings themselves, but it did influence their apparent meaning. The experiment established that affect could influence evaluative judgment directly by conveying information about value.

Since emotions are rapid reactions to current mental and perceptual content, people generally know what their emotions are about. But the causes of moods and depressed feelings are often unclear. Without a salient cause, feelings become promiscuous, attaching themselves to whatever comes to mind. As a result, the affect from moods can influence judgments, and enduring feelings of depression and anxiety can create a discouraging and threatening world.

These considerations suggest that many influences of affect depend on the attributions that people make for their feelings, rather than on the feelings themselves. To study this process, experiments often encourage misattributions of feelings from their true source to a different object. Efforts to get people to misattribute their feelings are also common in everyday life. For example, advertisers often pair products with exciting or suggestive images to foster misattribution of that excitement to the product being marketed.

Despite the fact that experiments and advertising are sometimes designed to fool people, social psychologists generally view affect as adaptive and functional, in contrast to traditional views of affect as a source of irrationality and bias. Emotion does sometimes conflict with rational choice, but affect is also essential to good judgment. Studies of neurological damage show that the inability to use affective reactions to guide judgments and decisions is costly. Similarly, research on emotional intelligence suggests that being able to extract information from one's own and others' affective reactions is highly beneficial.

### **Decision Making**

Psychologists now believe that the process of decision making takes place largely unconsciously. As a result, deciding explicitly often involves entertaining alternatives until one is visited by a feeling that one has decided. When ordering food from a menu or selecting a video to watch, one may look until something feels right. Thus, decisions are hard when none of the alternatives feels right or when more than one alternative elicits such feelings. Making important decisions in

the absence of an experience of rightness may therefore be stressful. For men and women considering marriage, for example, saying yes without feeling anything would surely be anxiety provoking.

A well-known model and actress recently described her devastation when, after realizing her lifelong dream of having a baby, she felt nothing as she held her new daughter. Feelings of attachment, intimacy, and nurturance are so basic to birth and motherhood that the woman concluded from their absence that she was profoundly unworthy. She even considered suicide, but fortunately, treatment for postpartum depression allowed the appropriate feelings to arise. Only then could she say confidently that she loved her daughter or herself.

### **Affect-as-Evidence**

The affect-as-information hypothesis assumes that people's feelings inform them about what they like, want, and value. When a belief that one values something is not validated by embodied affective reactions, the person is faced with an epistemic problem. Such disparities between affective beliefs and embodied affect have been studied in the laboratory. Investigators have developed simple procedures for activating happy or sad thoughts and also for eliciting feelings, facial expressions, and actions characteristic of happiness and sadness. They find that when people's cognitions and affect do not agree, their ability to remember presented material suffers, as does the speed with which they can make simple choices. From the standpoint of cognitive efficiency, when thinking sad thoughts, it is apparently better to feel sad than to feel happy. Just as people's beliefs about the world are subject to validation by what they see and hear, so too do evaluative beliefs appear to require validation by one's own feelings, expressions, and actions.

### **Thinking**

Affect guides not only judgments and decisions but also attention and styles of thinking. During task performance, affect may be experienced as information about the task or about how one is doing, rather than as information about how much one likes something. Such task information leads to adjustments in cognitive processing or cognitive tuning. Research suggests that positive affect promotes global, interpretative processing and negative affect leads to local, perceptual processing. Thus, whether one focuses on the forest or

the trees and whether one uses one's own mental associations or not appear to be controlled by affect. Since many of the phenomena that have defined cognitive psychology involve reliance on such cognitive responses, it turns out that many of them are not observed in sad moods. Research shows that such textbook phenomena as categorization, stereotyping, persuasion, impression formation, false memory, heuristic reasoning, and others are all more apparent in happy moods than in sad moods. Ultimately, whether it is better to be happy or sad when engaged in cognitive tasks depends on the nature of the task. Positive affect may promote creativity and performance on constructive cognitive tasks, but it may promote error on some detailed tasks such as solving logical syllogisms. These effects too have been found to depend on the attributions that participants make for their affect.

### Summary

According to the affect-as-information view, people are informed by their affect, even though they produce it themselves. Moreover, rather than being fixed and reflex-like, affective influences can often be altered by simple cognitive manipulations. Thus, the information value of the affect, rather than the affect itself, is often the critical factor in its influence. This view can also be generalized to nonaffective feelings. For example, the information from bodily feelings of pain depends on attributions about its source (e.g., where it hurts). Likewise, cognitive feelings of the ease of recalling something influence whether it seems true. Moreover, the impact of these feelings also depends on attributions about their source.

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*See also* Affect; Attributions; Decision Making; Depression; Emotion; Misattribution of Arousal; Self-Perception Theory

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## AFFECT HEURISTIC

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### Definition

A judgment is said to be based on a heuristic when a person assesses a specified target attribute (e.g., the risk of an approaching stranger in the street) by substituting a related attribute that comes quickly to mind (e.g., intuitive feelings of fear or anxiety) for a more complex analysis (e.g., detailed reasons or calculations indicating why the risk is high or low).

The affect heuristic describes an aspect of human thinking whereby feelings serve as cues to guide judgments and decisions. In this sense, affect is simply a feeling of goodness or badness, associated with a stimulus object. Affective responses occur rapidly and automatically—note how quickly you sense the feelings associated with the word *treasure* or the word *hate*. Reliance on such feelings can be characterized as the *affect heuristic*.

### Examples and Implications

A cartoon by *Doonesbury* creator Garry Trudeau shows two rather innocuous-looking strangers approaching each other on a street at night and trying to decide whether it's safe to acknowledge the other with a greeting. The bubbles above each man's head give the reader a view of their thought processes as they decide. Both are going through a checklist of risk factors (race, gender, hair length, style of dress, etc.) pertaining to the approaching person and a checklist of risk-mitigating factors (age over 40, carrying Fed Ex package, carrying briefcase, etc.). For both, the risk-mitigating factors outnumber the risk factors 4 to 3, leading the risk to be judged acceptable. The men greet each other.

What is interesting and perhaps amusing about this cartoon is that no one would judge the risk of meeting a stranger on a dark street this way, even if his or her life depended on making the right judgment. Instead

this “risk assessment” would be done intuitively. The features of the approaching stranger would trigger positive or negative *feelings*, of reassurance or alarm. These feelings would be integrated quickly into an overall feeling of safety or concern, and that feeling would motivate behavior—“Good evening,” eye contact or not, perhaps even crossing the street. Reliance on feelings is an example of the affect heuristic.

The cartoon is psychologically important because it acknowledges, in part implicitly, that there are two ways people process information when making judgments and decisions. One way, called the *analytic system*, is conscious, deliberative, slow, and based on reasons, arguments, and sometimes even formulas or equations (e.g., the risk checklist). The other is fast, intuitive, based on associations, emotions, and feelings (affect); it is automatic and perhaps at an unconscious level. This is called the *experiential system*.

The experiential system and the analytic system are continually active in one’s brain, cooperating and competing in what has been called “the dance of affect and reason.” Philosophers have been discussing the intricacies of this dance for centuries, often concluding that the analytic system enables one to be “rational,” whereas feelings and emotions “lead one astray.”

Today, this interplay between “the heart and the mind” is actively being studied by social and cognitive psychologists, decision theorists, neuroscientists, and economists. This scientific study has led to some new insights into thinking and rationality. Researchers now see that both systems are rational and necessary for good decisions. The experiential system helped human beings survive the long evolutionary journey during which science wasn’t available to provide guidance. Early humans decided whether it was safe to drink the water in the stream by relying on sensory information, educated by experience. How does it look? Taste? Smell? What happened when I drank it before? In the modern world, people have come to demand more of risk assessment. Scientists now have tools such as analytic chemistry and toxicology to identify microscopic levels of contamination in water and describe what this means for people’s health, now as they drink it and perhaps even decades into the future.

Social psychologists study the dance of affect and reason by creating controlled experiments that show these two systems, experiential and analytic, in action. In one experiment, subjects are recruited to take part in a study of memory. They go into Room 1, where they are given a short (two-digit) or a long (seven-digit) number to memorize. They are asked to walk to Room 2 and

report this number. On the way to Room 2, they are offered a choice of a snack, either a piece of chocolate cake or a bowl of fruit salad. The study’s hypothesis, which was confirmed, was that persons holding the seven-digit number in memory would be less able to rely on analytic thinking which, if used, would provide reasons why the fruit salad was better for them. Instead, they were predicted to rely on the experiential (feeling-based, affective) system, which is less demanding of cognitive resources and this would lead them to choose the appealing chocolate cake. Among persons holding seven digits in memory, 63% chose the cake. Only 41% of those memorizing two digits chose the cake. This study showed that reliance on experiential thinking, relative to analytic thinking, increased as cognitive capacity was reduced (by the memory task). Research is actively under way to determine whether the balance between analytic and experiential thinking is also changed by factors such as time pressure, task complexity, poor health, advanced age, and powerfully affective outcomes and images.

The affect heuristic is an efficient and generally adaptive mechanism that helps individuals navigate easily through many complex decisions in daily life. However, it can also mislead people. For example, advertisers and marketers have learned how to manipulate people into purchasing their products by associating these products with positive images and feelings. Cigarette advertising is a prime example of this.

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*See also* Affect; Automatic Processes; Dual Process Theories; Heuristic Processing

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## AFFECT INFUSION

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### Definition

Affect infusion occurs when feelings (moods, emotions) exert an invasive and subconscious influence on the way people think, form judgments, and behave in social

situations. Affect can influence both the content of thinking and behavior (*informational effect*), and the process and style of thinking (*processing effects*). Some examples of affect infusion include (a) forming more negative judgments of a person when in a bad mood, (b) being more cooperative and friendly in a bargaining encounter due to a positive affective state, and (c) paying more systematic attention to the details of a judgmental task when in a negative rather than a positive affective state. Mild, subconscious moods can be an especially important source of affect infusion, and paradoxically, affect infusion is most likely when a person needs to deal with a more complex and demanding task that requires more open, constructive thinking.

## History

The possibility that affective states can exert an invasive influence on thinking and behavior has long been recognized by writers and philosophers, but the reasons for these effects remained incompletely understood until very recently. Some classical conditioning theories suggest that unrelated affective states can influence thoughts and actions simply because they coincide in space and time. For example, in John B. Watson's well-known Little Albert Studies, young children could be conditioned to respond with fear to a previously innocuous target, a furry rabbit, when encountering the rabbit coincided with loud noise. In other work, evaluations of a newly met person could be influenced by the irrelevant affective states elicited by being in a pleasant or an unpleasant room. Within psychodynamic (Freudian) work, attempts to repress affective states were thought to result in the infusion of affect into unrelated judgments and activities. For example, people who were instructed to suppress their fear of an expected electric shock were more likely to see others as fearful (project fear) compared to another group who were not trying to suppress their fear.

## Mechanisms

Contemporary theories emphasize the cognitive (mental) processes that underlie affect infusion and link feelings to thoughts and behavior. Affect can influence the content of thinking due to two psychological processes: through memory processes (*affect priming effects*) and through misattribution processes (*affect-as-information effects*). According to affect priming theory, affective states make it easier for people to remember, think of, and use affect-related thoughts and ideas (mood

congruence), as well as concepts that were experienced in a matching rather than a nonmatching affective state (mood–state dependence). Thus, a happy person will selectively remember and use concepts that are positive rather than negative, and so will make more positive judgments and interpretations about ongoing events than will a sad person. The greater availability in memory of affectively congruent ideas can also exert an affect-consistent influence on what people pay attention to, what they recall, the kind of inferences they make, as well as judgments and, ultimately, behaviors. According to the second process, people may sometimes mistakenly use their affective state as a shortcut (heuristic cue) to infer their evaluative reactions to a target (the “how-do-I-feel-about-it” heuristic). This latter process is most likely when the processing capacity and processing motivation are limited, and so a simple, easy-to-generate response is acceptable.

Not only can affect color the information people remember and use and the content of their thinking, it can also influence how a task is processed. Generally, positive affective states tend to produce a more open, constructive, creative information processing style, where preexisting schematic knowledge predominates (assimilative processing). Negative affect in turn promotes a more systematic, detail-oriented, and externally focused processing style (accommodative processing). These processing differences are most likely due to the influence of positive and negative affective states in signaling to the person that the surrounding situation is either beneficial or threatening. Positive mood indicates that the situation is safe and preexisting knowledge can be applied, and negative mood signals that the situation is potentially dangerous and requires a more detailed information-processing style that pays greater attention to new information.

Integrative theories such as the affect infusion model emphasize the critical role that different information processing strategies play in determining whether, and to what extent, affective states are likely to infuse thoughts, judgments, and behaviors. This model identifies four distinct processing strategies relative to the degree of effort (how hard a person tries to deal with a problem) and the degree of openness (the extent to which new information is sought rather than old knowledge is used). The four processing (thinking) strategies identified by the affect infusion model are direct access processing (low effort, closed), motivated processing (high effort, closed), heuristic processing (low effort, open), and substantive processing (high effort, open). Responses based on the direct access and

motivated processing styles should be impervious to affect infusion, but heuristic and substantive processing should produce affect infusion.

## Evidence

### *Affect Congruent Effects*

Numerous experimental studies have demonstrated affect infusion into memory, thinking, judgments, inferences, and behaviors. Simple, uninvolved, off-the-cuff judgments in response to telephone surveys or street surveys, when processing motivation and resources were limited, show significant affect infusion consistent with the heuristic processing strategy. More elaborately and substantively processed judgments about the self, others, attributions for success and failure, and intimate relationships all show affect congruence consistent with affect-priming mechanisms and the substantive processing strategy. Several experiments have specifically measured processing variables such as processing latencies and recall memory and found evidence supporting the process-mediation of these effects. Affect infusion was also found to exert an affect-congruent influence on complex, strategic social behaviors that require substantive processing, such as negotiation, the use of verbal requests, and responses to public situations.

Consistent with the affect infusion model, several studies found that tasks that require more open and elaborate thinking will, paradoxically, be more influenced by a person's affective state. This occurs because more extensive thinking tends to magnify affect infusion, as people are more likely to use affectively primed thoughts and associations to perform such more demanding tasks. For example, affect was found to have a great influence on judgments about more unusual rather than typical people, badly matched rather than well-matched couples, and serious rather than simple relationship conflicts.

### *Processing Effects*

Other experiments have found that positive and negative affect promote qualitatively different information processing styles. People in induced negative moods paid better attention to the situation they found themselves in, were less likely to succumb to common judgmental biases such as the fundamental attribution error, were more resistant to incorporating misleading details into their eyewitness memories, and produced higher-quality and more effective persuasive arguments, consistent with the more accommodating, systematic,

and externally focused processing style recruited by negative affect.

## Significance and Implications

These findings suggest that the experience of an affective state, including mild, everyday moods, can often have an insidious and little appreciated influence on almost everything people think and do. This occurs even when the source of the affective state has nothing to do with the task at hand. For example, feeling happy because it is a sunny day can make a person form more positive judgments about a variety of issues that have nothing to do with the weather. Negative affect can subtly influence the way people evaluate themselves, their partners, and the world, and positive affect can lead to more optimistic judgments and inferences and more confident and cooperative interpersonal behaviors. Many of these effects can be understood as the cognitive consequences of affective states, affect priming mechanisms in particular. A better understanding of when, why, and how affect infusion occurs is of considerable practical importance in clinical, organizational, and health psychology.

*Joseph P. Forgas*

*See also* Affect; Impression Management

### Further Readings

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## AFFORDANCES

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### Definition

When you look around a room, what do you see? You may say that you see chairs, tables, flooring, bookshelves, and walls. And at one level, perhaps you do. According to James J. Gibson's ecological theory of perception, at another level you see possibilities for action. These possibilities for action are termed *affordances*.

### Analysis

The mantra of this approach is, as Gibson noted in 1979, that "perception is for doing." We perceive the world not to create an accurate internal representation of an external reality as an end in itself. Rather, our

perceptual systems have been tuned, over the course of evolution, to pick up information that is *useful*—ultimately, from an evolutionary perspective, useful to tasks that, in ancestral environments, would have enhanced survival and reproduction. To pick up that information, it is unnecessary to first create a big picture of the world inside of our head and then identify, within that picture, what we find useful. Rather, according to Gibson, information pertinent to useful action is perceived “directly.”

Gibson invented the term *affordance* to refer to the features of objects that are useful to action. A meaning of the term *afford* is “to make available” or “to provide.” An affordance is a feature that makes available a course of action. A passageway affords movement through space. A doorknob affords grasping. A ripe apple affords eating.

Affordances, Gibson argued, really do exist in the world. The world is there to be navigated though, climbed, consumed, and it contains dangers that must be avoided as well. Features of the world that facilitate effective action are directly perceived and acted upon. Gibson’s approach can be contrasted with a different view of perception—the idea that we first construct a view of the world—create a “picture” of the world in our heads—and then identify within that picture what is useful. Gibson argued that much useful information is embodied in the environment. Value and utility for organisms exist in the world. Our perceptual senses have been tuned to “pick up” this information.

Because features have different affordances for different organisms, different organisms will see the world differently at a fundamental level. Indeed, a good way to appreciate what Gibson meant by an affordance is to imagine the world through two different sets of eyes. For you, a “stair” affords climbing. If a stair riser’s height is less than 88% of an individual’s lower leg length, the stair can be climbed in a bipedal fashion. If its height is greater than that amount, it cannot. A stair of appropriate height affords climbing, and we pick up information about climbability. That affordance exists in the world for us. For a house cat, this same stair also affords climbing—though of course the cat will not climb it with two feet, as we will. A house cat will also pick up the feature “climbable” in a set of stairs.

Now consider a table. For you, a table has an affordance to set things upon. It has an affordance to sit at—and thereby to eat at and work at. For a cat, a table does not have these affordances. Instead, a table has an affordance to be jumped upon and thereby explored. You do not typically perceive a table as something to

be jumped upon to be explored. According to Gibson, then, you and a cat perceive a table in fundamentally different ways. You look at a table and see “something to set things upon.” A cat looks at a table and sees “something to be jumped upon.”

Consider an interesting thought experiment: Imagine what it must be like to exist as another organism—a cat, a bird, a snake, a housefly. In fact, technological, “virtual reality” tools that allow us to strap on a pair of special glasses and take a true “bird’s eye” view of the world as it flies may soon be available. Or perhaps virtual reality technology that allows us to see the world from the perspective of a rattlesnake lying in the grass waiting for a prey animal to wander by is in the near future. Or is it? According to Gibson’s theory, probably not. Though technology that allows us to see the world as *we* would see it if we could fly like a bird or lie in the grass like a snake might be possible, we cannot truly *see* the world as *these animals* do, for we do not have bird or snake brains that have been tuned, over the course of their evolution, to pick up information useful to *them* in particular ways. (We may see a rabbit pass by when in a machine, giving us a virtual reality picture of what it’d be like to be lying curled up in tall grass, but we will not *see* a passing rabbit in the same way as a snake does because rabbits don’t have affordances for us that they do for rattlesnakes—things to be struck at.) Because perception of affordances is so fundamental, grown people can’t possibly see the world as anything but one that grown people have been designed to see—a world defined in terms of information useful to grown people.

In 1983, Leslie Zebrowitz McArthur and Reuben Baron published an important article in *Psychological Review* introducing Gibson’s approach to many social psychologists. (Gibson himself actually had a long-standing interest in social psychology and taught the course at Cornell for many years.) At the time of this writing, there is a set of papers claiming that people are inaccurate in their social perceptions because people use shortcuts to quickly size up the world rather than fully consider all of the information. McArthur and Baron argued that some shortcuts might actually be very effective ways to size up social situations in natural environments. Might this person be a friend? A foe? And how can you make a decision?—quick! They urged research into the affordances that exist within the social world. This form of thinking appears in recent work in evolutionary psychology.

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See also Automatic Processes; Evolutionary Psychology

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## AGGRESSION

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### Definition

In sports and in business, the term *aggressive* is frequently used when the term *assertive*, *enthusiastic*, or *confident* would be more accurate. For example, an aggressive salesperson is one who tries really hard to sell you something. Within psychology, the term *aggression* means something different. Most social psychologists define *human aggression* as any behavior that is intended to harm another person who wants to avoid the harm. This definition includes three important features. First, aggression is a behavior. You can see it. For example, you can see a person shoot, stab, hit, slap, or curse someone. Aggression is not an emotion that occurs inside a person, such as feeling angry. Aggression is not a thought that occurs inside someone's brain, such as mentally rehearsing a murder one is about to commit. Aggression is a behavior you can see. Second, aggression is intentional. Aggression is not accidental, such as when a drunk driver accidentally runs over a child on a tricycle. In addition, not all intentional behaviors that hurt others are aggressive behaviors. For example, a dentist might intentionally give a patient a shot of novocaine (and the shot hurts!), but the goal is to help rather than hurt the patient. Third, the victim wants to avoid the harm. Thus, again, the dental patient is excluded, because the patient is not seeking to avoid the harm (in fact, the patient probably booked the appointment weeks in advance and paid to have it done!). Suicide would also be excluded, because the person who commits suicide does not want to avoid the harm. Sadomasochism would likewise be excluded, because the masochist enjoys being harmed by the sadist.

The motives for aggression might differ. Consider two examples. In the first example, a husband finds his wife and her lover together in bed. He takes his hunting rifle from a closet and shoots and kills both individuals. In the second example, a “hitman” uses a rifle to kill another person for money. The motives appear quite different in these two examples. In the first example, the man appears to be motivated by anger. He is enraged when he finds his wife making love to another man, so he shoots both of them. In the second example, the hitman appears to be motivated by money. The hitman probably does not hate his victim. He might not even know his victim, but he kills that person anyway for the money. To capture different types of aggression based on different motives, psychologists have made a distinction between hostile aggression (also called affective, angry, impulsive, reactive, or retaliatory aggression) and instrumental aggression (also called proactive aggression). *Hostile aggression* is “hot,” impulsive, angry behavior that is motivated by a desire to harm someone. *Instrumental aggression* is “cold,” premeditated, calculated behavior that is motivated by some other goal (e.g., obtain money, restore one's image, restore justice).

One difficulty with the distinction between hostile and instrumental aggression is that the motives for aggression are often mixed. Consider the following example. On April 20, 1999, the 110th anniversary of Adolf Hitler's birthday, Eric Harris and Dylan Klebold entered their high school in Littleton, Colorado (United States), with weapons and ammunition. They murdered 13 students and wounded 23 others before turning the guns on themselves. Harris and Klebold were repeatedly angered and provoked by the athletes in their school. However, they planned the massacre more than a year in advance, did research on weapons and explosives, made drawings of their plans, and conducted rehearsals. Was this an act of hostile or instrumental aggression? It is hard to say. That is why some social psychologists have argued that it is time to get rid of the distinction between hostile and instrumental aggression.

Another distinction is between displaced and direct aggression. *Displaced aggression* (also called the “kicking the dog” effect) involves substituting the target of aggression: The person has an impulse to attack one person but attacks someone else instead. *Direct aggression* involves attacking the person who provoked you. People displace aggression for several reasons. Directly aggressing against the source of provocation may be unfeasible because the source is unavailable (e.g., the provoker has left the situation) or because the

source is an intangible entity (e.g., hot temperature, loud noise, foul odor). Fear of retaliation or punishment from the provoker may also inhibit direct aggression. For example, an employee who is reprimanded by his boss may be reluctant to retaliate because he does not want to lose his job.

*Violence* is aggression that has extreme physical harm as its goal, such as injury or death. For example, one child intentionally pushing another off a tricycle is an act of aggression but is not an act of violence. One person intentionally hitting, kicking, shooting, or stabbing another person is an act of violence. Thus, all violent acts are aggressive acts, but not all aggressive acts are violent; only the extreme ones are.

### Is Aggression Innate or Learned?

For decades, psychologists have debated whether aggression is innate or learned. Instinct theories propose that the causes of aggression are internal, whereas learning theories propose that the causes of aggression are external. Sigmund Freud argued that human motivational forces such as sex and aggression are based on instincts. In his early writings, Freud proposed the drive for sensory and sexual gratification as the primary human instinct, which he called *eros*. After witnessing the horrors of World War I, however, Freud proposed that humans also have a destructive, death instinct, which he called *thanatos*.

According to Konrad Lorenz, a Nobel Prize-winning scientist, aggressive behavior in both humans and nonhumans comes from an aggressive instinct. This aggressive instinct presumably developed during the course of evolution because it promoted survival of the human species. Because fighting is closely linked to mating, the aggressive instinct helped ensure that only the strongest individuals would pass on their genes to future generations.

Other psychologists have proposed that aggression is not an innate drive, like hunger, in search of gratification. According to Albert Bandura's social learning theory, people learn aggressive behaviors the same ways they learn other social behaviors—by direct experience and by observing others. When people observe and copy the behavior of others, this is called *modeling*. Modeling can weaken or strengthen aggressive responding. If the model is rewarded for behaving aggressively, aggressive responding is strengthened in observers. If the model is punished for behaving aggressively, aggressive responding is weakened in observers.

This nature versus nurture debate has frequently generated more heat than light. Many experts on aggression favor a middle ground in this debate. There is clearly a role for learning, and people can learn how to behave aggressively. Given the universality of aggression and some of its features (e.g., young men are always the most violent individuals), and recent findings from heritability studies, there may be an innate basis for aggression as well.

### Some Factors Related to Aggression

#### *Frustration and Other Unpleasant Events*

In 1939, a group of psychologists from Yale University published a book titled *Frustration and Aggression*. In this book, they proposed the frustration–aggression hypothesis, which they summarized on the first page of their book with these two statements: (1) “The occurrence of aggressive behavior always presupposes the existence of frustration” and (2) “the existence of frustration always leads to some form of aggression.” They defined frustration as blocking goal-directed behavior, such as when someone crowds in front of you while you are waiting in a long line. Although they were wrong in their use of the word *always*, there is no denying the basic truth that aggression is increased by frustration.

Fifty years later, Leonard Berkowitz modified the frustration–aggression hypothesis by proposing that all unpleasant events—instead of only frustration—deserve to be recognized as causes of aggression. Other examples of unpleasant events include hot temperatures, crowded conditions, foul odors, secondhand smoke, air pollution, loud noises, provocations, and even pain (e.g., hitting your thumb with a hammer).

All of these unpleasant environmental factors probably increase aggression because they make people feel bad and grumpy. But why should being in a bad mood increase aggression? One possible explanation is that angry people aggress because they think it will make them feel better. Because many people believe that venting is a healthy way to reduce anger and aggression, they might vent by lashing out at others to improve their mood. However, research has consistently shown that venting anger actually increases anger and aggression.

It is important to point out that like frustration, being in a bad mood is neither a necessary nor a sufficient condition for aggression. All people in a bad

mood do not behave aggressively, and all aggressive people are not in a bad mood.

### **Aggressive Cues**

*Weapons.* Obviously using a weapon can increase aggression and violence, but can just seeing a weapon increase aggression? The answer is yes. Research has shown that the mere presence of a weapon increases aggression, an effect called the weapons effect.

*Violent Media.* Content analyses show that violence is a common theme in many types of media, including television programs, films, and video games. Children are exposed to approximately 10,000 violent crimes in the media per year. The results from hundreds of studies have shown that violent media increase aggression. The magnitude of the effect of violent media on aggression is not trivial either. The correlation between TV violence and aggression is only slightly smaller than that correlation between smoking and lung cancer. Smoking provides a useful analogy for thinking about media violence effects. Not everyone who smokes gets lung cancer, and not everyone who gets lung cancer is a smoker. Smoking is not the only factor that causes lung cancer, but it is an important factor. Similarly, not everyone who consumes violent media becomes aggressive, and not everyone who is aggressive consumes violent media. Media violence is not the only factor that causes aggression, but it is an important factor. Like the first cigarette, the first violent movie seen can make a person nauseous. After repeated exposure, however, the person craves more and more. The effects of smoking and viewing violence are cumulative. Smoking one cigarette probably will not cause lung cancer. Likewise, seeing one violent movie probably will not make a person more aggressive. But repeated exposure to both cigarettes and media violence can have harmful long-term consequences.

### **Chemical Influences**

Numerous chemicals have been shown to influence aggression, including testosterone, cortisol, serotonin, and alcohol.

*Testosterone.* Testosterone is the male sex hormone. Both males and females have testosterone, but males have a lot more of it. Testosterone has been linked to aggression. Robert Sapolsky, author of *The Trouble With Testosterone*, wrote, "Remove the source of

testosterone in species after species and levels of aggression typically plummet. Reinstating normal testosterone levels afterward with injections of synthetic testosterone, and aggression returns."

*Cortisol.* A second hormone that is important to aggression is cortisol. Cortisol is the human stress hormone. Aggressive people have low cortisol levels, which suggests that they experience low levels of stress. How can this explain aggression? People who have low cortisol levels do not fear the negative consequences of their behavior, so they might be more likely to engage in aggressive behavior. Also, people who have low cortisol become easily bored, which might lead to sensation-seeking behavior such as aggression.

*Serotonin.* Another chemical influence is serotonin. In the brain, information is communicated between neurons (nerve cells) by the movement of chemicals across a small gap called the synapse. The chemical messengers are called neurotransmitters. Serotonin is one of these neurotransmitters. It has been called the "feel good" neurotransmitter. Low levels of serotonin have been linked to aggression in both animals and humans. For example, violent criminals have a serotonin deficit.

*Alcohol.* Alcohol has long been associated with violent and aggressive behavior. Well over half of violent crimes are committed by individuals who are intoxicated. Does all of this mean that aggression is somehow contained in alcohol? No. Alcohol increases rather than causes violent or aggressive tendencies. Factors that normally increase aggression, such as provocation, frustration, aggressive cues, and violent media, have a much stronger effect on intoxicated people than on sober people.

### **Self and Culture**

*Norms and Values.* *Amok* is one of the few Indonesian words used in the English language. The term dates back to 1665, and describes a violent, uncontrollable frenzy. *Running amok* roughly translated means "going berserk." A young Malay man who had suffered some loss of face or other setback would run amok, recklessly performing violent acts. The Malays believed it was impossible for young men to restrain their wild, aggressive actions under those circumstances. However, when the British colonial administration disapproved of the practice and began to hold the young men responsible for their actions, including punishing them for the harm they did, most Malays stopped running amok.

The history of running amok thus reveals three important points about aggression. First, it shows the influence of culture: The violence was accepted in one culture and prohibited in others, and when the local culture changed, the practice died out. Second, it shows that cultures can promote violence without placing a positive value on it. There is no sign that the Malays approved of running amok or thought it was a good, socially desirable form of action, but positive value wasn't necessary. All that was needed was for the culture to believe that it was normal for people to lose control under some circumstances and act violently as a result. Third, it shows that when people believe their aggression is beyond control, they are often mistaken—the supposedly uncontrollable pattern of running amok died out when the British cracked down on it. The influence of culture was thus mediated through self-control.

*Self-Control.* In 1990, two criminologists published a book called *A General Theory of Crime*. Such a flamboyant title was bound to stir controversy. After all, there are many crimes and many causes, and so even the idea of putting forward a single theory as the main explanation was pretty bold. What would their theory feature: Poverty? Frustration? Genetics? Media violence? Bad parenting? As it turned out, their main theory boiled down to poor self-control. The authors provided plenty of data to back up their theory. For one thing, criminals seem to be impulsive individuals who simply don't show much respect for norms, rules, and standards of behavior. If self-control is a general capacity for bringing one's behavior into line with rules and standards, criminals lack it. Another sign is that the lives of criminals show low self-control even in behaviors that are not against the law (e.g., smoking cigarettes).

Social psychology has found many causes of violence, including frustration, anger or insult, alcohol intoxication, violence in the media, and hot temperatures. This raises the question of why there isn't more violence than there is. After all, who hasn't experienced frustration, anger, insult, alcohol, media violence, or hot weather in the past year? Yet most people do not hurt or kill anyone. These factors may give rise to violent impulses, but most people restrain themselves. Violence starts when self-control stops.

*Culture of Honor.* The southern United States has long been associated with greater levels of violent attitudes and behaviors than the northern United States. In

comparison to northern states, southern states have more homicides per capita, have fewer restrictions on gun ownership, allow people to shoot assailants and burglars without retreating first, are more accepting of corporal punishment of children at home and in schools, and are more supportive of any wars involving U.S. troops.

Social psychologist Richard Nisbett hypothesized that these regional differences are caused by a southern *culture of honor*, which calls for violent response to threats to one's honor. This culture apparently dates back to the Europeans who first came to the United States. The northern United States was settled by English and Dutch farmers, whereas the southern United States was settled by Scottish and Irish herders. A thief could become rich quick by stealing another person's herd. The same was not true of agricultural crops in the North. It is difficult to quickly steal 50 acres of corn. Men had to be ready to protect their herds with a violent response. A similar culture of violence exists in the western United States, or the so-called Wild West, where a cowboy could also lose his wealth quickly by not protecting his herd. (Cowboys herded cows, hence the name.) This violent culture isn't confined to the southern and western United States; cultural anthropologists have observed that herding cultures throughout the world tend to be more violent than agricultural cultures.

*Humiliation* appears to be the primary cause of violence and aggression in cultures of honor. Humiliation is a state of disgrace or loss of self-respect (or of respect from others). It is closely related to the concept of shame. Research shows that feelings of shame frequently lead to violent and aggressive behavior. In cultures of honor there is nothing worse than being humiliated, and the appropriate response to humiliation is swift and intense retaliation.

### **Age and Aggression**

Research has shown that the most aggressive human beings are toddlers, children 1 to 3 years old. Researchers observing toddlers in daycare settings have found that about 25% of the interactions involve some kind of physical aggression (e.g., one child pushes another child out of the way and takes that child's toy). High aggression rates in toddlers are most likely due to the fact that they still lack the means to communicate in more constructive ways. No adult group, not even violent youth gangs or hardened criminals, resorts to physical aggression 25% of the time.

Young children do not commit many violent crimes, especially as compared to young men. This is most likely due to the fact that young children can't do much physical damage, because they are smaller and weaker.

Longitudinal studies show that *serious* aggressive and violent behavior peaks just past the age of puberty. After the age of 19, aggressive behaviors begin to decline. However, a relatively small subgroup of people continue their aggressive behavior after adolescence. These "career criminals" typically started violent offending in early life. The earlier the onset of aggressive or violent behavior is, the greater is the likelihood that it will continue later in life.

### Gender and Aggression

In all known societies, young men just past the age of puberty commit most of the violent crimes. Rarely women. Rarely older men. Rarely young children. Research shows that males are more physically aggressive than females, but this difference shrinks when people are provoked. Males are also more verbally aggressive than females, although the difference is much smaller. Females are often taught to be less direct in expressing aggression, so they often resort to more indirect forms of aggression. When it comes to relational aggression, for example, females are more aggressive than males. *Relational aggression* is defined as intentionally harming someone's relationships with others. Some examples of relational aggression include saying bad things about people behind their backs, withdrawing affection to get what you want, and excluding others from your circle of friends. Thus, rather than simply stating that males are more aggressive than females, it is more accurate to state that both sexes can behave aggressively, but they tend to engage in different types of aggression.

### Biased Social Information Processing

People do not passively respond to the things happening around them, but they actively try to perceive, understand, and attach meaning to these events. For example, when someone bumps a shopping cart into your knee in the local supermarket, you will likely do more than just feel the pain and take another carton of milk from the shelf. Instead, you will try to make sense of what happened to you (often this occurs automatically and so fast that you're not even aware of it): Why did this person bump me? Was it an accident or was it intentional?

According to the social information processing model, the way people process information in a situation can have a strong influence on how they behave. In aggressive people, the processing of social information takes a different course than in nonaggressive people. For example, aggressive people have a *hostile perception bias*. They perceive social interactions as more aggressive than nonaggressive people do. Aggressive people pay too much attention to potentially hostile information and tend to overlook other types of information. They see the world as a hostile place. Aggressive people have a *hostile expectation bias*. They expect others to react to potential conflicts with aggression. Furthermore, aggressive people have a *hostile attribution bias*. They assume that others have hostile intentions. When people perceive ambiguous behaviors as stemming from hostile intentions, they are much more likely to behave aggressively than when they perceive the same behaviors as stemming from other intentions. Finally, aggressive people are more likely than others to believe that "aggression pays." In estimating the consequences of their behavior, they are overly focused on how to get what they want, and they do not focus much on maintaining good relationships with others. This is why aggressive people often choose aggressive solutions for interpersonal problems and ignore other solutions.

### Intervening With Aggression and Violence

Most people are greatly concerned about the amount of aggression in society. Most likely, this is because aggression directly interferes with people's basic needs of safety and security. Accordingly, it is urgent to find ways to reduce aggression. Aggression has multiple causes. Unpleasant events, biased social information processing, violent media, and reduced self-control are just some of the factors that can increase aggression. The fact that there is no single cause for aggression makes it difficult to design effective interventions. A treatment that works for one individual may not work for another individual. One subgroup of extremely aggressive and violent people, psychopaths, is even believed to be untreatable. Indeed, many people have started to accept the fact that aggression and violence have become an inevitable, intrinsic part of society.

This being said, there certainly are things that can be done to reduce aggression and violence. Although aggression intervention strategies will not be discussed in detail here, there are two important general points to be made. First, successful interventions target as many

causes of aggression as possible and attempt to tackle them collectively. Most often, these interventions are aimed at reducing factors that promote aggression in the direct social environment (family, friends), general living conditions (housing and neighborhood, health, financial resources), and occupation (school, work, spare time). Common interventions include social competence training, family therapy, parent management training (in children and juveniles), or a combination of these. Interventions that are narrowly focused at removing a single cause of aggression, however well conducted, are bound to fail.

Aggression is often stable over time, almost as stable as intelligence. If young children display excessive levels of aggression (often in the form of hitting, biting, or kicking), it places them at high risk for becoming violent adolescents and even violent adults. It is much more difficult to alter aggressive behaviors when they are part of an adult personality than when they are still in development. Thus, as a second general rule, it is emphasized that aggressive behavior problems are best treated in early development, when they are still malleable. The more able professionals are to identify and treat early signs of aggression, the safer our communities will be.

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*See also* Catharsis of Aggression; Media Violence and Aggression

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## AGREEABLENESS

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### Definition

Agreeableness is one of the five major dimensions of personality within the five-factor, structural approach to personality (also known as the Big Five). It is an abstract, higher-level summary term for a set of family relations among lower-level traits that describe individual differences in being likable, pleasant, and

harmonious in interactions with others. Research shows that persons who are “kind” are also “considerate” and “warm,” implicating a larger, overarching dimension that is relatively stable over time and related to a wide range of thoughts, feelings, and social behaviors. Of the five major dimensions of personality in the Big Five, Agreeableness is most concerned with how individuals differ in their orientations toward interpersonal relationships.

### Background

Agreeableness has a curious history, relative to many other recognized dimensions of personality. Unlike the supertraits of Extraversion and Neuroticism, Agreeableness was not widely researched because of top-down theorizing about its link to biology or to especially conspicuous social behaviors. Instead, systematic research on Agreeableness began as a result of reliable research findings arising in descriptions of the self and of others. Because of its bottom-up empirical origins, there is room for debate about a suitable label for this hypothetical construct. Not all theorists concur that Agreeableness is the best summary label for the interrelated lower-level traits, habits, and dispositions. Other labels used to describe the dimension are tender-mindedness, friendly compliance versus hostile non-compliance, likeability, communion, and even love versus hate. To avoid problems of overlap with everyday meanings, some theorists proposed that the dimensions be given a number (the Roman numeral II has been used in the past) or a letter A (for agreeableness, altruism, or affection). Whatever the label picked, the empirical regularities with attraction, helping, and positive relations remain.

### Relations to Other Personality Traits

#### *Big Five*

As for the Big Five dimensions, one might intuitively expect Agreeableness to be related to Extraversion because both are concerned with social relations. Indeed some theorists have tried to force Agreeableness-related traits to fit under the Extraversion umbrella, placing traits like “warm” with Extraversion, not Agreeableness. Empirically, however, the two major dimensions are related to different social behaviors. Extraversion is linked to the excitement aspects of social relations and to dominance, whereas Agreeableness is related to motives for maintaining harmonious relationships with others. Extraversion is about having impact on others,

whereas Agreeableness is about having harmony and pleasant relationships. Overall, empirical research suggests that Agreeableness is distinctive and is not highly correlated with the other dimensions of the Big Five, at least in young adults.

### **Empathy**

Agreeableness may not be highly correlated with other Big Five dimensions of personality, but it is probably related to other traits, habits, and attitudes. Intuitively, one might expect empathy to be one component of Agreeableness. Studies show that Agreeableness is related to dispositional empathy. Persons high in Agreeableness report greater ease in seeing the world through others' eyes (perspective taking), in feeling the suffering of others (empathic concern), but not necessarily in experiencing self-focused negative emotions (personal distress) or in observing victims in sorrow. Past research showed that these cognitive and emotional processes are related to overt helping, so one might expect persons high in Agreeableness to offer more help and aid to others, even to strangers, than do their peers. Recent empirical research supports the claim that Agreeableness is related to both empathy and helping.

### **Frustration Control**

Moving further away from intuition toward theory, Agreeableness seems to be related to frustration control. Because of their motivation to maintain good relations with others, persons high in Agreeableness are more willing or better able to regulate the inevitable frustrations that come from interacting with others. Theorists proposed that Agreeableness (along with its conceptual cousin Conscientiousness) may have its developmental origins in an early-appearing temperament called *effortful control*.

### **Relation to Social Behaviors**

Agreeableness can also be understood by examining social behaviors that are related to it. Overall, Agreeableness seems to be positively related to adaptive social behaviors (i.e., conflict resolution, emotional responsiveness, helping behavior) and negatively related to maladaptive social behaviors (i.e., prejudice, stigmatization).

### **Emotional Responsiveness**

Agreeableness is a major predictor of emotional experience and expression. Research using both

self-report and objective physiological measures shows that high-agreeable people are more responsive in emotionally evocative situations than low-agreeable people. High-agreeable adults and children report greater efforts to control their emotional reactions in social situations, especially when asked to describe emotional content to a friend or stranger. Recent research shows that Agreeableness is related to emotional responsiveness in situations involving people in relationships but not necessarily excitement or danger. In sum, Agreeableness seems to be related to patterns of controlled emotional responsiveness to interpersonal situations.

### **Group Behavior**

In studies of group processes, research shows that Agreeableness is related to lower within-group conflict and higher overall group evaluations. More specifically, high-agreeable people are more liked by their group members and report more liking for the other members of their group. Research has also shown that Agreeableness is negatively related to competitiveness in groups and positively related to expectations of group interactions. High-agreeable people expect to enjoy the group interaction more than their low-agreeable counterparts. Agreeableness also predicts the type of conflict resolution tactics people use. For instance, Agreeableness is positively related to constructive conflict resolution tactics (e.g., negotiation) and negatively related to destructive resolution tactics (e.g., physical force).

### **Helping**

Research shows that Agreeableness is related to prosocial behaviors, such as helping. High-agreeable people offer help across a range of situational contexts. Low-agreeable people, however, seem to be much more influenced by situational variations, such as victim's group membership, cost of helping, and experimentally induced empathy. Low-agreeable people are more likely to offer help when the victim is a member of one's own group or costs of helping are low. High-agreeable people also report greater feelings of liking and similarity toward the victim. Agreeableness is also related to two of the major dimensions of prosocial emotions, namely empathic concern and personal distress. Agreeableness is the only dimension of the Big Five approach to personality to predict both empathic concern and personal distress. Overall, Agreeableness seems to predict dispositional prosocial motives to help.

## Prejudice

So far, research on Agreeableness and prejudice has focused on one type of prejudice, antifat bias. Research shows that low-agreeable people exhibit more prejudice toward overweight women than their high-agreeable counterparts. Not only do people low in Agreeableness exhibit more dislike for an overweight interaction partner, but when given the opportunity to switch from an overweight to an average weight interaction partner, low-agreeable people switch more often than do high-agreeable people. Agreeableness predicts other forms of prejudice as well. Agreeableness is negatively related to prejudice against a wide range of both positive (i.e., handicapped) and negative (i.e., rapists) social groups, and positively related to efforts to suppress such prejudice. To examine this idea of suppression, people were brought into the lab and put under cognitive load when making decisions about liking for these groups. Results indicate that when looking at the groups rated most negatively by everyone (e.g., rapists, child molesters) suppression has no effect on either high- or low-agreeable raters. When looking at groups that are common targets of prejudice (e.g., African Americans, Hispanics, gays), suppression is linked to lower prejudice in high-agreeable persons. Apparently, those high in Agreeableness suppress their prejudices at least for certain groups.

## Implications and Future Directions

*Agreeableness* is a summary term for individual differences in liking and attraction toward others. Persons high in Agreeableness differ systematically from their peers in emotional responsiveness, empathic responding, in reports of feeling connected and similar to others, and in efforts to maintain positive relations with others. Low levels of Agreeableness are associated with psychopathology, such as antisocial personality and narcissism, and with other failures to regulate emotion and social responses to others.

So far, Agreeableness has been primarily a descriptive term for behavioral differences. Recently, researchers have begun probing processes that might underlie the behavior differences. This focus on process will help uncover other differences linked to this major dimension of personality.

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*See also* Attraction; Empathy; Extraversion; Personality and Social Behavior; Prosocial Behavior

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## ALCOHOL MYOPIA EFFECT

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### Definition

Alcohol myopia theory states that alcohol intoxication (getting drunk) decreases the amount of information that individuals can process. Consequently, when people are intoxicated, the *range* of information that they can pay attention to is restricted, such that intoxicated people are able to pay attention to only *some* of the information that could be registered by a sober person. In addition, their ability to fully analyze the information that they have registered is impaired.

### Background and History

When asked about the effect of alcohol consumption on behavior, most people can probably tell a story or two about a friend who did something really silly or zany after drinking. On a more serious note, you have probably also heard about instances where alcohol intoxication was associated with dangerous behaviors, such as drunk driving, violence, or unprotected sex. It is generally believed that alcohol affects behavior through a process of disinhibition, in that intoxicated people let go of common sense and do things that they are normally unwilling to do. Psychological research, however, suggests that disinhibition alone is an insufficient explanation for the effects of alcohol on behavior. Claude Steele and his colleagues have put forth alcohol myopia theory, which is an alternative theory to explain the effects of alcohol on behavior.

## Importance and Consequences

Alcohol myopia theory explains why alcohol consumption can sometimes lead to unexpected behaviors or moods. For example, sometimes a person might become “the life of the party” after drinking alcohol, yet in another circumstance, that person might become quiet and withdrawn after consuming alcohol. According to alcohol myopia theory, the effect that alcohol will have on a person is determined by the pieces of information, or *cues*, that are most obvious to the drinker. Because the drinker can attend to only a small subset of information, the cues that are more prominent will have the greatest influence on mood and behavior. Cues that might influence mood and behavior range from external factors (things that are in the person’s immediate environment) to internal factors (things that the person experiences internally, such as thoughts and feelings). For example, an intoxicated individual who listens to upbeat music might experience an elevation in mood, whereas an intoxicated individual who watches a sad movie is likely to feel sad. Furthermore, when someone is in a good mood and thinking about happy things, alcohol consumption may lead to an elevated mood because the individual attends primarily to these positive thoughts. By the same logic, someone who is down in the dumps and experiencing negative thoughts would be prone to an increase in sadness after becoming intoxicated.

Alcohol myopia theory also provides an explanation for why people are often more likely to engage in risky, dangerous behaviors after drinking, such as unprotected sex (even when they know the potential costs of these behaviors). Intoxicated people do not have the ability to pay attention to both the risks associated with the behavior (*inhibiting cues*) and the benefits of the behavior (*impelling cues*). Because the immediate benefits of the behavior (e.g., gratification of sexual arousal) are often the most attention-grabbing cues, intoxicated people are most likely to focus on these, at the expense of taking risk factors into account (e.g., potentially contracting an STD or causing a pregnancy).

For example, in a study by MacDonald and colleagues, sober and intoxicated university students were recruited from a local bar. As they entered the bar, students received a hand stamp. On some nights, the hand stamp said, “AIDS kills.” This stamp was intended to be a salient cue reminding people of one of the major risks involved in having unprotected sex (contracting an STD). On other nights, students were given neutral, innocuous hand stamps (a smiley face). The results of

this study might surprise you. For participants with the neutral hand stamp, intoxicated participants were more likely than the sober participants to say they would have unprotected sex. In contrast (and here is the surprising part), among those with the “AIDS kills” hand stamp, intoxicated participants were actually *less* likely than sober participants to say they would have unprotected sex. This result is very counterintuitive to most people, but it makes sense in the context of alcohol myopia theory. Presumably, the sober participants were able to take both the impelling cues (such as sexual arousal) and the inhibiting cues (such as risk of STDs), into account when making their decision. As a result, introducing the “AIDS kills” hand stamp did little to influence their decision because they were already considering the full range of relevant information. The intoxicated participants, on the other hand, were only capable of focusing on one set of cues. When they had a neutral hand stamp, the impelling cues were more attention-grabbing, which made them more open to the idea of having sex even though a condom was not available. However, when the “AIDS kills” hand stamp (a prominent inhibiting cue) was introduced, they became myopically focused on this inhibiting information to the exclusion of the impelling cues.

Therefore, alcohol myopia theory predicts that alcohol intoxication may make people behave in either a riskier, or more cautious, manner—depending on the cues that are noticeable. When the benefits of a risky behavior are very prominent, alcohol should be associated with riskier behavior. In contrast, when the costs of a risky behavior are very prominent, alcohol should be associated with safer behavior. Knowledge of alcohol myopia can be used to help social psychologists design interventions that will be effective in helping to curb some of the dangerous behaviors that tend to be associated with alcohol consumption.

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*See also* Accessibility; Risk Appraisal; Risk Taking; Self-Regulation

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## ALTRUISM

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### Definition

Altruism refers to a motive for helping behavior that is primarily intended to relieve another person's distress, with little or no regard for the helper's self-interest. Altruistic help is voluntary, deliberate, and motivated by concern for another person's welfare. When help is given for altruistic reasons, the helper does not expect repayment, reciprocity, gratitude, recognition, or any other benefits.

### Background and History

Questions about the nature and importance of altruism have a long history in moral philosophy. For example, the biblical parable of the Good Samaritan, who ministered to a traveler's wounds at personal cost while expecting nothing in return, has become synonymous with the idea of selfless giving. Among social psychologists, interest in altruism grew in response to early studies of helping behavior. Those studies tended to focus on the act of helping itself, that is, whether or not one person gave help to another person. As researchers sought to identify the motives responsible for acts of helping, it became apparent that two major classes of motives could underlie helping: egoistic and altruistic. Egoistic motives are concerned chiefly with benefits the helper anticipates receiving. These might be material (repayment, the obligation for future favors in return), social (appreciation from the recipient, public recognition), or even personal (the gratifying feeling of pride for one's actions). Altruistic motives, on the other hand, focus directly on the recipient's need for assistance and involve sympathy and compassion for the recipient.

A key debate has contrasted altruistic motivation with one particular type of egoistic motive, sometimes called distress reduction. Witnessing another person's distress can be profoundly upsetting, and if the helpful act is motivated first and foremost by the desire to relieve one's own upset feelings, the act would be seen as more egoistic than altruistic. The difference is that

whereas altruistic helping focuses on the recipient's need ("You were suffering and I wanted to help"), egoistic helping focuses on the helper's feelings ("I was so upset to see your situation").

The distinction between egoistic and altruistic motives for helping behavior has sometimes been controversial. One reason is that altruistic explanations do not lend themselves to the kinds of reward–cost theories that dominated the psychological analysis of motivation during the mid-20th century. These theories argued in essence that behavior occurs only when it maximizes the actor's rewards while minimizing his or her costs, a framework that does not facilitate altruistic interpretations of helping. Nevertheless, it is clear that acts of helping often involve great personal cost with little or no reward; one need only consider the behavior of individuals who rescued Jews from Nazi persecution or Tutsis from the Rwandan massacre to realize that helping often does take place for altruistic reasons.

Social psychologist Daniel Batson was instrumental in introducing methods for studying helping that is altruistically motivated. One such method involves using experimental variations to differentially emphasize either the need of the recipient or the opportunity to fulfill more egoistic motives. Increases in helping from one condition to the other can then be attributed to whichever motive has been strengthened. Another method involves sophisticated techniques that help identify what people were thinking about as they considered helping. In both cases, research has shown unequivocally that altruistic motives often play an important role in helping behavior. This sort of helping is sometimes called *true altruism* or *genuine altruism*, tacit acknowledgment that some forms of helping behavior are more egoistic in nature. Although from the perspective of the needy recipient, it may not matter whether a given act is motivated by egoistic or altruistic concerns, from a scientific standpoint, the difference is substantial.

### Factors That Contribute to Altruistic Helping

The factors that contribute to altruistic helping may be grouped into two broad categories: those that describe the individual who helps and those that are more contextual in nature. Concerning the former, research has shown that people who are more likely to provide altruistically motivated help tend to have strong humanitarian values and feel a relatively great sense of

responsibility for the welfare of others. They also tend to be more empathic and caring about others than are more egoistically oriented helpers. In one interesting line of research, Mario Mikulincer, Phillip Shaver, and their colleagues have shown that people with a secure attachment style—that is, people who feel secure and trusting in their relationships with their closest caregivers (parents, romantic partners, and others)—tend to have more altruistic motives in a variety of helping contexts, including volunteerism (e.g., charity work). Insecure attachment styles, on the other hand, either discourage helping or foster more egoistic motives for helping.

Among the contextual factors that influence altruism, characteristics of the relationship between helper and recipient are very important. Empathy is strongly related to altruistic helping, in two ways: Empathy involves taking the perspective of the other, and empathy fosters compassionate caring. Both are more likely in close, personal relationships, and because people typically care about the welfare of their close friends, both tend to increase the likelihood of altruistically motivated helping.

Identifying with the other person is another contextual factor thought to increase the likelihood of altruism. This sense of connection with the other appears to be particularly important for explaining altruistic helping to kin and in group contexts. The former refers to the well-documented fact that the probability of an altruistic act is greater to the extent that the recipient shares the helper's genes; for example, people are more likely to help their children than their nieces and nephews but are more likely to help the latter than their distant relatives or strangers. As for the latter, altruistic helping is more common with members of one's ingroups (the social groups to which one feels that he or she belongs) than with outsiders to those groups. Many examples of personal sacrifice during wartime can be understood as ingroup altruism.

Other studies have shown that when the potential helper's sense of empathy is aroused, altruistically based helping tends to increase. This can be done, for example, by asking research participants to imagine how the other person feels in this situation, as opposed to staying objective and detached. This kind of research is particularly useful for researchers seeking ways to increase altruistic helping in the modern world. It suggests that awareness of the needs of others, combined with some desire to assist them, may be effective.

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See also *Empathy; Empathy–Altruism Hypothesis; Helping Behavior; Prosocial Behavior*

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## ALTRUISTIC PUNISHMENT

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### Definition

An act is altruistic if it is costly for the acting individual and beneficial for someone else. Thus, punishment is altruistic if it is costly for the punisher and if the punished person's behavior changes such that others benefit. This definition does not require an altruistic motivation.

### Example

Think of queuing as an instructive example. Telling a queue jumper to stand in line is probably (psychologically) costly for the person confronting the queue jumper. If the queue jumper gets back into line, all people who were put at a disadvantage by the queue jumper benefit.

### Evidence

Scientific evidence for altruistic punishment comes from laboratory "public goods" experiments. In a typical public goods experiment, participants are randomly allocated to groups of four players. Each player is endowed with money units and has to decide how many to keep for him- or herself and how many to invest into a "the public good." The experimenter doubles the sum invested into the public good and distributes the doubled sum equally among the four group members. Thus, every group member receives a quarter of the doubled sum, irrespective of his or her contribution. This experiment describes a cooperation problem: If everyone invests into the public good, the group is better off collectively; yet free riding makes everyone better off individually.

The experiments are conducted anonymously, and participants get paid according to their decisions. The public goods game is conducted several times but with new group members in each repetition. To

contribute under such circumstances is altruistic: Contributing is costly, and all other group members benefit. The typical result is that people initially invest into the public good, but altruistic cooperation eventually collapses.

Now consider the following treatment: After participants make their contribution, they learn how much others contributed. Participants then have the possibility to punish the other group members. Punishment is costly: The punishing individual has to pay one money unit, and the punished individual loses three money units. A money-maximizing individual will never punish, because punishment is costly and there are no further interactions with the punished individual. Yet, numerous experiments have shown that many people nevertheless punish and free riding becomes rare. Thus, punishment is altruistic because people incur costs to punish irrespective of no future interactions with the punished individual and because the future partners of the punished free rider benefit from the free rider's cooperation.

### Theoretical Relevance

Evolutionary and economic theories can explain cooperation by selfish individuals if the benefits of cooperating exceed the costs. Kinship, repeated interactions with the same individuals and reputation formation are channels through which benefits might exceed costs. From the viewpoint of these theories, altruistic punishment is a puzzle, because none of these channels was possible in the experiments and because the costs of punishing outweigh the benefits for the punishing individual.

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*See also* Altruism; Empathy–Altruism Hypothesis; Reciprocal Altruism

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other times sad. From this perspective, feelings—generally referred to as affect, which includes such phenomena as attitudes, emotions, and moods—work in much the same way as temperature. Just as temperature falls along a simple dimension ranging from hot to cold, so, too, does affect fall along a simple dimension ranging from positive to negative.

A closer look, however, reveals that affect may be more complex than it first appears. Consider your attitude toward ice cream. You may like ice cream because it tastes good but also dislike ice cream because that great taste comes at the expense of vast amounts of fat, sugar, and calories. If so, you would have what social psychologists call an *ambivalent* attitude toward ice cream. That is, you feel good *and* bad about it, rather than simply good *or* bad. Many people are ambivalent not only about unhealthy foods but about broccoli and other healthy foods as well. Similarly, many people are ambivalent about such unhealthy behaviors as smoking, as well as such healthy behaviors as exercising. As people who describe themselves as having love/hate relationships know, other people can also be a common source of ambivalence. For instance, many people are ambivalent about U.S. presidents Bill Clinton or George W. Bush. Perhaps people feel ambivalent about politicians because they feel ambivalent about the social issues that politicians debate. In addition to disagreeing with each other over such troubling issues as legalized abortion, capital punishment, and civil rights, people often disagree with themselves.

Such instances of ambivalence suggest that the analogy between temperature and affect can be taken only so far. It is impossible for liquids to freeze and boil at the same time, but it appears that people can feel both good and bad about the same object. According to John Cacioppo and Gary Berntson's evaluative space model, one implication is that it is better to think of positive and negative affect as separate dimensions rather than opposite ends of a single dimension ranging from positive to negative. From this perspective, people can feel any pattern of positive and negative affect at the same time, including high levels of both.

### Attitudinal Ambivalence

Contemporary interest in ambivalence stems from social psychologists' enduring efforts to understand the nature of attitudes, which refer to people's opinions of people, ideas, and things. Social psychologists have long measured attitudes by asking people to indicate how they feel about attitude objects (e.g., ice cream)

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## AMBIVALENCE

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### Definition

People like some things yet dislike others, love some people but hate others, and sometimes feel happy and

on scales with options ranging from extremely good to extremely bad. In his chapter on attitude measurement in the 1968 *Handbook of Social Psychology*, William Scott pointed out that responses in the middle of bipolar attitude scales are difficult to interpret. Though typically assumed to reflect the absence of positive or negative feeling (i.e., indifference), Scott pointed out that such responses may in fact reflect ambivalence, or the presence of *both* positive *and* negative affect.

### **Ambivalence Toward Social Categories**

Research has revealed that stereotypes and attitudes toward racial groups and other social categories are often ambivalent. For instance, many White Americans have ambivalent attitudes toward African Americans. These ambivalent racists sympathize with Blacks for having been denied the opportunities afforded to other Americans, but also disparage Blacks because they perceive Blacks as having failed to uphold the Protestant work ethic. Peter Glick and Susan Fiske have explored men's ambivalent sexism, which is illustrated by the saying, "Women—you can't live with 'em and you can't live without 'em." Benevolent sexism involves a sort of protective paternalism in which men see it as their duty to care for women. In contrast, hostile sexism involves dominative paternalism in which men oppose women's entry into male-dominated professions and criticize bold, assertive women even though they praise bold, assertive men. More recently, Glick and Fiske have demonstrated that stereotypes about social groups generally represent a tradeoff between perceptions of warmth and competence. Whereas homemakers are seen as nurturing but incompetent, for instance, wealthy individuals are seen as hardworking but cold.

### **Measuring Ambivalence**

In the early 1970s, Martin Kaplan had the insight to distinguish ambivalent attitudes from indifferent attitudes by modifying traditional one-dimensional, bipolar attitude scales. Rather than asking people to rate how good or bad they felt about attitude objects, Kaplan asked them to rate how good *and* bad they felt about the attitude object on two *separate* scales. Kaplan quantified the amount of ambivalence as the smaller of the two ratings. In his formula, individuals who feel exclusively positive (positive = 5, negative = 0), exclusively negative (0, 5), or indifferent (0, 0) about some attitude object experience no ambivalence. On

the other hand, people who have some combination of positive and negative feelings experience some level of ambivalence depending on the exact combination of those positive and negative ratings. For instance, if two individuals feel extremely positive, but one feels moderately negative (5, 3) and the other only slightly negative (5, 1), the first is quantified as having more ambivalence.

### **The Feeling of Ambivalence**

Having ambivalent reactions toward the same thing often leaves people feeling torn between the two. Indeed, subsequent researchers found that ambivalence as measured by Kaplan's formula is correlated with ratings of tension, conflict, and other unpleasant emotions. Interestingly, however, the correlations tend to be relatively weak. Thus, having both positive and negative reactions does not necessarily result in feelings of conflict. Research has revealed a number of reasons for the weak correlation. One reason is that feelings of conflict are not only the result of ambivalent positive and negative reactions. Specifically, people sometimes feel conflicted, even though they do not have ambivalent positive and negative reactions, because they hold attitudes that are at odds with those of people important to them. For instance, students who greatly oppose studying (and are not in favor of it all) may nonetheless feel conflicted if their parents like them to study. Thus, ambivalence is not only an intrapersonal phenomenon (i.e., one that happens within a single person) but an interpersonal phenomenon (i.e., one that happens between people) as well. Another reason for the weak correlation is that people's ambivalent positive and negative reactions toward an attitude object only produce feelings of conflict when the mixed reactions come to mind readily, which is not always the case.

### **The Role of Personality**

There are also stable individual differences or personality characteristics that play a role in attitudinal ambivalence. In fact, a third reason for the low correlation between having ambivalent positive and negative reactions and experiencing conflict deals with the fact that some people have a weaker desire for consistency than others. As it turns out, Megan Thompson and Mark Zanna have demonstrated that these people are not particularly bothered about feeling both good and bad about the same thing. Perhaps that explains

why these individuals tend to be more likely to have ambivalent attitudes toward a variety of social issues, including state-funded abortion, euthanasia (i.e., “mercy killing”), and capital punishment. In addition, people who enjoy thinking tend to have less-ambivalent attitudes, presumably because they manage to sift through and ultimately make sense of conflicting evidence for and against different positions on complex issues.

### ***Consequences of Attitudinal Ambivalence***

Ambivalence has a variety of effects on how attitudes operate. Attitudes are important to social psychology, in large part because they help predict behavior. If social psychologists know that someone has a negative attitude toward capital punishment, for instance, they can predict with some certainty that the person will vote to ban capital punishment if given the opportunity. Compared to other attitudes, however, ambivalent attitudes do not predict behavior very well. In addition, ambivalent attitudes are less stable over time than other attitudes. Thus, if asked about their attitude toward capital punishment one month and again the next, people who are ambivalent toward capital punishment will be less likely than others to report the same attitude.

Ambivalence also affects how much people change their minds in the face of advertisements and other persuasive appeals, messages designed by one person or group of people to change other people’s attitudes. For instance, Gregory Maio and colleagues found that when people are presented with a persuasive message dealing with issues that they are ambivalent about, they pay especially close attention to whether the message makes a compelling case or not. Thus, they tend to be more persuaded by strong arguments than are people with nonambivalent attitudes but also less persuaded by weak arguments. One explanation for this finding is that people with ambivalent attitudes scrutinize persuasive messages more carefully in hopes that the message will contain new information that will help them resolve their ambivalence. It appears that people with ambivalent attitudes are also more likely to change their attitudes to bring them into line with their peers’ attitudes. The picture that has emerged is that when people feel ambivalent, they will do whatever it takes to make up their minds, whether that involves the hard work of paying close attention to persuasive messages or the easier work of looking to their peers for guidance.

### **Mixed Emotions**

Contemporary work on attitudinal ambivalence has recently prompted research on emotional ambivalence. Whereas attitudes represent affective reactions to some object, such as capital punishment or a political figure, emotions represent one’s own current affective state.

Most individuals at least occasionally experience such positive emotions as happiness, excitement, and relaxation and such negative emotions as sadness, anger, and fear, just to name a few. Research on attitudinal ambivalence makes clear that sometimes people can feel both good and bad about the same object, but this does not mean that people can experience such seemingly opposite emotions as happiness and sadness at the same time. Indeed, one prominent model of emotion contends that happiness and sadness are mutually exclusive. In contrast, John Cacioppo and Gary Berntson’s evaluative space model contends that people can sometimes experience mixed emotions.

### ***The Historical Debate***

This disagreement represents the latest chapter in a long debate over the existence of mixed emotions. Socrates suggested that, for instance, tragic plays elicit mixed emotions by evoking pleasure in the midst of tears. Centuries later, David Hume argued for mixed emotions, but the Scottish philosopher Alexander Bain argued against mixed emotions. In the first two decades of the 20th century, students of Wilhelm Wundt, Hermann Ebbinghaus, and other pioneering psychologists conducted more than a dozen experiments in hopes of gathering data that would answer the question of mixed emotions. In an illustrative study, observers described how they felt after viewing pairs of pleasant and unpleasant photographs that alternated more than 100 times per minute. Nevertheless, researchers were unable to agree on how to interpret observers’ descriptions of their feelings. As a result, this early literature has largely been forgotten.

### ***Contemporary Evidence for Mixed Emotions***

Thanks in part to the development of more valid measures of emotion, researchers have recently been able to reopen the question of mixed emotions. The question is far from settled, but recent evidence suggests that people can feel both happy and sad at the

same time. In a study conducted by Jeff Larsen and colleagues, moviegoers reported whether they felt happy, sad, and a variety of other emotions before or after seeing the tragicomic 1998 Italian film *Life Is Beautiful*, which depicts a father's attempts to keep his son alive and unaware of their plight during their imprisonment in a World War II concentration camp. Before the movie, nearly everyone felt happy or sad, not both. After the film, however, half the people surveyed felt both happy and sad. In similar studies, college students were more likely to feel both happy and sad immediately after graduating or turning in the key to their dormitories than during typical days on campus.

In other research, people played a variety of computerized card games in which they had the opportunity to win one of two amounts of money, such as \$12 or \$5. Winning \$12 instead of \$5 led people to feel good and not at all bad. Winning \$5 instead of \$12, however, led people to feel both good and bad. These outcomes can be seen as *disappointing wins*: Winning \$5 feels good, but it also feels disappointing if there was an opportunity to win even more.

### **Mixed Emotions in Children**

Developmental psychologists have studied the development of children's understanding of mixed emotions. In one study, children listened to a story about a child who had received a new kitten to replace one that had run away. During a subsequent interview, 4- and 5-year-olds rejected the notion that the child would feel both happy and sad about getting the new kitten. Older children, however, thought the child would feel mixed emotions. In a similar study, children were interviewed about their emotions after viewing a clip from the animated film *The Little Mermaid* in which a mermaid must say goodbye to her father forever after marrying a human. Older children were more likely to feel mixed emotions of happiness and sadness than were younger children. Taken together, the results of these studies suggest that both the understanding and experience of mixed emotions represent developmental milestones.

### **Consequences of Mixed Emotions**

Little research to date has examined the consequences of mixed emotions. One notable exception is evidence that European Americans find advertisements that evoke mixed emotions more unpleasant than do

Asian Americans, who tend to have a greater propensity for dealing with contradictory information. As a result, the advertisements were also less persuasive for European Americans than Asian Americans. Among European Americans, younger individuals find mixed emotional advertisements more unpleasant than older individuals, suggesting that the effects of age on mixed emotions, demonstrated by developmental psychologists, extend far beyond childhood.

## **Conclusion**

People probably feel good or bad about most things and happy or sad most of the time. Indeed, it appears that ambivalence is a relatively uncommon phenomenon. It is nonetheless a particularly intriguing phenomenon because it gives us a unique glimpse into how affect works. It may appear that feelings fall along a simple dimension ranging from good to bad, but the evidence for ambivalence suggests that positive and negative affect are, in fact, separate processes that can be experienced at the same time.

*Jeff T. Larsen*

*See also* Approach–Avoidance Conflict; Attitude–Behavior Consistency; Attitude Change; Attitudes; Attitude Strength; Dual Attitudes; Emotion; Prejudice

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## ANCHORING AND ADJUSTMENT HEURISTIC

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### Definition

Life requires people to estimate uncertain quantities. How long will it take to complete a term paper? How high will mortgage rates be in five years? What is the probability of a soldier dying in a military intervention overseas? There are many ways to try to answer such questions. One of the most common is to start with a value that seems to be in the right ballpark and then adjust it until a satisfactory estimate is obtained. “My last paper took a week to write, but this one is more demanding so maybe two weeks is a good guess.” “Mortgage rates are low by historic levels, so perhaps they’ll be a couple of points higher in five years.” “The fatality rate in the last war was 1.5%, but our enemies are catching up technologically; maybe 4% is a more likely figure in the next conflict.”

Estimates such as these are based on what psychologists call the anchoring and adjustment heuristic. You start with an initial anchor value and then adjust until an acceptable answer is found. The choice of the term *anchor* for the starting value speaks to one of the most interesting features of this procedure: People typically fail to adjust sufficiently. That is, the initial value exerts some “drag” on the final estimate, systematically biasing the result.

Amos Tversky and Daniel Kahneman, who brought the anchoring and adjustment heuristic to psychologists’ attention, provided a clear demonstration of the insufficiency of adjustment. They spun a “wheel of fortune” and asked participants if certain quantities were higher or lower than the number on which the wheel landed. The participants were then asked to estimate the precise value of the quantity in question. For example, some participants were asked whether the percentage of African countries in the United Nations is higher or lower than 10%. Their subsequent average

estimate of the actual percentage was 25%. Other participants were initially asked whether the percentage of African countries in the United Nations is higher or lower than 65%. Their average subsequent estimate was 45%. Thus, the initial anchor value, even when its arbitrary nature was quite apparent, had a pronounced effect on final judgments.

In another telling demonstration, Tversky and Kahneman asked people to tell them within five seconds the product of either  $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8$  or  $8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$ . Because the allotted time was too short to permit an exact calculation, respondents had to estimate. The first group did so by extrapolating from a relatively low number (“one times two is two, two times three is six . . . so it’s probably about . . .”). The second group started from a larger number (“eight times seven is fifty-six . . . so . . .”). Because the two groups of respondents started with different anchor values, they came up with predictably different estimates. The average estimate of the first group was 512, whereas the average estimate of the second group was 2,250. If initial anchor values did not bias final estimates, the average estimates of the two groups would have been the same. Clearly, they were not. Note that the actual answer is 40,320, which shows even more powerfully that both groups adjusted insufficiently.

The anchoring and adjustment heuristic is of great interest to psychologists because it helps to explain a wide variety of different psychological phenomena. For example, people’s estimates of what other people are thinking are often egocentrically biased (i.e., people assume that others think more similarly to how they themselves think than is actually the case) because they tend to start with their own thoughts and then adjust (insufficiently) for another person’s perspective. People suffer from a hindsight bias, thinking that past outcomes were more predictable at the time than they really were, because they anchor on current knowledge and then adjust (insufficiently) for the fact that certain things that are known now were not known back then. Also, people tend to assume that they will do better than others on easy tasks because they start with an assumption that they will do well themselves and then adjust (insufficiently) for the fact that other people are also likely to do well on such easy tasks.

Beyond its importance to psychologists, the anchoring and adjustment heuristic has important implications for all of us in our daily lives. We must all be alert to the influence that arbitrary starting values can have on our estimates, and we must guard against individuals

who might try to sway our judgments by introducing starting values that serve their interests, not ours. It has been shown, for example, that an opening proposal in a negotiation often exerts undue influence on the final settlement, and so we may want to pay considerable attention to how the opening proposals are made and who makes them. It has also been shown that the items we buy in the grocery store are powerfully affected by the anchor values that are put in our heads by advertisers. In one study, for example, an end-of-the-aisle promotional sign stated either “Snickers Bars: Buy 18 for your Freezer” or “Snickers Bars: Buy them for your Freezer.” Customers bought 38% more when the advertisers put the number 18 in customers’ heads. Buyer beware.

*Thomas Gilovich*

*See also* Behavioral Economics; Door-in-the-Face Technique; Heuristic Processing; Hindsight Bias; Persuasion

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## ANDROGYNY

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### Definition

The term *androgyny* is derived from the Greek *andro* (man) and *gyne* (woman). The popular conception of androgyny is a blend of male and female characteristics or a person who is neither male nor female. Psychological androgyny refers to men and women who exhibit both masculine and feminine attributes.

### Background and History

Psychologists have measured masculinity and femininity, along with other important personality traits, since the early 20th century. These early tests were developed by identifying items that reflected differences in men’s and women’s responses. For example, the masculinity–femininity scale of the original Minnesota Multiphasic Personality Inventory included items that male participants endorsed as being descriptive of their personality attributes. At that time, psychologists shared the Western cultural assumption that mentally healthy men were masculine and mentally healthy women were feminine. Therefore, it was expected that male participants would have higher masculinity scores than would female participants.

These early tests measured masculinity–femininity as a single dimension, with masculinity at one end of a continuum and femininity at the other end of the continuum. Therefore, the higher participants would score on masculinity, the lower they would score on femininity. Likewise, the higher participants would score on femininity, the lower they would score on masculinity. It was impossible to score high on both masculinity and femininity.

In the 1970s, many psychologists criticized these traditional tests. This criticism paralleled a shift in Western cultural assumptions about men, women, and traditional sex role socialization. During that time, Sandra Lipsitz Bem designed a new psychological test, the Bem Sex Role Inventory (BSRI). The BSRI was designed to address some of the criticisms of the traditional masculinity–femininity tests. Instead of items selected on the basis of sex differences in participants’ responses, the BSRI contains items that male and female participants rated as desirable for American men and women. The masculinity scale consists of items that were rated as slightly more socially desirable for men (e.g., aggressive and ambitious). The femininity scale consists of items that were rated as slightly more socially desirable for women (e.g., affectionate and cheerful). Moreover, the BSRI assesses masculinity and femininity as independent, separate dimensions. Male and female participants can score high on masculinity and low on femininity (traditional masculinity), low on masculinity and high on femininity (traditional femininity), high on both masculinity and on femininity (androgynous), and low on both masculinity and femininity (undifferentiated). These latter two groups were impossible to identify with the early psychological tests.

## Sex-Role Flexibility and Mental Health

Research on androgyny has addressed two questions based on Western cultural assumptions about socialization to traditional sex roles: psychological adjustment and mental health. One line of research has tested the hypothesis that socializing men and women to traditional masculine or feminine sex roles would lead to rigidity and restricted behavior in many social situations. Because androgynous people have masculine and feminine attributes, they should have the flexibility to adapt to situations that require masculine or feminine behaviors. One series of studies, for example, found that androgynous men and women were more nurturing toward an infant than were masculine men and women. Moreover, androgynous men and women performed better in another experimental situation that required independence than did feminine men and women. In another study, masculine men and feminine women were more likely to choose an experimental activity that was appropriate for their sex (e.g., oiling squeaky hinges on a metal box vs. mixing infant formula and preparing a bottle) than were androgynous men and women. Moreover, masculine men and feminine women reported feeling worse after performing a sex-inappropriate activity than did androgynous men and women.

Other studies have addressed the relationship of androgyny, psychological adjustment, and mental health. Whereas some studies have found androgynous people to have higher self-esteem than traditional masculine or feminine people, the results of other studies are contradictory or mixed. An extensive review of published studies in the area concluded that androgynous and masculine men and women scored higher on several indices of mental health than did feminine men and women. However, statistical analyses indicated that it is the masculinity component of androgyny that is related to mental health rather than the unique combination of masculinity and femininity. The researchers attribute these findings to the psychological benefits masculine men and women enjoy in a culture that encourages assertiveness, competence, and independence.

### Current Status

Psychological tests like the BSRI are an important improvement upon the tests constructed in the early 20th century. However, critics assert that because masculinity and femininity consist of a multitude of

dimensions, these tests are inadequate. Other critics assert that tests such as the BSRI measure two important dimensions that are characteristic of sex roles across cultures: Masculinity items measure instrumental attributes (representing agency and independence), and femininity items measure expressive attributes (representing nurturance and warmth). Finally, Bem has changed her views on psychological androgyny. She believes that masculine or feminine people think about the world from the perspective of gender, whereas androgynous men and women do not.

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*See also* Masculinity/Femininity; Self-Esteem; Sex Roles

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## ANGER

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### Definition

The term *anger* has multiple meanings in everyday language. People refer to anger as an experience or feeling, a set of physiological reactions, an attitude toward others, a drive leading to aggression, or an overt assault upon some target. In social psychology, anger refers to a particular set of feelings. The feelings usually labeled as “anger” range in intensity from being irritated or annoyed to being furious or enraged. These feelings stem, to a large degree, from the internal physiological reactions and involuntary emotional expressions produced by an offense or mistreatment. Visual features

include facial changes, like frowning eyebrows and dilated nostrils, and motor reactions, such as clenching fists. These feelings are simultaneously influenced by thoughts and memories (i.e., appraisals) that arise. All of these sensory inputs are combined in a person's mind to form the experience of anger. This experience is not aimed at achieving a goal; nor does it serve any useful purpose for the individual in that particular situation.

### Distinction From Other Concepts

The terms *anger*, *hostility*, and *aggressiveness* are often used interchangeably in everyday life. Social psychologists define hostility as a negative attitude toward one or more people that is reflected in a decidedly unfavorable judgment of the target. To differentiate, aggressiveness is any form of behavior directed toward the goal of harming a target. In other words, aggressiveness can also be seen as a disposition toward becoming aggressive. In sum, anger as an experience does not directly activate aggressiveness.

### Physiological Reactions

A large body of early research has investigated the mental representations of bodily reactions in anger. Across different investigations, individuals experienced increases in cardiovascular (e.g., higher blood pressure) and muscular (e.g., heightened bodily tension) activity, accompanied by the face feeling hot. This latter observation is consistent with the widespread characterization of anger as a "hot" emotion.

### Appraisal Conceptions of Anger

Several contemporary researchers started to extend the focus from the internal physiological aspects to interpretations of external features having an impact on affective states. This so-called appraisal-based view of anger contends that anger exists only when external events are interpreted in a specific manner, that is, when individuals give meaning (i.e., appraise) to the specific situation they are in. More specifically, appraisal researchers argue that the precipitating incident has to be interpreted as an offense or mistreatment. Furthermore, whether individuals see themselves or another person responsible, or whether they blame themselves or another person (i.e., appraisal of agency), for the mistreatment triggers either anger experienced toward the self (i.e., self-directed anger) or the other person (i.e., other-directed anger).

There are several theoretical claims of appraisal formulations that emphasize a different appraisal structure and appraisal process. Much research has been dedicated to test these different formulations against one another. Despite these different formulations, what can be derived from this research is that appraisal formulations can indeed account for the experience of anger.

### Anger and Behavior

If an individual is angry with someone else, the desire to act feeds into a "moving against" tendency. The phrase "moving against" characterizes the behavioral impulses activated in the state of anger. Research has shown that anger can trigger action tendencies like striking out or attacking the perpetrator responsible for the elicitation of anger. They are expressed, for example, by verbally or even physically attacking a target.

### Anger and Health

Besides triggering action tendencies in the short run, anger has been shown to lead to health problems in the long run. This line of research suggests that the experience of anger, which is accompanied by the cardiovascular (e.g., higher blood pressure) and muscular (e.g., heightened bodily tension) activity, is a risk factor for coronary heart disease.

### Recognition of Anger

So how do we come to associate specific movements and gestures of someone else with a specific emotional state? Several researchers have proposed different processes of emotional contagion and/or simulation that provide the means by which we come to know what others are feeling. The idea of emotional contagion implies that a visual representation of another's expression leads us to experience what the other person is feeling, which in turn allows us to infer that person's emotional state. Furthermore, research has indicated that participants exposed to angry faces show increased activity in specific facial muscles (e.g., by frowning their eyebrows). Thus, these data suggest that emotional faces generally induce their mirror images in their observers.

### Measurement

Anger is often measured as a dependent variable. In this large body of research, individuals are asked to

indicate their level of anger. This self-report measure has one main problem: The measure is influenced by the respondent's perception. Over the years, the focus on investigating emotions has changed, and several assessments have been developed to study different aspects of emotions. There are three main ways to assess the basic processes of anger. First, the physiological arousal (in other words, the excitement of anger) is often measured by heart rate, muscle tension, or skin conductance. Second, the affective state that represents the feelings and signs of anger is assessed by facial coding of the expression. Finally, the external consideration concerning the cause of the affective state put forward by appraisal theorists is measured by asking individuals directly for their interpretations of the current situation.

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*See also* Affect; Aggression; Emotion

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## ANONYMITY

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*See* DEINDIVIDUATION

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## ANTICIPATORY ATTITUDE CHANGE

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### Definition

Anticipatory attitude change refers to shifting or changing one's expressed opinion or attitude on a topic as a result of being informed that one will be exposed to a message or communication on the topic. Thus, prior to receiving any aspect of the message itself, people might adjust their opinions on a topic to be more positive, negative, or neutral simply in anticipation of receiving a message. In other words, when you know someone is going to try to change your

mind, you may change it some already in advance, before even hearing what that person has to say.

Anticipatory attitude change has been studied primarily within the domain of forewarning research, which involves informing people they will be exposed to a persuasive message. Within this domain, researchers have focused on how people's reporting of their opinions change as a result of warning them they will receive a message, prior to actually receiving the message.

### Motives for Anticipatory Attitude Change

Anticipatory attitude change has been argued to stem from several different motives. First, if the topic of the message challenges the beliefs held by individuals, individuals may respond by becoming more negative on the topic prior to message exposure. This negative response might result from a simple negative feeling associated with having one's opinion attacked, or might result from a more thoughtful attempt to consider the reasons in favor of one's attitude against the opposing perspective.

A second motivation that might underlie anticipatory attitude change reflects a desire to avoid feeling gullible by providing perspectives that are in agreement with others. Thus, individuals who are told the position of a message may shift their attitudes, in a manner to agree with the message, prior to message exposure to avoid appearing as if they had been persuaded. If the message is in favor of a position, individuals' attitudes will become more positive toward the position; if the message is against a position, individuals' attitudes will become more negative toward the position.

A final cause for anticipatory attitude change follows from concerns about interacting with a person or expressing one's attitude without knowing whether the message or person is in favor or against a particular topic. When another person's view is not known, the best way to safely allow for the possibility of agreement is simply to shift one's attitude to be more moderate. This allows one to more easily take a position similar to the person or message once they learn the position endorsed. For example, if a person becomes more moderate in his or her views, that person is more easily able to agree with another person regardless of the other person's stance on the topic.

Although evidence is still accumulating as to when and whether each of the previously discussed motives operates, it seems likely that each may serve as a

motive for anticipatory attitude change under the right circumstances.

### Anticipatory Attitude Change and Topic

One important determinant of the effects of anticipatory attitude change is the topic of the message. On the one hand, if people perceive they will be receiving a message that threatens a valued topic or cherished attitude, they are likely to respond by becoming even more entrenched in their position (i.e., shifting their attitudes to be more opposed to the message position). On the other hand, if people perceive they will be receiving a message that does not challenge important beliefs, they are more inclined to respond by showing acquiescence and shifting their attitudes in favor of the position perceived to be advocated by the message.

### Anticipatory Attitude Change and Likelihood of Being Persuaded

A second important moderator of whether people shift their attitude toward the message (for less-important topics) is whether people feel they are likely to be persuaded by the message. Individuals are much more inclined to show anticipatory attitude shifts if they believe a message will persuade them. Consequently, research has found individuals show more agreement with a position, prior to the message, if they believe the message is expected to be highly persuasive or to be delivered by a highly persuasive source (e.g., a person with expertise or knowledge). These findings are consistent with the idea that people might sometimes shift their attitudes to avoid appearing to have been persuaded and gullible.

### Duration of Anticipatory Attitude Change

The long-term effects of anticipatory attitude change may well depend on whether an actual message is received or not. In fact, research suggests that anticipatory attitude change may be extremely short-lived if no message is presented. When people are informed they will no longer be receiving a message and then are asked to provide their attitude a second time, their attitudes often revert back to the same attitudes they had prior to the anticipatory attitude change. Thus, an

individual who became more negative toward a topic, upon learning a message would be given on that topic, would become less negative as soon as he or she learned the message would not be given, reverting back to his or her original opinion.

If a message is actually presented, however, the attitudes resulting from anticipatory attitude change may influence how the message is processed or scrutinized. For example, individuals may attend to the information in a message in a manner that supports the attitudes that resulted from anticipatory attitude change. Individuals who become more negative in anticipation of the message may focus on the negatives within the message, reaffirming their negative attitudes upon hearing the message. Similarly, individuals who become more positive in anticipation of the message may focus on the positives within the message, reaffirming their positive attitudes. This pattern of processing may lead to actual and enduring attitude change. As a result, anticipatory attitude change might also have potentially long-term and enduring results.

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*See also* Attitudes; Forewarning; Inoculation Theory; Persuasion; Reactance

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## ANTISOCIAL BEHAVIOR

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### Definition

Antisocial behavior refers to actions that violate social norms in ways that reflect disregard for others or that reflect the violation of others' rights. The major reason to study antisocial behavior is that it is harmful to people. Also, it raises issues of whether people are inherently prone to be harmful to others and whether harmful, reckless people can be cured.

## Distinctions and Examples

Antisocial behavior encompasses a wide range of behaviors, such as initiating physical fights, bullying, lying to others for personal gain, being reckless toward others, and even engaging in unlawful acts that do not directly hurt others but indirectly affect others in a negative way (such as stealing or vandalizing personal property). One distinction among various antisocial acts is whether the acts are overt versus covert—that is, whether the acts are hidden from others. A second distinction is whether the behavior is destructive—that is, whether the behavior directly harms another person. For example, destructive overt acts include physical or verbal aggression, bullying, fighting, threatening, being spiteful, cruel, and rejecting or ostracizing another person. Examples of nondestructive overt acts include arguing, stubbornness, and having a bad temper with others. Examples of destructive covert acts include stealing, lying, cheating, and destroying property, whereas nondestructive covert acts might include truancy, substance use, and swearing. When considering the most versus least harm to others, overt destructive acts are most severe, followed by covert destructive acts, overt nondestructive acts, and finally nondestructive covert acts.

Boys and men are more often perpetrators of antisocial behavior than are girls and women, and they differ in what they do. Males are more likely to engage in criminal activity and overt aggression; females are more likely to engage in relational aggression or harm caused by damaging a peer's reputation (e.g., spreading rumors, excluding them from the peer group).

## Prevalence and Persistence

The majority of men who engage in antisocial acts do so only during their adolescent years. Antisocial behavior is so common during adolescence that a majority of men do something antisocial, such as having police contact for an infringement; roughly one third of boys are labeled delinquent at some point during their adolescence. However, most of them cease their antisocial ways by their mid-20s. Terrie Moffitt termed this *adolescence-limited antisocial behavior*. In contrast, she suggests that *life-course-persistent antisocial behavior* is committed only by a minority of people. These men show antisocial tendencies and traits as children (even during infancy). These tendencies persist throughout their lives, even if the behaviors per se cease during mid

to late adulthood. They typically are diagnosed with antisocial personality disorder, which means they show a persistent pattern of frequent antisocial behavior as adults. The *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*, published in 1994 by the American Psychiatric Association, describes the characteristics that lead to this diagnosis. In short, while many people engage in antisocial behavior once or occasionally during adolescence, many fewer people show a persistent antisocial behavior pattern that begins early in life and continues into adulthood.

## Causes and Treatment

Because antisocial behaviors have obvious negative consequences for victims, especially, but also for perpetrators (e.g., prison), substantial research has gone toward understanding what causes antisocial behavior and how it can be stopped.

Theory and research to understand who is likely to engage in antisocial behavior have resulted in two different views, resurrecting the nature versus nurture debate. One view is that biological factors present at birth, such as genes and inherent personality traits, are most important in determining antisocial behavior. The other view emphasizes environmental factors, such as parenting style (e.g., ineffective responses to child aggression, poor communication, weak family bonds, child neglect and/or abuse), peer relationships (e.g., being around others who are antisocial, being rejected by peers, social isolation), poverty, and lack of education.

The distinction between adolescence-limited and life-course-persistent antisocial behavior is relevant to understanding causes. When this distinction is omitted, analyses that integrate information from many studies (*meta-analyses*) suggest that 40% to 50% of examined instances of antisocial behavior may be due to genetic influences rather than environmental influences. However, studies do not capture all instances of antisocial behavior and likely overrepresent people whose antisocial tendencies are persistent over time. People whose antisocial acts persist throughout the life course are more likely to have brains that are programmed toward antisocial behavior that, when combined with the right environmental factors and expectations from others, trigger antisocial behavior. People whose antisocial acts are limited to adolescence may suffer from being emotionally or socially immature (relative to

their biological age), and as such, they are vulnerable to the influence of persistent antisocial peers and models. Moreover, the heritability of antisocial behavior depends on the act being examined; property crimes show a greater genetic influence than violent crimes.

If antisocial behavior cannot be effectively prevented, it becomes important to stop it. In general, interventions to stop life-course-persistent antisocial behavior have had only limited to no success. Even medical treatments are ineffective. Moreover, these individuals are reluctant to seek help and typically are court-ordered into treatment. Interventions on those who engage in adolescence-limited antisocial behavior have been more successful, particularly treatments based on teaching behavioral skills (rather than counseling-based treatments).

### Implications

Ultimately researchers study the nature, causes, and limits of antisocial behavior to understand whether people are innately reckless or harmful toward others and whether such people can be stopped. Although there has been progress in identifying causes, the issue of predicting with certainty who will engage in antisocial behavior remains unresolved. Moreover, effective treatment for persistent antisocial behavior is in its infancy and stands to be developed further.

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*See also* Aggression; Bullying; Deception (Lying); Intimate Partner Violence; Narcissism; Ostracism; Sexual Harassment

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response to a perceived threat, which in the case of fear is fairly specific and identifiable (e.g., seeing a snake) but in the case of anxiety tends to be vague and suspenseful (e.g., giving a speech). It is a defensive response, one that signals danger and, like other emotions, is thought to have an important function related to survival. In the social arena, the threat is the perceived potential harm to one's self-esteem, self-worth, or self-concept. The anxiety can be domain specific (e.g., text anxiety, public speaking anxiety). Anxiety can help an individual identify a negative event and cope with it; if excessive or uncontrollable, however, anxiety is maladaptive.

### Background

The concept of anxiety has a long and revered history in psychology, beginning at least with Sigmund Freud who offered one early conceptualization. He saw anxiety as a warning signal that something threatening could happen. For Freud, neurotic anxiety was the central concern. This is the unconscious fear that one's impulses (the Id) may take over and lead a person to do things that would be punished. The anxiety is a signal to one's rational side (the Ego), and the unconscious worry reflects the internal psychological battle between these psychic forces.

Later theorists, sometimes called post-Freudian, characterized anxiety as basic, stemming from a child's dependency (particularly feelings of being isolated and helpless in a potentially hostile world). Being raised in a nurturing home, however, where security, trust, love, tolerance, and warmth prevail can replace such fears of being abandoned and produce more adaptive relations with other people. Abraham Maslow is highly regarded for his proposal of a hierarchy of needs and his focus on the positive side of human experience (i.e., self-actualization). But he is also noted for placing safety and physical security needs at a fundamental level on the hierarchy, suggesting that they must be satisfied before higher-order needs such as love, esteem, and actualization can be realized.

These ideas set the stage for contemporary research on attachment theory, where the emotional connection between a caregiver and child can either prove secure and dependable (i.e., safe) or insecure. The importance of attachment and a sense of belongingness, and trust in relationships, have come to be central themes for contemporary social psychology. The attachment patterns of adults shows that these infant attachment

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## ANXIETY

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### Definition

Anxiety is an unpleasant emotional state, characterized by tension, apprehension, and worry. It occurs in

patterns either persist into adulthood or emerge again in adult long-term intimate relationships.

The social psychological roots of the anxiety construct can also be traced to William James's hypothesis that an emotional state is the result of an interaction of bodily changes and cognitive life. Stanley Schachter and Jerome Singer's famous two-factor theory of emotion sees an emotional state as the combination of a diffuse physiological arousal coupled with a cognitive interpretation of that arousal. When the source of arousal is easily identified, the emotion is easily labeled. However, when no arousal is expected, people are subject to cues in the environment that would stimulate an emotion. When those cues are vague and ill-defined, the subjective experience may be threatening and may produce anxiety.

### The Nature of Anxiety

Anxiety is generally regarded as having a set of component parts that include cognitive functioning, physiological, emotional, and behavioral facets. One cognitive component is the expectation of uncertain danger, of course. Anxiety also uses up attention capacity. One consequence is that people with high test anxiety or high social anxiety become less efficient in their behavior, once anxiety is aroused, and their attention is divided. The disruptive impact of anxiety on behavior is illustrated by the large number of errors on performance-related tasks, such as speech-anxious individuals making more speech errors, stammering more, producing more "um" sounds.

Anxiety also stimulates intense vigilance and attention to threat. Anxious individuals are faster to find threat, even in a word recognition task (i.e., threatening words) that involves reaction times measured in fractions of a second. This shows their threat-focused information processing style.

Anxiety is associated with increases in cardiac reactivity (e.g., heart rate and blood pressure) and with other physiological indices (e.g., blood flow to major muscle groups, sweating, trembling, etc.). Physiological arousal is characterized by heightened activation of the automatic nervous system and serves to energize behavior. Physiological arousal can be interpreted positively (as elation, surprise, or attraction), or negatively (as fear, anger, or anxiety).

Most contemporary brain researchers agree that there are two anatomically distinct pathways that interpret physiological arousal: the behavioral approach

system (BAS) and the behavioral inhibition system (BIS). The BAS is sensitive to positive stimuli and gives rise to a pleasurable emotional state. The BIS is a parallel system associated with danger and punishment, giving rise to unpleasurable interpretations of events. The BIS is associated with the emotional state of anxiety. This association of the BIS to anxiety helps explain why anxiety is connected to attempts to escape or avoid things that are unpleasant (e.g., worry about making mistakes and withholding responses; shy-like behaviors, such as avoiding criticism or rejection; withdrawing affection in anticipation of being rejected). Of course, escape and avoidance are maladaptive when extreme, as in clinically diagnosed anxiety disorders, but are common in everyday life where nonpathological levels of anxiety occur.

Anxiety is often distinguished in terms of its state or trait nature. *State anxiety* is a transitory unpleasant emotional arousal stemming from a cognitive appraisal of a threat of some type. *Trait anxiety* is a stable, personality quality (stable individual difference) in the tendency to respond to threat with state anxiety. One common inventory to identify anxiety is the State-Trait Anxiety Inventory (Charles Spielberger and colleagues); research has also distinguished between a worry (i.e., cognitive) component of anxiety and an emotionality (i.e., arousal) component of anxiety.

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*See also* Arousal; Intergroup Anxiety; Social Anxiety

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## APPARENT MENTAL CAUSATION

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### Definition

The theory of apparent mental causation outlines the conditions under which people experience a sense of

consciously willing their actions. Although people often feel that their conscious thoughts cause their actions, this feeling is illusory, as both their actions and their experience of willing them arise independently from unconscious sources. People feel apparent mental causation when their thoughts precede their actions (priority), when their thoughts are consistent with their actions (consistency), and when their thoughts are the only plausible cause of their actions (exclusivity).

### **An Example**

Imagine that you're in the park on a summer day and a specific tree branch catches your eyes. You think, "I wish it would move up and down," and lo and behold, it moves. Not only that, it moves in the exact direction you imagined it moving, and when you search for alternative causes for its motion, you find nothing. There is no wind or mischievous tree-climbing kid that can account for the motion. Did your thoughts cause it to move? Given that there is nothing else to account for its motion (exclusivity), and that it moved right after you thought about it (priority) in perfectly the right direction (consistency), you feel as if you caused the branch to move, even though it seems impossible. In the same way, people infer causation between their own thoughts and actions when these principles are in place.

### **Conscious Thoughts Are Not Causal**

Although it feels as though conscious thoughts cause actions, neurological evidence shows that this is highly unlikely. In a series of experiments, Benjamin Libet measured the brain activation of people as they made voluntary finger movements. Specifically, he measured the part of the motor cortex that is responsible for moving one's fingers, while also recording the time at which people said they consciously decided to move their finger. He found that participants' conscious decisions to move came after the time at which their motor cortex had started to activate. This means that their unconscious mind had already started to move their finger when they experienced the conscious decision to move it. As causes must precede effects, the conscious mind must be ruled out as the cause of people's actions. The theory of apparent mental causation suggests why and how it is that people nonetheless feel as though their thoughts cause their actions.

## **Three Principles of Apparent Mental Causation**

### ***Priority***

People's thoughts must immediately precede their actions for them to experience mental causation. If thoughts appear after action, there is no experience of willing one's actions. Similarly, if thoughts appear too far in advance, this experience will also be lacking. This is exemplified by those instances in which you decide to grab something from your bedroom, only to find yourself standing beside the bed with no idea why you're there, and no experience of mental causation for your action.

### ***Consistency***

To experience mental causation, people's actions must match their thoughts, and although this is usually the case, consistency is often lacking in failures of self-control. Imagine yourself surfing the Web one night when you look up at the clock; you see that it's well past your bedtime and decide to shut down the computer and head to bed. Twenty minutes later, in spite of your intentions, you find yourself still madly clicking links, with no accompanying sense of mental causation.

### ***Exclusivity***

People experience mental causation when their thoughts are the only plausible explanation for their actions. While the link between thoughts and actions is usually clear, in some psychological disorders the principle of exclusivity is violated. For instance, one symptom of schizophrenia, called thought insertion, involves believing that another entity (e.g., the CIA) is inserting thoughts into one's head. If one's actions appear to be caused by the thoughts of another, the experience of mental causation will be subsequently undermined.

### **Evidence**

Through a number of studies, Daniel Wegner demonstrated the importance of these principles in determining mental causation. He used a paradigm whereby a participant did a task together with an accomplice, in which it was questionable whether the participant or the accomplice was controlling the action. The task was based on an Ouija board, where it is difficult to tell who is responsible for moving the planchette to convey

messages beyond the grave. In this study, there were a number of pictures on the Ouija board, and at regular intervals the accomplice stopped the planchette at one of these pictures. Although the accomplice was always controlling which picture the planchette pointed to, the participant experienced a sense of mental causation for the action when he or she had a prior thought that was consistent with the action (e.g., by hearing the word *dog* over a pair of headphones just before the planchette stopped at the picture of a dog). This demonstrates that, even in situations in which the participant has no control over the task, the experience of apparent mental causation can be manipulated by varying the three principles that link thoughts to actions.

### Implications

If people's experience of free will is not causative and instead results from the same unconscious process that determines their action, then how are people to be held responsible for their actions? This question, traditionally raised by philosophers, is a pressing concern for psychologists and legal theorists. Although the experience of conscious will is only a feeling, not a guarantee that one's thoughts have caused one's actions, this feeling allows people to make a working distinction between those actions that feel free and those that feel forced. The experience of mental causation can be used to provide a readout of how free one was in performing an action. If someone takes your hand and makes you pull the trigger of a gun, you will feel less-apparent mental causation than if you calmly, and after much thought, decided to pull the trigger. As people would not wish to be punished for those actions that lack an accompanying feeling of mental causation, they can use that standard in evaluating others. Legal decisions can be based on one's experience of mental causation, thereby leaving how a person makes judgments of responsibility relatively unchanged.

*Kurt Gray*

*Daniel M. Wegner*

*See also* Consciousness; Free Will, Study of; Nonconscious Processes

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## APPLIED SOCIAL PSYCHOLOGY

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### Definition

Applied social psychology can be defined as using social psychological theories, principles, research findings, and experimental methods to understand social issues and to offer real-world solutions for a variety of social problems. As a discipline, applied social psychology functions on the premise that social problems are, at their heart, caused by human behavior. To understand and change these problem behaviors, applied social psychologists conduct a scientific examination of individuals' thoughts, feelings, and behaviors as they pertain to a variety of social influences. Through their research, applied social psychologists hope to offer practical suggestions for improving human social behavior in areas ranging from workplace productivity to safer sexual activity.

### History and Background

While an earlier generation of psychologists had been predominantly interested in the structure and measurement of mental tasks in the laboratory, the 20th century saw a substantial increase in researchers advocating the application of theories outside the laboratory. In 1903, experimental psychologist Walter Dill Scott wrote *The Theory and Practice of Advertising*, suggesting that consumer habits could be influenced by emotional suggestions. In 1908, psychologist Hugo Münsterberg defined applied psychology as research adjusted to fit the problems encountered in everyday life. In works on industrial psychology, advertising, and education, Münsterberg, Scott, and others began exploring the possibilities of an applied psychology. In 1917, psychologist G. S. Hall founded the *Journal of Applied Psychology* to further explore the potential of this new field.

By the 1920s, there was an undeniable enthusiasm for applied research in the psychological community, despite its reputation as an "undignified" pursuit. In addition to the new challenges it presented, applied research was also attractive because private corporations often provided better salaries than did academic institutions. John B. Watson, former American Psychological Association president and one of the founders of modern behaviorism, began a successful career at

the J. Walter Thompson advertising firm after being fired from Johns Hopkins University in 1920. Watson was able to put psychological principles into practice with such advertising industry standards as expert and celebrity testimonials and focus group research. He was promoted to vice president in only 4 years and was eventually honored for his achievements by the American Psychological Association. Even those psychologists who stayed in traditional laboratories found that it was easier to justify lab materials and costs if their research had the potential for application.

The work of Kurt Lewin (1840–1947) marks the beginning of modern applied social psychology. Lewin, best known for his field theory suggesting that behavior is a function of an individual's personality and his or her environment, proposed that social psychologists should engage in what he called *action research*. A social activist himself, Lewin believed that social issues should inspire social psychological research. This research could then be used to provide solutions for social problems. Lewin's action research sought to define a social problem, recommend countermeasures, and test the effectiveness of those countermeasures through community involvement, surveys, case studies, and controlled experiments. To this end, Lewin formed several organizations to engage in action research, including the Society for the Psychological Study of Social Issues, the Research Center for Group Dynamics, the Commission on Community Interrelations, and the National Training Laboratories. These groups studied interracial housing, ingroup loyalty, and leadership styles, establishing Lewin as one of the foremost proponents of combined applied and theoretical social psychology in the history of psychology.

As social psychology sought greater acceptance as a science in the 1950s and 1960s, action research in the field became less popular and was replaced by basic academic social psychology. It was not until the late 1960s and 1970s, while American society was undergoing radical transformations as a result of the civil rights movement, the Vietnam War, and the Watergate scandal, that social psychologists returned to the field in an attempt to understand and explain what was happening around them. Through the 1970s and 1980s, social psychologists debated if applied research could inform public policy. If so, many felt that the researchers themselves must present and explain their findings to policymakers or risk dangerous misinterpretation of their work.

Applied social psychology has been growing in prestige since the 1980s. With applications ranging from improving the criminal justice system to informing education and health issues, the last few decades have seen substantial increases in nontraditional funding sources. While applied social psychological research continues within academic institutions, private and government grants, as well as full-time research positions within large corporations, have allowed researchers the flexibility and opportunity to study a diverse array of social phenomena.

### **Unique Features of Applied Social Psychology**

While research in basic social psychology often begins with scientific curiosity, work in applied social psychology typically starts with the identification of a specific social problem, such as teen pregnancy or hate crimes. Applied social psychologists seek to understand and treat these social maladies through the application of the theories and methods of social psychology. While basic social psychologists attempt to isolate the causal relationships between a small number of specific variables that can be carefully controlled in the lab, applied social psychologists work to identify and predict large-scale effects that can be used to design and implement social programs. Real social issues rarely involve only one or two psychological variables. Therefore, it is often useful for applied social psychologists to consider broad combinations of psychological principles when attempting to understand a social issue. It is also common for applied social psychologists to adopt an interdisciplinary approach to their work, incorporating economic, sociological, and political perspectives.

Within the laboratory, social psychologists are generally able to conduct precise and carefully controlled experimental manipulations to test their hypotheses. Within communities and businesses, applied researchers often work in unpredictable and unrestricted environments, relying on less-precise research techniques such as surveys, self-reports, and rough "before and after" evaluations. Often at the mercy of corporate or government sponsors, applied social psychologists work under program deadlines, funding restrictions, and political pressures.

While laboratory effects need to reach statistical significance to support the hypothesis of the experimenter, implemented social programs need to show effects that

are not only statistically significant but also large enough to have real-world consequences for the program's sponsor. Applied social psychologists must also make quantitative estimates when designing an experimental social program to show that the program's benefits will ultimately outweigh the initial costs.

### **Working in Applied Social Psychology**

To list all the areas to which social psychology is currently being applied would be almost impossible. Broadly, applied social psychologists are active in studying and improving educational programs, industrial and organizational productivity, environmental and health care issues, justice system reform, and all types of mass communication, including advertising, public relations, and politics.

Some applied social psychologists conduct research for academic institutions, some for private foundations and corporations, and some for government organizations. Some evaluate the success or failure of a specific experimental social program while others work as internal consultants to government agencies and businesses, providing feedback on a variety of projects. Some applied social psychologists give policy advice to corporate or government managers from outside an organization while still others become managers themselves. Finally, some applied social psychologists become full-time advocates for social change, working with activist groups rather than from inside a government or corporate body.

### **Criticisms of Applied Social Psychology**

Criticisms of applied social psychology come from psychologists as well as from policymakers. Laboratory psychologists question the methodology behind much of the applied social research. With no control groups, few experimental manipulations, and a heavy reliance on self-report and correlation, can applied social psychology really contribute to social psychological theories? After all, a successful social program will need to be tailored differently to every community in which it is implemented. Policymakers question whether the effects of experimental social programs are large enough (or cheap enough) to be widely implemented. Others argue that the large-scale behavior modification implied in some social psychological programs is

unethical. Ultimately, there is a genuine tradeoff between conducting basic and applied social psychological research. In basic studies, researchers seek general principles that may not directly apply to more complicated real-world problems; in applied studies, researchers address specific problems, yet their conclusions may fail to generalize to other situations.

While both groups have valid critiques of an admittedly murky field, it is important to emphasize that applied social psychologists are actively engaged in the scientific study of social issues. While this problem-oriented approach does take some emphasis away from theory building, the plethora of field observations and unique program implementations essential to applied research will only serve to strengthen and refine current and future social psychological theories. Although the oversimplification of research findings could lead to the improper implementation of social programs, applied social psychologists seek to prevent such use by taking an active role in designing socially responsible policy.

A final issue to note is that the implied divide between applied and basic research ignores the contributions that basic social psychologists often make to areas of application. While applied social psychology refers to research with a problem-oriented focus, it is much more difficult to define who meets the definition of an applied social psychologist. Many psychologists primarily focused on basic laboratory research are also actively involved in the Society for the Psychological Study of Social Issues and other organizations committed to the application of social psychological principles.

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*See also* Ecological Validity; Quasi-Experimental Designs; Research Methods

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## APPROACH–AVOIDANCE CONFLICT

### Definition

Approach means moving toward something. Avoidance means moving away from it. Obviously you can't move toward and away from the same thing at the same time. Approach–avoidance conflict arises when a goal has both positive and negative aspects, and thus leads to approach and avoidance reactions at the same time. Kurt Lewin introduced the concept, referring to two competing forces of positive and negative valence that act upon an individual in parallel. For example, if a person wants to eat a cake (positive valence) but also wants to avoid gaining weight (negative valence), this constitutes an approach–avoidance conflict that has to be solved. People can also experience approach–approach conflicts (two positive forces are activated; for example, if the person considers two movies worth seeing), avoidance–avoidance conflicts (two negative forces are activated; for example, if the person has to decide whether to go to the dentist or to finish unpleasant homework), or a double approach–avoidance conflict (two choice alternatives contain both positive and negative aspects; for example, if the decision between two movies is complicated because both contain performers one likes and hates). All kinds of conflicts have been discussed throughout various areas of psychology, including psychopathology, motivation psychology, and organizational psychology.

### Factors for Strength of Conflict and Conflict Resolution

For approach–avoidance conflict strength and resolution, Lewin suggested three factors: tension which is created by a need or a desire (e.g., I am hungry vs. I want to lose weight), magnitude of valence (e.g., I do like cake a lot vs. I do hate being overweight), and psychological distance (e.g., the cake is easy to get vs. it is hard to obtain my goal of 160 pounds). If tension, valence, and distance are equally strong, the conflict is not easy to solve, making it so that such conflicts can be relatively stable over time. Psychologically, one possible solution is to change the valence of the aspects of the goal aspects. One can, for example, devalue the cake by actively searching for negative aspects of it, or one can increase the importance of staying slim by collecting even more positive aspects of it. For

approach–avoidance conflicts, distance seems to be a crucial factor. Lewin reasoned that whereas from a distance the positive valence looms larger, the closer one gets to the conflicted goal, the larger looms the negative valence. An individual first approaches the conflicted goal at a distance, then is blocked and vacillates at an intermediate point when avoidance and approach become equally strong, and finally retreats when even closer to the goal.

### Further Qualifications and Findings

Neal Miller advanced this approach and combined it with Clark Hull's notion of goal gradients, defining distance as a crucial variable of motivation. The closer one is to the goal, the stronger the motivation (i.e., the goal looms larger effect), and this gradient is steeper for avoidance than approach goals. In other words, as you get closer to something you want, the desire to approach it grows stronger little by little; whereas as you get closer to something you hate or wish to avoid, the desire to avoid it grows stronger rapidly. Because in conflict situations the stronger reaction usually wins, avoidance reactions have a slight advantage over approach reactions to be instantiated. Primary support for the differences of approach versus avoidance gradients came from studies by Judson Brown, in which harnessed rats were interrupted at various stages of approaching food and avoiding shock, showing that avoidance reactions were stronger when the rats were closer to shock than when they were approaching food. Seymour Epstein was able to find similar results with amateur parachutists before their first jump, illustrating that fear reactions increased the closer individuals were to their goal. On the other hand, directly before the jump the approach reaction increased dramatically, as presumably individuals were able to cope with the fear quite efficiently. Walter Fenz qualified the findings in showing that good parachutists and experts show approach reactions earlier before their jump.

However, over the years, results from studies on humans and animals were sometimes quite inconsistent with this theory, because for some individuals approach gradients were steeper, and thus qualifications were needed.

Jens Förster and colleagues addressed why the goal should loom larger in greater detail. They reasoned that while working toward a goal, each step that makes goal attainment more likely is a success. The value of a success increases as its contribution to goal attainment

increases. The contribution of a success to goal attainment depends on the magnitude of the remaining discrepancy to the goal that it reduces. If there are equal steps taken while working toward the goal, each step reduces a higher proportion of the remaining discrepancy. If the goal is to solve each of 10 anagrams, for example, solving the first reduces 10% of the remaining discrepancy, whereas solving the last reduces 100% of the remaining discrepancy. Thus, the value of a success increases as one is closer to the goal. The greater the value is of succeeding, the stronger the motivation is to succeed. And the stronger the motivation is to succeed, the stronger the strategic motivations are that yield success.

Moreover, the goal looms larger effect may differ based on one's chronic or situational regulatory focus. According to regulatory focus theory by Tory Higgins, goal-directed behavior is regulated by two distinct motivational systems. These two systems, termed *promotion* and *prevention*, each serve different survival-relevant concerns. The promotion system is conceived of as orienting the individual toward obtaining nurturance and is thought to underlie higher-level concerns with accomplishment and achievement. In contrast, the prevention system is considered to orient the individual toward obtaining safety and is thought to underlie higher-level concerns with self-protection and fulfillment of responsibilities. Critically, activation of these motivational systems is posited to engender distinct strategic inclinations, with promotion leading to greater approach motivation in service of maximizing gains and prevention leading to greater avoidance motivation in service of minimizing losses. Consistently, Förster and colleagues showed that the steep avoidance gradient can be found only in individuals with chronically or situationally induced prevention foci, whereas for individuals with chronically or situationally induced promotion foci, approach motivation, but not avoidance motivation, increased the closer individuals were to their specific goal.

*Jens Förster*

*See also* Achievement Motivation; Bad Is Stronger Than Good; Conflict Resolution; Regulatory Focus Theory

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## AROUSAL

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### Definition

Arousal generally refers to the experience of increased physiological (inside-the-body) activity. This can include an increased (faster) heart rate, perspiration, and rapid breathing. In some cases, the term *arousal* is used to specifically refer to sexual feelings (and the resulting bodily changes). In essence, arousal is the bodily sensation of feeling energized. A person experiencing high arousal is active, animated, and/or alert, while a person who experiences low arousal is slow, sluggish, and/or sleepy.

Although many emotions (such as love and anger) include high arousal, it is possible to have arousal more or less by itself. Such a state is created by getting a dose of adrenaline (such as from an injection). Many people get this effect from a strong dose of caffeine. Being nervous, as before an athletic or musical performance, is much the same: The body is cranking up its energy level.

### Context and Importance

Because arousal affects much of the body all at once, it has the ability to influence numerous aspects of people's everyday experience. Within the context of social psychology, the experience of arousal has implications in a number of areas, including the experience of emotion, attitudes, lie detection, aggression, attraction, and love.

### Experience of Emotion

The ability to experience emotion is one of the characteristics that distinguish humans from other animals. There are several theories that try to explain emotions. However, one theory focuses on how arousal, combined with the social environment, determines emotions. The two-factor theory of emotion, proposed by Stanley Schachter and Jerome Singer, states that when people are physiologically aroused, their emotional experience

is determined by how they think about the arousal; in addition, other people are able to influence a person's thoughts. For example, when graduating from high school, a person is likely to experience a heightened level of arousal. However, this arousal may be labeled as excitement when around friends or as anxiety/despair when around parents or former teachers. In both cases, the same bodily arousal becomes labeled as two different emotions depending on the social context.

### **Attitudes**

Perhaps due to its links with emotion, arousal is also an indication of how strongly a person holds an attitude. For example, if you wanted to know how strongly a person felt about a political candidate, you could measure that person's heart rate, perspiration, and so on. The candidate that elicits the most arousal is the one felt most strongly about. However, measuring arousal in this fashion cannot tell you whether the person likes or dislikes the candidate; just that they feel strongly.

Attitudes also have the ability to create arousal. This is likely when an attitude (e.g., "I love animals") conflicts with another attitude (e.g., "Animals should be used for lab testing"), or with a behavior (e.g., "My fur coat looks great on me"). Lack of consistency among attitudes and/or behavior tends to produce feelings of tension and uneasiness (i.e., physiological arousal). According to Leon Festinger, people are motivated to relieve their aroused state by adjusting their attitudes to be more consistent.

### **Lie Detection**

Arousal's link to emotions, attitudes, and inconsistency make the measurement of physiological arousal a potentially useful tool for lie detection. A lie detector test measures various physiological indicators or arousal such as heart rate, breathing rate, and perspiration. The assumption is that lying (which is an inconsistency between what is true and what is reported to be true) produces arousal that can be detected by the machine. Unfortunately, as with the strength of attitudes, the machine can only assess the level of arousal, and not what may be causing it. For example, a person may be aroused because they are lying, or they may experience arousal because they are worried that they are accused of committing a crime.

### **Aggression**

Due to the energizing nature of arousal, it has a key role in helping us understand why people become aggressive. When people encounter any type of undesirable experience, arousal levels and aggression tend to increase. Unfortunately, a number of things have been found to produce increased arousal. These include high temperatures, crowding, pain, loud noises, violent movies, bad odors, and cigarette smoke. In each case, these factors produce heightened levels of arousal and the likelihood of increased aggression.

One reason is that arousal produced from one experience (e.g., being in a crowd) may be directed toward another target. A good example of this would be a person who gets stuck in traffic while driving home from work. Upon returning home after an hour of sitting in a hot car, listening to people honking their horns, a parent may yell at his or her child for no apparent reason.

This link between arousal and aggression has important implications for how people deal with anger. A common misconception is that acting aggressive in appropriate contexts (e.g., playing sports, playing video games) is a good way to decrease aggression. However, because these activities also increase arousal, they tend to increase (not decrease) aggressive feelings.

### **Attraction**

Just as arousal can transfer from one source to another to produce aggression, arousal also has the ability to produce positive feelings, such as attraction. In a famous study, Donald Dutton and Arthur Aron tested people crossing two bridges. One bridge was extremely high and shaky and heightened arousal. Another bridge was lower and sturdier, resulting in lower levels of arousal. To determine if arousal could produce attraction, they tested men's reactions to a woman they met while crossing. The results indicated that men on the more arousal-provoking high bridge were more attracted to the woman.

### **Love**

The bridge study relied on general experiences of arousal. However, arousal can also be experienced in a sexual sense. One theory of love distinguishes passionate love (the type you feel toward a romantic partner) from companionate love (the type you experience

toward a good friend). The key difference is that passionate love involves the feeling of sexual arousal (i.e., fluttering heart, feelings of anticipation, etc.) that is associated with the romantic partner. This connection is credited with the highly energized feelings that are produced at the mere sight of the beloved.

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*See also* Aggression; Attraction; Emotion; Excitation-Transfer Theory; Misattribution of Arousal

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## ASSIMILATION PROCESSES

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Many psychological terms have meanings similar to how those terms are used in everyday language. Such is the case with assimilation, which a plain old English dictionary defines as to absorb, digest, and integrate (usually into a culture), making disparate people/items similar. Its use in social psychology (across separate content domains) is similar; assimilation means that when a person observes and interprets other people, groups of others, or even the self, a variety of things are observed, and one of those observed items will draw to it, or absorb, the others, thus shaping and molding the meaning of the others.

The term was first used in social psychology by Fritz Heider in 1944 when describing interpersonal perception. When judging a person's behavior (trying to interpret what one has observed the person do), knowledge of that person's personality matters greatly. The personality colors one's interpretation of that person's behavior (so that it is absorbed by it). For example, when you observe a person cut ahead in a line, you may describe that behavior as "rude" if you know the person to be a rude type, but as "efficient" if you know that person to be a perpetually late type. The same exact act has two different meanings when assimilated by two different personality traits. Similarly, assimilation can happen in the reverse direction, when trying to infer what a

person's personality is like based on a behavior one has observed. The behavior strongly guides one's inference about what the person is like. A cruel act will assimilate toward it the inference that the person is cruel as well. One's impressions of people are assimilated toward their action.

Research over the past 30 years has shown that it is not only a known personality trait that can assimilate. Indeed, any trait that one has recently been exposed to can shape how he or she sees a person. Witnessing a person acting mean toward a dog while on your way to the store may momentarily trigger or prime the concept "mean" in your mind without your even realizing it consciously. Once triggered, it now has the power to assimilate toward it any relevant new behavior you observe. Thus, once entering the store, the next person you encounter may be seen by you as mean if he or she acts in a way that is even moderately unfriendly. What is important about the act of assimilation here is that (a) you would never have inferred the person to be unfriendly if "mean" had not been triggered before, and (b) it occurs without your realizing it has an impact or that you were even thinking about the quality "mean." Importantly, this is how stereotypes operate. Detecting a person's group membership (such as "woman") will trigger stereotypes (such as women are emotional), even without your knowing it. This can then lead you to assimilate that person's behavior toward this trait so that the woman is actually seen by you as emotional even if she has provided no real evidence. Assimilation provides for people the evidence by absorbing the behavior and coloring how it is seen.

The term *assimilation* has similar uses outside person perception. In the attitude literature, it describes a process whereby people use their own existing attitudes as a standard against which new information is judged. If the new information seems close enough to the attitudinal standard (i.e., it falls within what is called a latitude of acceptance), then the new object receives the evaluation linked to the attitude (the evaluation of the new item is assimilated toward the evaluation already existing for the standard). For example, if you have a favorable attitude toward recycling (the standard) and then hear a news report about recycling that you see as close enough to your own view (i.e., it is not antirecycling), you will come to see that report as promoting views similar to your own, and you will like it. Importantly, if you did not have initial views (a standard) that provided a strong evaluation about

recycling, then the same message would not be as persuasive or be interpreted as favorably. The new message is colored by the existing attitude.

Assimilation is also shown to occur in determining one's sense of self. Identity is partly determined by the qualities of the groups to which one belongs, with identity being drawn toward those features identified with desired ingroups. According to Marilyn Brewer's optimal distinctiveness theory, identity is constantly trying to balance two needs of the person—the need to assimilate identity toward desired others (and to be as much like the valued members of the groups one belongs to) and the need to differentiate and have a distinct sense of self. Thus identity is, in part, a process of assimilating the sense of self toward desired and valued others.

*Gordon B. Moskowitz*

*See also* Accessibility; Attitudes; Contrast Effects; Identity Status; Impression Management; Interpersonal Cognition; Optimal Distinctiveness Theory; Priming; Stereotypes and Stereotyping

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## ASSOCIATIVE NETWORKS

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### Definition

Associative networks are cognitive models that incorporate long-known principles of association to represent key features of human memory. When two things

(e.g., “bacon” and “eggs”) are thought about simultaneously, they may become linked in memory. Subsequently, when one thinks about bacon, eggs are likely to come to mind as well. Over 2,000 years ago, Aristotle described some of the principles governing the role of such associations in memory. Similar principles were elaborated by British philosophers in the 1700s, and contributed to a variety of psychological theories, including those developed by contemporary cognitive psychologists to model memory.

### Basic Models

In associative network models, memory is construed as a metaphorical network of cognitive concepts (e.g., objects, events and ideas) interconnected by links (or pathways) reflecting the strength of association between pairs of concepts. Such models commonly incorporate ideas about “spreading activation” to represent the processes of memory retrieval. According to such models, concepts that are currently being thought about are said to be “activated,” and “excitation” spreads from these down connecting pathways to associated concepts. Associations that have been encountered more frequently in the past are likely to be stronger and are represented in associative network models by pathways through which excitation can spread more quickly. Once sufficient excitation has passed from previously activated concepts to a new concept, so that its level of accumulated excitation surpasses some threshold, that new concept will also be brought to mind.

### Model Details

*Serial search* models assume that excitation traverses one pathway after another until needed concepts are discovered and retrieved from memory. More common are *parallel processing* models, which view excitation as simultaneously traversing all connecting pathways, converging most quickly at concepts that have multiple connections to those already activated. Consequently, thinking about “bacon,” “eggs,” and “juice” is more likely to activate “breakfast” than might any of those concepts alone.

Once activated, a concept retains excitation as long as it receives attention, after which activation declines as excitation flows away. Because this decay in activation takes time, however, a concept may retain an

elevated level of residual excitation, even after passing from thought. Consequently, concepts that have been thought about recently may be primed, and require relatively little excitation to achieve activation. Inhibitory processes are also sometimes posited, to further control the number and relevance of concepts activated at one time. As they have been refined, associative network models have become increasingly complex, mathematical, and tied to neurological mechanisms involved in learning and memory.

*Donal E. Carlston*

*See also* Accessibility; Memory; Priming

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## ATTACHMENT STYLES

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The concept of attachment was introduced into psychiatry and psychology by John Bowlby, a British psychoanalyst whose major books appeared between 1969 and 1980. Like many psychoanalysts, beginning with Sigmund Freud, Bowlby was interested in the early childhood roots of later personality patterns, including psychological disorders. But instead of focusing on imagined instincts, such as eros (sex) and thanatos (aggression), or sex and aggression, as Freud did, Bowlby focused primarily on the natural dependence of infants and children on their primary caregivers for protection, care, comfort, and emotional support. He noticed, as many informal observers have noticed throughout history, that infants become emotionally attached to their caregivers; look to them for comfort and support in times of stress, threat, need, or pain; and display greater curiosity, courage, and sociability when safely in the presence of these attachment figures. The tendency of human infants to become

emotionally attached to their caregivers, a phenomenon that can also be observed in nonhuman primates and many other animals, seemed to Bowlby to be the result of an innate attachment behavioral system.

He was greatly aided in his theoretical work by a talented North American research psychologist, Mary Ainsworth, who did her graduate work on the topics of childhood dependency and security. She concentrated especially on the fact that a child's confidence and courageous exploration of the environment depend on the degree of safety and security provided by caregivers (this is called the *secure base effect*). An important idea in Bowlby and Ainsworth's attachment theory is that effective caregivers provide a safe haven and secure base from which the children in their care can explore the world and acquire life skills.

Because Bowlby and Ainsworth were interested not just in understanding emotional attachments (or *attachment bonds*) but also in using insights from their research to guide clinical assessments and treatment of troubled children and adults; they were especially interested in differences between secure and insecure attachments. When an attachment figure is consistently available and responsive to a child, the child becomes confident that protection, support, and help with emotion regulation will be forthcoming if needed or requested. Under such conditions, a child benefits from what attachment theorists call *felt security*. This feeling that rock-solid support is available allows a child to become more outwardly directed, self-confident, and capable over time of dealing with challenges and stresses autonomously. In contrast, if a child repeatedly discovers that attachment figures are unreliable, self-preoccupied rather than emotionally available, intrusive, punishing, or coolly distant, the child develops an insecure attachment and suffers from a variety of observable difficulties, including pervasive anxiety, unregulated anger, sadness about separation, abandonment, or neglect, and low self-esteem.

One of Ainsworth's major contributions to attachment theory was a laboratory assessment procedure, the "strange situation," which is used to assign a 12- to 18-month-old child to one of three major attachment categories: secure, anxious, or avoidant. Secure infants play comfortably in an unfamiliar strange situation, when in the presence of their previously supportive attachment figure (often mother). They are sociable toward a stranger, and although they become distressed and worried if their attachment figure leaves the room

unexpectedly, they quickly recover, show signs of relief and affection, and play effectively with novel toys following reunion. Researchers, beginning with Ainsworth, have obtained massive evidence that this pattern of behavior results from an attachment figure's reliable availability and responsiveness to the child's needs and bids for help.

Anxiously attached children, in contrast, are vigilant concerning their attachment figure's attentiveness and responsiveness. They become extremely upset about unexpected separations, and most characteristically, continue to be upset and angry even when their attachment figure returns to the room, a pattern of behavior that interferes with normal exploration and effective emotion regulation. Anxious attachment has been found, in extensive home observations, to result from attachment-figure unavailability, intrusiveness, unpredictability, and periods of neglect.

Children classified as avoidant in the strange situation tend not to pay attention to their attachment figure, sometimes seem more favorable toward a friendly stranger than to their own attachment figure, remain quiet during unexpected separations, and are cool and ignoring toward their attachment figure upon reunion. This pattern of behavior, which is thought to involve intentional deactivation and inhibition of natural behavioral tendencies, is accompanied by a high heart rate, indicating that the outward coolness is not matched, at least in young children, by true lack of concern. The avoidant pattern of behavior in childhood is predictable from caregiver behavior that is also cool, distant, rejecting, or punishing.

Years after Ainsworth identified these three patterns of behavior, Mary Main and her colleagues found that in more troubled samples there is often a fourth kind of child behavior, which they called *disorganized* or *disoriented*. In the strange situation, a disorganized child approaches his or her mother oddly during reunion episodes, for example, veering off at an angle and hiding behind a chair or lying facedown on the floor rather than seeking to be picked up. These unusual behaviors seem to be related to the mother's own unresolved memories and feelings about attachment-related losses or traumas. Mothers of disorganized children are more likely than other mothers to have been abused, to be drug abusers, or to be living under unstable conditions (e.g., with boyfriends who come and go or are abusive toward the mother or her child).

Between 1980 and the present, hundreds of studies of childhood attachment have been conducted, and

together they indicate that early attachment experiences cast a long shadow as a child grows older. The effects can be seen in preschool interactions with both teachers and peers; in later self-concept, emotions, and attitudes; and in interpersonal relationships all through life. Hence, many interventions have been proposed and studied in an effort to inform parents about the importance of emotional availability and responsiveness, and the needs of children for a safe haven and secure base as they work to develop their social skills, cognitive capacities, and emotion-regulation abilities.

This research has provided a foundation for the study of attachment patterns in subsequent adolescent and adult relationships. In the late 1980s, Main and her students developed the Adult Attachment Interview, which can be used to classify adults' attachment patterns. Many studies have subsequently shown that these patterns predict the attachment patterns of the interviewed adult's children and that the form of the influence is "like fosters like": Secure parents tend to rear secure children, anxious parents to rear anxious children, and avoidant parents to rear avoidant children. Parents who are particularly troubled and have disorganized mental representations of prior attachments and losses tend to have children with disorganized attachment patterns. Although one might suspect that the continuity is attributable to shared genes rather than social experiences, research so far suggests otherwise.

Also in the late 1980s, social psychologists, beginning with Cindy Hazan and Phillip Shaver, developed questionnaire measures of attachment style in adult relationships. Since then, many other researchers, including Mario Mikulincer, have conducted hundreds of studies mapping the emotion-regulation strategies and relational behaviors of people with different attachment styles. This research is currently being extended to studies involving physiological markers (e.g., the stress hormone cortisol) and patterns of brain activation. Moreover, what Bowlby called the attachment behavioral system has been linked to the functioning of other innate behavioral systems, such as caregiving, exploration, and sex, with results that are being applied clinically in individual and couples therapy. Today, Bowlby and Ainsworth's concept of attachment has become central in all areas of psychology, and their theory's influence shows no sign of waning.

Phillip R. Shaver  
Mario Mikulincer

*See also* Anxiety; Attitude Formation; Self-Concept

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## ATTACHMENT THEORY

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### Definition

An *attachment* refers to the strong emotional bond that exists between an infant and his or her caretaker. The theory of attachment is designed to explain the evolution of that bond, its development, and its implications for human experience and relationships across the life course. Although attachment theory has primarily been a theory of child development, since the 1980s, the theory has had a large impact on social psychological theories of close relationships, emotion regulation, and personality.

### History and Background

Attachment theory was originally developed by John Bowlby, a British psychoanalyst who was attempting to understand why infants experience intense distress when separated from their parents. Bowlby noticed that separated infants would go to extraordinary lengths (e.g., crying, clinging, frantically searching) to either prevent separation from their parents or to reestablish contact with a missing parent. At the time, psychoanalytic writers held that these behaviors were expressions of immature defense mechanisms that were operating to repress emotional pain, but Bowlby observed that such expressions may serve an evolutionary function.

Drawing on evolutionary theory, Bowlby postulated that behaviors such as crying and searching were adaptive responses to separation from a primary attachment

figure—someone who provides support, protection, and care. Because human infants, like other mammalian infants, cannot feed or protect themselves, they are dependent upon the care and protection of older and stronger adults. Bowlby argued that, over the course of human evolution, infants who were able to maintain proximity to an attachment figure (i.e., by looking cute or by expressing in attachment behaviors) would be more likely to survive to a reproductive age. According to Bowlby, a motivational-control system, what he called the *attachment behavioral system*, was gradually crafted by natural selection to help the child regulate physical proximity to an attachment figure.

The attachment behavior system is an important concept in attachment theory because it provides the conceptual link between evolutionary models of human development and modern theories on emotion regulation and personality. According to Bowlby, the attachment system essentially “asks” the following question: Is the attachment figure nearby, accessible, and attentive? If the child perceives the answer to this question to be “yes,” he or she feels loved, secure, and confident, and, behaviorally, is likely to explore his or her environment, play with others, and be sociable. If, however, the child perceives the answer to this question to be “no,” the child experiences anxiety and, behaviorally, is likely to exhibit attachment behaviors ranging from a simple visual search for the parent to active following and vocal signaling. These behaviors continue until either the child is able to reestablish a desirable level of physical or psychological proximity to the attachment figure, or until the child “wears down,” as may happen in the context of a prolonged separation or loss. In such cases, Bowlby believed that the child may develop symptoms of depression.

### Individual Differences in Infant Attachment Patterns

Although Bowlby believed that his theory captured the way attachment operates in most children, he recognized that there are individual differences. Some children, for example, may be more likely to view their parents as inaccessible or distant, perhaps because their parents have not been consistently available in the past. However, it was not until Bowlby’s colleague, Mary Ainsworth, began to study infant–parent separations that individual differences in attachment were incorporated formally into attachment theory. Ainsworth and her students developed a technique called the “strange

situation”—a laboratory paradigm for studying infant–parent attachment. In the strange situation, 12-month-old infants and their parents are brought to the laboratory and are separated from one another and then reunited. In the strange situation, most children (i.e., about 60%) behave in the way implied by Bowlby’s “normative” understanding of attachment. Specifically, they become upset when the parent leaves the room, but when he or she returns, they actively seek the parent and are easily comforted by him or her. Children who exhibit this pattern of behavior are often called “secure.” Other children (about 20% or less) are ill-at-ease initially and, upon separation, become extremely distressed. Importantly, when reunited with their parents, these children have a difficult time being soothed and often exhibit conflicting behaviors that suggest they want to be comforted but that they also want to “punish” the parent for leaving. These children are often called “anxious-resistant.” The third pattern of attachment that Ainsworth and her colleagues documented is called “avoidant.” Avoidant children (about 20%) don’t appear too distressed by the separation and, upon reunion, actively avoid seeking contact with their parent, sometimes turning their attention to play objects on the laboratory floor.

Ainsworth’s work was important for at least three reasons. First, she provided one of the first empirical demonstrations of how attachment behavior is patterned in both safe and frightening contexts. Second, she provided the first empirical taxonomy of individual differences in infant attachment patterns. According to her research, at least three types of children exist: those who are secure in their relationship with their parents, those who are anxious-resistant, and those who are anxious-avoidant. Finally, she demonstrated that these individual differences were correlated with infant–parent interactions in the home during the first year of life. Children who appear secure in the strange situation, for example, tend to have parents who are responsive to their needs. Children who appear insecure in the strange situation (i.e., anxious-resistant or anxious-avoidant) often have parents who are insensitive to their needs, or inconsistent or rejecting in the care they provide.

### Attachment in Adult Romantic Relationships

Although Bowlby was primarily focused on understanding the nature of the infant–caregiver relationship, he believed that attachment played a role in

human experience across the life course. It was not until the mid-1980s, however, that psychologists began to take seriously the possibility that attachment may play a role in adulthood. Cindy Hazan and Phil Shaver were two of the first researchers to explore Bowlby’s ideas in the context of romantic relationships. According to Hazan and Shaver, the emotional bond that develops between adult romantic partners is partly a function of the same motivational system—the attachment behavioral system—that gives rise to the emotional bond between infants and their caregivers. Hazan and Shaver noted that infants and caregivers and adult romantic partners share the following features:

- Both feel safe when the other is nearby and responsive.
- Both engage in close, intimate, bodily contact.
- Both feel insecure when the other is inaccessible.
- Both share discoveries with one another.
- Both play with one another’s facial features and exhibit a mutual fascination and preoccupation with one another.
- Both engage in “baby talk” or “motherese” (i.e., a high-pitched, idiosyncratic language that involves “made up” words that only the couple understands).

On the basis of these parallels, Hazan and Shaver argued that adult romantic relationships, like infant–caregiver relationships, are attachments, and that romantic love is a property of the attachment behavioral system, as well as the motivational systems that give rise to caregiving and sexuality.

### Three Implications of Adult Attachment Theory

The idea that romantic relationships may be attachment relationships has had a profound influence on modern research on close relationships. There are at least three critical implications of this idea. First, if adult romantic relationships are attachment relationships, then we should observe the same kinds of individual differences in adult relationships that Ainsworth observed in infant–caregiver relationships. Second, if adult romantic relationships are attachment relationships, then the way adult relationships “work” should be similar to the way infant–caregiver relationships work. Third, whether an adult is secure or insecure in his or her adult relationships may be a partial reflection of his or her attachment experiences in early childhood.

### ***Do We Observe the Same Kinds of Attachment Patterns Among Adults That We Observe Among Children?***

If adult romantic relationships are attachment relationships, then the same kinds of individual differences that Ainsworth observed in infant–caregiver relationships should be observed in adult relationships. Some adults, for example, may be expected to be secure in their close relationships—feeling confident that their partners will be there for them when needed and being open to depending on others and having others depend on them. Other adults, in contrast, will be expected to be insecure in their relationships. For example, some insecure adults may be anxious-resistant: They worry that others may not love them completely, and they may be easily frustrated or angered when their attachment needs go unmet. Others may be avoidant: They may appear not to care too much about close relationships and may prefer not to be too dependent upon other people or to have others be too dependent upon them.

The earliest research on adult attachment involved studying the association between individual differences in adult attachment and the way people think about their relationships and their memories for what their relationships with their parents are like. In 1987, Hazan and Shaver developed a simple questionnaire to measure these individual differences. (These individual differences are often referred to as “attachment styles,” “attachment patterns,” “attachment orientations,” or “differences in the organization of the attachment system.”) In short, Hazan and Shaver asked research subjects to read three paragraphs and indicate which paragraph best characterized the way they think, feel, and behave in close relationships. Paragraph A described discomfort and nervousness in being close to others, as well as difficulty with trust and intimacy; paragraph B depicted relative ease with closeness to and mutual dependence with others; and paragraph C indicated a perception that others are hesitant to get close as desired and that a partner doesn’t love them or likely won’t want to stay with them.

Hazan and Shaver found that the number of people endorsing each of these descriptions was similar to the number of children classified as secure, anxious, or avoidant in infancy. In other words, about 60% of adults classified themselves as secure (paragraph B), about 20% described themselves as avoidant (paragraph A), and about 20% described themselves as anxious-resistant (paragraph C).

### ***Do Adult Romantic Relationships “Work” in the Same Way That Infant–Caregiver Relationships Work?***

If adult romantic relationships are attachment relationships, then the way adult relationships “work” should be similar to the way infant–caregiver relationships work. For the most part, research suggests that adult romantic relationships function in ways that are similar to infant–caregiver relationships. Naturalistic research on adults separating from their partners at an airport demonstrated that behaviors indicative of attachment, such as crying and clinging, were evident and that the way people expressed those behaviors was related to their attachment style. For example, while separating couples generally showed more attachment behavior than nonseparating couples, people with avoidant attachment styles showed much less attachment behavior.

There is also research that suggests that the same kinds of features that mothers desire in their babies are also desired by adults seeking a romantic partner. Studies conducted in numerous cultures suggest that the secure pattern of attachment in infancy is universally considered the most desirable pattern by mothers. Adults seeking long-term relationships identify responsive caregiving qualities, such as attentiveness, warmth, and sensitivity, as most attractive in potential dating partners. Despite the attractiveness of secure qualities, however, not all adults are paired with secure partners. Some evidence suggests that people end up in relationships with partners who confirm their existing beliefs about attachment relationships, even if those beliefs are negative.

### ***Are Attachment Patterns Stable From Infancy to Adulthood?***

An important implication of attachment theory is that whether an adult is secure or insecure in his or her adult relationships may be a partial reflection of his or her attachment experiences in early childhood. Bowlby believed that the mental representations or working models (i.e., expectations, beliefs, “rules,” or “scripts” for behaving and thinking) that a child holds regarding relationships are a function of his or her caregiving experiences. For example, a secure child tends to believe that others will be there for him or her because previous experiences have led him or her to this conclusion. Once a child has developed such expectations, he or she will tend to seek out relational

experiences that are consistent with those expectations and perceive others in a way that is colored by those beliefs. According to Bowlby, this kind of process should promote continuity in attachment patterns over the life course, although it is possible that a person's attachment pattern will change if his or her relational experiences are inconsistent with his or her expectations. In short, if we assume that adult relationships are attachment relationships, it is possible that children who are secure as children will grow up to be secure in their romantic relationships.

Research shows that there is a modest degree of overlap between how secure people feel with their mothers, for example, and how secure they feel with their romantic partners. For example, among people who are securely attached to their mothers, over 65% of them are likely to feel secure with their romantic partners too. There is also evidence suggesting that people who are secure as children are more likely to grow up to become secure adults. Of secure adults, approximately 70% of them were classified as secure when they were 12 months of age in the strange situation. Taken together, these data suggest that there is a moderate degree of stability in attachment styles from infancy to adulthood, but that there is also plenty of room for people's ongoing experiences to shape their security.

*R. Chris Fraley*

*See also* Attachment Styles; Close Relationships; Companionate Love; Ethology; Evolutionary Psychology; Love

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## ATTENTION

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### Definition

Attention refers to a wide variety of phenomena, including arousal, alertness, consciousness, and awareness. In general, however, attention is defined as both a process of concentration, such as trying to remember, understand, or search for information, and a mental resource that has limited capacity. Attention is selective in that it

involves focusing on a certain stimulus to the exclusion of others.

### Focus of Attention

The focus of attention may be an external stimulus (e.g., a telephone, another person, or traffic) or an internal mental event (e.g., thinking about your day or trying to recall a name or past event). Stimuli that stand out, that is, are more salient, tend to capture a person's attention. The salience of a stimulus depends on the larger social context. Stimuli that are unusual (e.g., a woman in a group of men), personally significant (e.g., hearing your name), or that dominate the visual (e.g., standing in front of you) or auditory field (e.g., a loud voice) are generally more salient.

### Types of Attention

Attention processes differ in the degree to which they are automatic or controlled. Input attention processes, which are the processes that involve getting information from the environment into our cognitive systems, tend to be reflexive, quick, and automatic. Such processes include alertness and arousal, the orienting response, and spotlight attention. Alertness and arousal are the most basic processes; they involve being awake and able to respond to information. The orienting response is the reflexive turning of your head and eyes toward a stimulus that is unexpected. Spotlight attention involves shifting your attention mentally (rather than physically shifting your head and eyes) in an effort to focus on stimuli.

Controlled attention involves deliberate, voluntary efforts to think and perform tasks. During controlled attention processes, we are consciously aware of our efforts to pay attention to certain stimuli. Controlled attention processes are thus slower than automatic attention processes. For example, when you learn to drive a car, you must pay close attention to each step of the driving process. Controlled attention processes consume mental resources. It is thus difficult to engage in several controlled processes at the same time, for example, to talk on the telephone while learning to drive a car.

Automatic attention processes occur more quickly and with less effort. They are often unintentional and require few cognitive resources. For example, after learning to drive a car, you perform many of the actions necessary to drive without being consciously aware of each one. A similar kind of automatic attention may occur when one encounters a member of an

ethnic minority group and the stereotype of the group seems to come to mind automatically. In other words, the stereotype comes to mind quickly, unintentionally, and without effort.

Social judgments and behaviors usually vary in the degree to which they involve controlled or automatic attention. For example, the stereotype of a group may seem to come to mind automatically when one encounters a member of the group. However, stereotypes appear to come to mind only when one has enough mental resources to attend to them. Bringing to mind the stereotype of a group may also lead one to pay attention in a more deliberate and controlled way to other information about the appropriateness of the stereotype.

### Causes and Consequences of Automatic and Controlled Attention

With a great deal of practice, many mental processes may become automatic. For example, typing, riding a bike, driving a car, and identifying the meaning of words all require attention at first. However, repeated exposure or practice may reduce the amount of attention needed to perform these tasks. Ultimately, highly practiced tasks may become automatic. That is, they can be performed with little conscious awareness and with few or no cognitive resources.

Being able to think and do things automatically seems highly desirable, because fewer cognitive resources are used, and thus people can pay greater attention to other stimuli. However, automaticity can sometimes be problematic. Automatic processes are hard to unlearn; undesirable mental processes or behavioral patterns may thus be difficult to change. For example, prejudice may occur relatively automatically, because people have come to associate negative characteristics with a certain ethnic group. Another undesirable consequence of automaticity is that the lack of conscious processing may result in errors. For example, people may go through the motions of driving a car without paying full attention and thus fail to notice a red light.

### Implications

Researchers can determine the extent to which social judgment processes, such as stereotyping, are automatic or controlled by examining whether the process is disrupted as a result of increased demands on attention. Research participants may be asked to perform a social

judgment task under high cognitive load, for example, while trying to keep in mind a long series of numbers. If the judgment process is disrupted (the judgment is more difficult to make) when cognitive demands are increased, then the process is considered to be controlled. If the social judgment process is not disrupted, even when other cognitive demands are high, then the process is considered to be automatic. For example, stereotypes are less likely to come to mind when cognitive demands are high, indicating that stereotypes do not come to mind in a completely automatic way. However, after stereotypes come to mind, people who are under high cognitive load are more likely to use them, indicating that stereotype use is a controlled process.

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Koichi Kurebayashi

*See also* Automatic Processes; Controlled Processes

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## ATTITUDE–BEHAVIOR CONSISTENCY

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### Definition

The study of attitude–behavior consistency concerns the degree to which people’s attitudes (opinions) predict their behavior (actions). Attitude–behavior consistency exists when there is a strong relation between opinions and actions. For example, a person with a positive attitude toward protecting the environment who recycles paper and bottles shows high attitude–behavior consistency. The study of attitude–behavior consistency is important because much of the usefulness of the attitude concept is derived from the idea that people’s opinions help guide their actions.

## Background

Common sense would dictate that attitudes should predict behavior. It seems sensible to predict that a student who strongly supports saving endangered animals will make an annual donation to the World Wildlife Fund. However, is the link between attitudes and behavior this simple?

To answer this question, it is helpful to consider some early research on this topic. Initial research on attitude–behavior consistency was conducted in the early 1930s. At this time, a college professor named Richard LaPiere was traveling across America with a young Chinese couple. At the time, there was widespread anti-Asian prejudice in America. As a result of this prejudice, LaPiere was concerned whether he and his traveling companions would be refused service in hotels and restaurants. Much to his surprise, only once (in over 250 establishments) were they not served. A few months after the completion of the journey, LaPiere sent a letter to each of the visited establishments and asked whether they would serve Chinese visitors. Of the establishments that replied, only one indicated that it would serve such a customer. While there are a number of problems with LaPiere’s study (for instance, there is no guarantee that the person who answered the letter was the same person who served LaPiere and his friends), the study was taken as evidence that that people’s behavior might not necessarily follow from their attitudes.

By the late 1960s, a number of experiments had examined the relation between attitudes and behavior. In 1969, Allan Wicker reviewed the findings of these studies. He reached a rather sobering conclusion: Attitudes were a relatively poor predictor of behavior. Wicker’s conclusion contributed to a “crisis of confidence” in social psychology and led a number of researchers to question the usefulness of the attitude concept. It was argued that, if attitudes do not guide actions, then the construct is of limited value.

## When Do Attitudes Influence Behavior?

Attitude researchers responded to this criticism by devoting greater attention to the study of *when* attitudes predict behavior. In the past 30 years, research findings have led to a more optimistic conclusion: Attitudes do predict behavior, under certain conditions. What are some of these conditions?

First, attitudes do a better job of predicting behavior when both concepts are measured in a similar way. Returning to LaPiere’s study, his measure of attitude asked establishments to indicate whether they would serve someone of the Chinese race. This measure of attitude is quite broad in comparison to the measure of behavior, which involved service being offered to a highly educated, well-dressed Chinese couple accompanied by an American college professor. Had LaPiere’s attitude measure been more specific (e.g., if it had read, “Would you serve a highly educated, well-dressed Chinese couple accompanied by an American college professor?”), there would have been greater consistency between attitudes and behavior.

Second, attitude–behavior consistency varies depending upon the topic being studied. In some areas, attitudes do an excellent job of predicting behavior, whereas in other areas they do not. At one extreme, a person’s attitude toward a particular political candidate does a very good job of predicting whether or not they vote for the candidate. Not surprisingly, people tend to vote for politicians they like. At the other extreme, researchers have found a low degree of consistency between a person’s attitude toward blood donation and the behavior of donating blood. Perhaps it is not surprising that this is a domain where there is a low relation between attitudes and behavior. It may be that a low relation arises because of other factors that people see as more important than their positive attitude (they may be extremely squeamish about needles), or because the behavior of donating blood may be much more difficult to enact than the simple expression of one’s attitude through a behavior like voting.

Third, the consistency between attitudes and behavior depends upon the “strength” of the attitude. As noted elsewhere in this encyclopedia, attitudes differ in their strength. Some of people’s attitudes are very important to them, whereas others are not. A number of studies have demonstrated that strong attitudes are more likely to predict behavior than are weak attitudes. For instance, Rob Holland and colleagues conducted a study in which they asked participants to indicate the favorability and strength of their attitude toward the organization Greenpeace. One week later, as part of a different experiment, these same people were given the opportunity to donate money to Greenpeace. Holland and colleagues found that when participants held strong opinions about Greenpeace, the favorability of their attitude predicted the amount of money they donated one week later.

Among people with weak attitudes toward Greenpeace, how much they liked the organization did not predict their later behavior.

Fourth, the consistency between attitudes and behavior is affected by differences across people. For example, research on the personality factor called “self-monitoring” (which reflects differences across people in how they vary their behavior across social situations) has found that the relation between attitudes and behavior is stronger for low self-monitors than high self-monitors. Further, the likelihood of a person’s attitudes influencing their behavior is affected by their age. A number of studies have found that university students show lower attitude–behavior relations compared to adults. This difference is thought to occur because university students tend to have less-clear attitudes compared to older individuals.

### How Do Attitudes Influence Behavior?

In addition to understanding *when* attitudes predict behavior, social psychologists have developed a number of models to explain *how* attitudes predict behavior. Two important models are the theory of planned behavior and the MODE model.

#### The Theory of Planned Behavior

The theory of planned behavior was developed by Icek Azjen. As its name suggests, the theory of planned behavior was developed to predict deliberative and thoughtful behavior. According to this model, the most immediate predictor (or determinant) of a person’s behavior is his or her *intention*. Put simply, if you intend to recycle glass bottles, you are likely to engage in this behavior. Within the theory of planned behavior, a person’s intentions are determined by three factors: attitudes, subjective norms, and perceived behavioral control. The *attitude* component refers to the individual’s attitude toward the behavior—whether the person thinks that performing the behavior is good or bad. If you think that recycling glass is good, you should have a positive intention to carry out this behavior. *Subjective norms* refer to people’s beliefs about how other people who are important to them view the relevant behavior. If your family and close friends believe that recycling glass is good, and you are motivated to comply with their expectations, you should have a positive intention to carry out this behavior.

Of course, people’s behavior is also influenced by whether they feel they can perform the behavior. For example, if an individual wanted to eat a healthier diet, a positive attitude and positive subjective norms are unlikely to produce the desired behavior change if the person is unable to restrain him- or herself from eating French fries and chocolates. As a result, the Theory of Planned Behavior includes the idea that behavior is affected by whether people believe that they can perform the relevant behavior. This is captured by the concept of *perceived behavioral control*.

#### The MODE Model

Not all behavior is planned and deliberative. Quite often we act spontaneously, without consciously thinking of what we intend to do. When our behavior is spontaneous, the theory of planned behavior may not reflect how we decide to act. To help understand how attitudes influence spontaneous behavior, Russell Fazio developed the MODE model of attitude–behavior relations. MODE refers to *Motivation and Opportunity as DEterminants* of behavior. The MODE model suggests that if people are motivated *and* have the opportunity, they can base their behavior on a planned and deliberative consideration of available information. However, when either the motivation or the opportunity to make a reasoned decision is low, only strong attitudes will predict behavior.

Geoffrey Haddock  
Gregory R. Maio

*See also* Attitudes; Attitude Strength

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## ATTITUDE CHANGE

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### Definition

Attitudes are general evaluations of objects, ideas, and people one encounters throughout one’s life (e.g., “capital punishment is bad”). Attitudes are important

because they can guide thought, behavior, and feelings. Attitude change occurs anytime an attitude is modified. Thus, change occurs when a person goes from being positive to negative, from slightly positive to very positive, or from having no attitude to having one. Because of the functional value of attitudes, the processes that change them have been a major focus throughout the history of social psychology.

### Dual Process Approach

According to dual process models of attitude change, research on this topic can be organized according to two general types of processes: (1) those that occur when one puts forth relatively little cognitive effort, and (2) those that occur with relatively high cognitive effort. The amount of thought and effort used in any given situation is determined by many variables, all of which affect one's motivation or ability to think. Some examples include one's personal preference for engaging in complex thought, the personal relevance of the attitude object, and the amount of distraction present while attempting to think. Furthermore, both high- and low-effort processes can operate whether or not a persuasive message is presented.

#### Low-Effort Processes

When factors keep one's motivation and/or ability to think low (such as when the issue is not personally relevant or there are many distractions present), attitude change can be produced by a variety of low-effort processes. These include some largely automatic associative processes as well as simple inferential processes.

#### Associative Processes

*Classical Conditioning.* One way to produce attitude change in the absence of effortful thought is to repeatedly associate an initially neutral attitude object with another stimulus that already possesses a positive or negative meaning. For example, imagine that every time you saw your uncle as a child he took you to the zoo. Assuming you enjoy going to the zoo, you will likely start to feel more positively toward your uncle. If, instead, every time you saw him he took you to the doctor to get your immunization shots, the opposite result is more likely. Although research on this process has demonstrated that it is most effective for previously neutral stimuli (such as novel words or

objects), significant attitude change has also been found for positive and negative attitude objects as well. One series of studies found that repeatedly pairing words related to the self (e.g., *I and me*) with positive stimuli caused significant increases in a later measure of participants' self-esteem. Thus, continually associating an attitude object or message with something you already like (e.g., an attractive source) can lead to positive attitudes.

*Affective Priming.* Another process that involves the association of two stimuli is called affective priming. In this process a positive or negative stimulus (e.g., words such as *love* or *murder*) is encountered just prior to a novel attitude object (rather than following it, as occurs in classical conditioning). When this happens, one's reaction to the positive or negative stimulus will come to color the evaluation of the new object, producing attitude change. Imagine, for instance, that you are at an unfamiliar restaurant and are about to try a totally new dish. If this meal is brought to you by a very attractive waiter or waitress, your positive reaction toward this server is likely to influence your initial attitude toward the food. Although this attitude may change as you interact with the attitude object (i.e., when you eat the food), the initial positive evaluation will make it more likely that your final attitude is also positive.

*Mere Exposure.* In both of the processes discussed so far, an attitude is altered by the attitude object's association with a positive or negative stimulus. In contrast, research on the mere exposure effect has found that repeated exposure to an object in the absence of association can also change attitudes. Quite simply, this process requires only that one is repeatedly exposed to an attitude object. When this occurs, the attitude toward the object becomes more positive; possibly due to the fact that the object has actually become associated with the absence of anything negative. The strongest mere exposure effects occur when the repeated attitude object is low in meaning (e.g., novel) or is presented outside of conscious awareness. One intriguing implication of this phenomenon is that mere exposure might help to account for the preference a newborn infant shows for his or her mother's voice. As the child develops in the womb, one stimulus that is repeated every day is the mother's voice. Thus, mere exposure to this stimulus should cause the child's attitude toward the voice (and subsequently its source) to become positive, enhancing the mother-child bond.

### *Inferential Processes*

*Balance.* One simple inferential process of attitude change involves cognitive balance. Stated simply, balance is achieved when people agree with those they like and disagree with those they dislike. When this is not the case, one experiences a state of unease, and attitudes are likely to shift to bring the system into balance. For instance, suppose you discover that you and your worst enemy both love the same band. When this occurs, you are likely to experience an uncomfortable state of imbalance, and to rectify this inconsistency, one of your attitudes will likely change. Thus, upon learning the information, you may come to find your previous enemy much less distasteful or, alternatively, feel less positively toward the band.

*Attribution.* At its most general level, attribution concerns the inferences that people make about themselves and others after witnessing a behavior and the situation in which it occurred. Although this topic is highly studied in and of itself, its research has also outlined a number of processes that can create low-effort attitude change. One attributional process, which occurs when people are not well attuned to their own beliefs, is self-perception. In this process, people infer their own attitudes from their behaviors, just as they would for someone else. Thus, people can infer that if they are eating a peach or watching a pro-peach advertisement, they must like peaches, even if they hadn't considered this possibility before. When this inference is made, it produces attitude change, making their attitude toward peaches more positive.

In a related phenomenon, called the overjustification effect, people come to infer that they dislike a previously enjoyed activity when they are provided with overly sufficient rewards for engaging in it. Research has demonstrated this effect by providing children with candy or other rewards for engaging in an activity they had previously performed merely for its own sake (e.g., coloring). When this happens, the children infer that they were performing the activity for the reward, not for its mere enjoyment, and their attitude toward engaging in the behavior becomes less positive.

*Heuristics.* One final process through which low-effort attitude change can occur is through the use of heuristics, or simple decision rules based on prior experiences or observations. Although there are countless

heuristics, some examples are “experts are usually correct” and “bigger is better.” When motivation and ability to think are low, people can use simple rules like these to form evaluations. For instance, in deciding what new music is good, someone might simply walk over to the bestseller section at the local music store and survey the current top selections. By basing their opinions on the rule that “the majority is usually right,” they establish positive attitudes toward those artists they discover in this section and avoid more effortful (and costly) processes such as critically listening to each performer's music. Or, instead of thinking carefully about all of the arguments in a persuasive message about a new pain reliever, a person might simply count the arguments and reason, “the more arguments, the better.”

### *High-Effort Processes*

There are also attitude change processes that require a greater use of mental resources. When a person is motivated and able to invest high effort in making a judgment about an issue or object, attitude change can occur due to characteristics of his or her thoughts (e.g., whether the thoughts are favorable or unfavorable), his or her estimation that good or bad outcomes will be tied to the attitude object, or the person's realization that he or she holds conflicting beliefs about a set of attitude objects.

*Cognitive Responses.* When people's attitudes change through the use of high cognitive effort, some of the most important aspects to consider are their actual thoughts (cognitive responses) toward the attitude object and any persuasive message that is received on the topic. Although there are a number of different aspects to consider, three components of thought have proven especially important in producing change. The first, and most obvious, is whether thoughts about the attitude object or message are largely favorable or unfavorable. By examining the ratio of positive to negative thoughts, the likely amount of attitude change produced can be approximated. If there is a greater proportion of favorable than unfavorable thoughts, your attitude will change in a positive direction. The opposite is true if there is a greater proportion of negative thoughts. A second important dimension concerns how much thinking is done. For example, the more positive thoughts one has about an attitude object, the more favorable the attitudes will be. The third, and final, aspect of thought

is related to confidence. When thinking about an attitude object or persuasive message, people will have varying confidence in each of their discrete thoughts. To the extent that they are highly confident in a thought, it will have a great impact on their final attitude. Those thoughts that are associated with low confidence, however, will play a relatively minor role in any attitude change. Many things can affect one's confidence in a thought, such as how easily it comes to mind.

Although these three factors are easy to imagine operating in traditional persuasion settings (e.g., when you view an advertisement for some commercial product), they also influence attitude change in the absence of any persuasive message. One way in which this occurs is when people role play, or imagine what someone else would think about an issue. Imagine, for instance, that you enjoy smoking cigarettes. Now, generate as many reasons as you can to stop smoking. Because of the cognitive responses you've created by engaging in this process, you may change your own attitudes toward smoking. As you can probably guess, the more thought and effort you put into the role play, the more likely it is that attitude change will occur. If you did put a great deal of effort into the exercise, then you've probably created a number of negative thoughts about smoking tobacco. In this case, you might expect that your attitude has become more negative toward smoking. This may or may not be true, however, depending on the confidence you have in the thoughts that were produced. If you generated a large number of antismoking thoughts but had low confidence in the validity of each one, then they would have very little impact on your attitude, especially if they were countered by some very positive thoughts that were held with high confidence.

*Expectancy-Value Processes.* According to the reasoned action theory, attitudes are created through an individual's assessment of how likely it is that a given attitude object will be associated with positive (or negative) consequences or values. The more likely it is that an attitude object (e.g., a car) is associated with a positive consequence (being able to travel to work) or value (staying safe), the more positive the attitude will be. Although some researchers have argued that all attitudes are determined in this manner, it is most likely that this process only occurs when people put sufficient effort into considering all of the possible consequences and values that may be tied to a given attitude object. Interestingly, when people engage in this process of effortful consideration of an object or message, they

may actually change their own attitude. If, for instance, you recently purchased a sport utility vehicle merely for the image it provides, your attitude toward it may become more negative if you are prompted to consider all of the consequences (e.g., very expensive fuel bills) and values (e.g., promoting U.S. independence from foreign oil supplies) that are associated with it.

*Dissonance Processes.* According to cognitive dissonance theory, people are motivated to hold consistent attitudes. Because of this motivation for consistency, people experience unpleasant physiological arousal (an increase in heart rate, sweaty palms, etc.) when they willingly engage in a behavior that is counter to their beliefs or are made aware that they possess two or more conflicting attitudes. This experience then motivates them to change their attitudes so that the unpleasant feelings can be eliminated. When people make a choice from among alternatives, dissonance processes will often produce attitude change. Research has shown that once people make a choice, attitudes toward each of the potential choices will change such that the chosen alternative will be viewed more positively and the nonchosen alternative(s) will be viewed more negatively than prior to the choice. This reduces the aversive dissonance experience that would have occurred if they still felt very positively toward an unselected option. If you've ever bought a product that turned out to have flaws, then you've probably experienced dissonance. When a situation like this occurs, your behavior (purchasing the product) is not consistent with your beliefs about the product (it is flawed), and this causes dissonance. To resolve this dissonance, you must change either your attitude toward the product (and decide that it is actually good) or your behavior (return it to the store).

## Attitude Strength

One of the most important characteristics of an attitude is its strength. Attitude strength is associated with an attitude's persistence, resistance to change, and ability to predict behavior. The stronger an attitude, the more it exhibits these characteristics. As you might expect, attitudes produced by high-effort cognitive processes are stronger than those produced by low-effort processes. Because they are the result of greater cognitive effort, these attitudes are often based on more consistent information, are supported by a more developed knowledge structure (e.g., related beliefs and values), and are held with greater certainty than are attitudes

produced by a low-effort process. If, for instance, your recent car purchase was based on months of research and test-drives, then you are likely to have a whole host of information that supports your positive attitude toward the vehicle. This associated information will then serve to buoy the attitude, allowing it to persist over the life of the vehicle and resist change (e.g., following negative experiences like breakdowns). If your attitude was instead based on a low-effort process (e.g., a heuristic rule, “if it looks good, it is good”), then this attitude may be easily changed when you experience negative events and become motivated to think critically about the attitude object.

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*See also* Attribution Theory; Balance Theory; Cognitive Dissonance Theory; Elaboration Likelihood Model; Inference; Need for Cognition; Overjustification Effect; Priming; Reasoned Action Theory; Self-Perception Theory

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## ATTITUDE FORMATION

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### Definition

An attitude is a general and lasting positive or negative opinion or feeling about some person, object, or issue. We form attitudes through either direct experience or the persuasion of others or the media. Attitudes have three foundations: affect or emotion, behavior, and cognitions. In addition, evidence suggests that attitudes may develop out of psychological needs (motivational foundations), social interactions (social foundations), and genetics (biological foundations), although this last notion is new and controversial.

### Emotional Foundations

A key part of an attitude is the affect or emotion associated with the attitude. At a very basic level, we know

whether we like or dislike something or find an idea pleasant or unpleasant. For instance, we may say that we know something “in our heart” or have a “gut feeling.” In such cases our attitudes have been formed through our emotions rather than through logic or thinking. This can happen through (a) sensory reactions, (b) values, (c) operant/instrumental conditioning, (d) classical conditioning, (e) semantic generalization, (f) evaluative conditioning, or (g) mere exposure.

### Sensory Reactions

Any direct experience with an object through seeing, hearing, smelling, tasting, or touching will lead to an immediate evaluative reaction. We are experts at knowing whether we find a certain sensory experience pleasant or unpleasant. For example, immediately upon tasting a new type of candy bar, you know whether you like it or not. This also applies to aesthetic experiences, such as admiring the color or composition of an artwork. We form attitudes about objects immediately upon experiencing them.

### Values

Some attitudes come from our larger belief system. We may come to hold certain attitudes because they validate our basic values. Many attitudes come from religious or moral beliefs. For example, for many people their attitudes about abortion, birth control, same-sex marriage, and the death penalty follow from their moral or religious beliefs and are highly emotional issues for them.

### Operant Conditioning

*Operant* or *instrumental conditioning* is when an attitude forms because it has been reinforced through reward or a pleasant experience or discouraged through punishment or an unpleasant experience. For example, a parent might praise a teenager for helping out at an after-school program with little kids. As a result, the teen may develop a positive attitude toward volunteer work. Similarly, many people find that broccoli has a terrible taste, and so they dislike broccoli because of its punishing flavor.

### Classical Conditioning

*Classical* or *Pavlovian conditioning* happens when a new stimulus comes to elicit an emotional reaction

because of its association with a stimulus that already elicits the emotional response. The Russian physiologist Ivan Pavlov took dogs, which naturally salivate to meat powder, and trained them to salivate at the sound of a bell by continually ringing the bell as the meat powder was presented. In humans, some of our attitudes have become conditioned in much the same way. For example, some people have a negative attitude towards “dirty” words. Just the thought of a taboo word will cause some people to blush. The words themselves have come to elicit an emotional reaction because their use is frowned upon in our culture in most contexts.

### **Semantic Generalization**

Not only can we become conditioned to a specific stimulus, but this initial conditioning can generalize or spread to similar stimuli. For example, a bell higher or lower in pitch to the original conditioned sound may elicit the same reaction. In humans, the initial conditioning can spread even to words or concepts similar to the original stimulus. As a result, we can form attitudes about an object or idea without having direct contact with it. When this kind of generalization occurs, the process is called *semantic generalization*. For example, human subjects who have been conditioned to the sound of a bell may also show a response to the sight of a bell or by the spoken word *bell*. Semantic generalization can account for the formation of attitudes, like prejudice, where people have formed an attitude without having direct contact with the object of that attitude.

### **Evaluative Conditioning**

An object need not directly cause us to feel pleasant or unpleasant for us to form an attitude. *Evaluative conditioning* occurs when we form attitudes toward an object or person because our exposure to them coincided with a positive or negative emotion. For example, a couple may come to feel positive toward a particular song that was playing on the radio during their first date. Their positive attitude to the song is a result of its association with the happy experience of a date.

### **Mere Exposure**

Finally, when we see the same object or person over and over, we will generally form a positive attitude toward that object or person. This is true for an

object or person we feel neutral or positive about, so long as we are not overexposed to it. For example, many popular styles of clothing seem bizarre at first, but then as we see more of them we may come to accept and even like them.

## **Behavioral Foundations**

Sometimes we form attitudes from our actions. This can happen if we do something before we have an attitude (e.g., going to an art opening of an unknown artist), when we are unsure of our attitudes (e.g., going with a friend to a political rally), or when we are not thinking about what we are doing (mindlessly singing along with a random station on the radio). That is, there are times when just going through the motions can cause us to form an attitude consistent with those actions. In the previous examples, people may come to hate the new artist, support free trade, or like classical music because their actions have led them to engage in these behaviors, which then led to the formation of an attitude. There are at least four lines of evidence that account for how attitudes may form out of actions.

First, self-perception theory suggests that we look to our behavior and figure out our attitude based on what we have done or are doing. Second, cognitive dissonance theory suggests that we strive for consistency between our attitudes and our actions and when the two do not match, we may form a new attitude to coincide with our past actions.

Third, research evidence using the facial feedback hypothesis finds that holding our facial muscles in the pose of an emotion will cause us to experience that emotion, which may then color our opinions. For example, participants who viewed cartoons that were not particularly funny while holding a pen across their teeth—a pose which activates the same muscles involved in smiling—rated the cartoons funnier than subjects who posed with a pen in their mouths, which activated the same muscles involved in frowning. As a result, people may develop positive or negative attitudes toward neutral objects after moving their facial muscles into smiles or frowns, respectively.

Finally, role-playing, such as improvising persuasive arguments, giving personal testimony, taking on another person’s perspective, or even play-acting, are all additional ways that people may come to form attitudes based on their behaviors. For example, in an early study, women who were heavy smokers participated in an elaborately staged play where they played

the role of a woman dying of lung cancer. Two weeks later, these women smoked less and held less positive attitudes toward smoking than women who had not been through this role-play procedure.

## Cognitive Foundations

The cognitive foundation of attitudes, what might be called beliefs, comes from direct experience with the world or through thinking about the world. Thinking about the world includes any kind of active information processing, such as deliberating, wondering, imagining, and reflecting, as well as through activities such as reading, writing, listening, and talking.

If you believe that insects are dirty and disgusting, then you will probably have the attitude that insects are not food. However, if you read that locusts and other insects are happily eaten in some cultures, then you may come to believe that locusts may not be so bad. Your attitude here comes from thinking about the new facts you read.

Additionally, if the National Centers for Disease Control and Prevention (CDC) says that exposure to ultraviolet light is the most important environmental factor involved in the formation of skin cancers, and you believe that the CDC is a trustworthy expert, then you might logically reason that excessive sun exposure is not a healthy thing. Here your attitude comes from logically reasoning about the world.

Suppose you didn't know how you felt about a topic until you were forced to write an essay for a writing class. This also would be an example of attitude formation through cognition, in this case, organizing your thoughts in preparation to write a coherent essay.

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**See also** Attitude Change; Cognitive Dissonance Theory; Facial-Feedback Hypothesis; Genetic Influences on Social Behavior; Mere Exposure Effect; Reference Group; Self-Perception Theory; Social Learning

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## ATTITUDES

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### Definition

Attitudes refer to our overall evaluations of people, groups, and objects in our social world. Reporting an attitude involves making a decision concerning liking versus disliking or favoring versus disfavoring an attitude object. Attitudes are important because they affect both the way we perceive the world and how we behave. Indeed, over 70 years ago, Gordon Allport asserted that the attitude concept is the most indispensable concept in social psychology. That statement remains equally valid today; the study of attitudes remains at the forefront of social psychological research and theory, as illustrated by the number of relevant entries in this encyclopedia. This entry concentrates on three key aspects of attitudes: their content, structure, and function.

### The Content of Attitudes

One of the most influential models of attitude content has been the *multicomponent model*. According to this perspective, attitudes are summary evaluations of an object that have affective, cognitive, and behavioral components. The *affective* component of attitudes refers to feelings or emotions associated with an object. Affective responses influence attitudes in a number of ways. First, attitudes are influenced by the emotions that are aroused in a person after exposure to the attitude object. For instance, spiders make some people feel scared, and this negative affective response is likely to produce a negative attitude toward spiders. In addition, feelings influence attitudes via processes such as classical conditioning and mere exposure. Here, the environment repeatedly pairs the object with other stimuli that elicit particular emotions (classical conditioning) or repeated exposure causes the object to seem more familiar and positive over time.

The *cognitive* component of attitudes refers to beliefs, thoughts, and attributes associated with an object. Cognitions have an impact on many types of

attitudes. For example, someone buying a used car is likely to devote considerable attention to its attributes, such as its safety record, gas mileage, and past repair costs. The person's attitude toward the car is likely to be influenced by its positive and negative characteristics. Within the study of intergroup attitudes, stereotypes are beliefs about the attributes possessed by a particular social group. Many studies have revealed that possessing negative stereotypes about a group of people is associated with having a prejudicial attitude toward the group.

*Behavioral* information is the mental representation of current, past, and future behaviors regarding an attitude object. For instance, research has demonstrated that performing a behavior with evaluative implications influences the favorability of attitudes. In a study by Pablo Briñol and Richard Petty, participants moved their heads in *either* an up-and-down motion (nodding the head in agreement) or a side-to-side motion (shaking the head in disagreement) as they listened to an editorial that was played over the headphones. It was found that participants were more likely to agree with the content of a highly persuasive appeal when they moved their heads up-and-down, as compared to side-to-side. While performing a behavior can influence a person's attitude, attitudes also influence future behavior. As discussed elsewhere in this encyclopedia, attitudes play an important role in predicting how an individual will behave in a particular situation.

Knowing the content of an attitude is important, because attempts to change attitudes are more successful when the persuasive appeal matches the content of the attitude. For example, if a person dislikes a beverage because it tastes bad, the person will be more convinced by a strong demonstration of a new, pleasant taste than by positive information about its health value.

### The Structure of Attitudes

In addition to attitude content, another important issue concerns how positive and negative evaluations are structured in memory. It is sometimes assumed that having positive feelings, beliefs, and behaviors prevents the occurrence of negative feelings, beliefs, and behaviors. In other words, according to this *one-dimensional* perspective, the positive and negative elements of attitudes are stored at opposite ends of a single dimension, and people tend to experience either end of the dimension or somewhere in between.

This view is opposed by a *two-dimensional* view, which suggests that positive and negative elements are stored along two separate dimensions. One dimension reflects whether the attitude has few or many positive elements, and the other dimension reflects whether the attitude has few or many negative elements. This view proposes that people can possess any combination of positivity or negativity in their attitudes. As a result, attitudes may occasionally subsume both strong positive and negative components, which is labeled as attitudinal ambivalence. This ambivalence is an important determinant of whether attitudes are strongly held and resistant to change. For example, research has demonstrated that ambivalent attitudes are less likely to predict behavior. Further, individuals pay more careful attention to a persuasive appeal when they have an ambivalent attitude.

### The Function of Attitudes

Considerable attention has been devoted to understanding the needs or functions that are fulfilled by attitudes. Almost 50 years ago, M. Brewster Smith and colleagues suggested that attitudes serve three primary functions: object-appraisal, social-adjustment, and externalization. *Object-appraisal* refers to the ability of attitudes to summarize the positive and negative attributes of objects. For example, attitudes can help people to approach things that are beneficial for them and avoid things that are harmful to them. *Social-adjustment* is fulfilled by attitudes that help people to identify with others whom they like and to dissociate from people whom they dislike. For example, individuals may buy a certain soft drink because it is endorsed by their favorite singer. *Externalization* is fulfilled by attitudes that defend the self against internal conflict. For example, bad golfers might develop an intense dislike for the game because their poor performance threatens their self-esteem.

In his own program of research, Daniel Katz proposed four attitude functions: knowledge, utility, ego-defense, and value-expression. The *knowledge* and *utilitarian* functions are similar to Smith and colleagues' object-appraisal function, while the *ego-defensive* function is similar to Smith and colleagues' externalization function. Katz also proposed that attitudes may serve a *value-expressive* function, such that an attitude may express an individual's self-concept and central values. For example, a person might cycle to work because he or she values health and wishes to preserve the environment.

Among the functions, the object-appraisal function is especially important because it is the capacity of attitudes to serve as energy-saving devices that make judgments easier and faster to perform. There is also an important distinction between instrumental and value-expressive attitudes. Knowing the primary function of an attitude is important, because attempts at attitude change are more likely to be successful when the persuasive appeal matches the function of the attitude.

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*See also* Attitude–Behavior Consistency; Attitude Change

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## ATTITUDE STRENGTH

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### Definition

Some attitudes exert a powerful impact on thinking and on behavior, whereas others are largely inconsequential. Similarly, some attitudes are very firm, resistant to even the strongest challenges and persistent over long spans of time, but others are highly malleable, yielding to the slightest provocation and fluctuation over time. The term *attitude strength* is used to capture this distinction. Specifically, strong attitudes are those that (a) resist change, (b) persist over time, (c) guide information processing, and (d) motivate and direct behavior.

### Background

A great deal of evidence attests to the impact of attitudes on a wide array of outcomes. There is evidence, for example, that attitudes can color one's interpretation of ambiguous stimuli, causing one to perceive the stimuli in attitude-congruent ways. This explains why supporters of two competing political candidates can watch the same political debate and come away equally convinced that their own preferred candidate prevailed. In addition, attitudes can shape people's perceptions of

other people's attitudes, causing them to overestimate the prevalence of their views. There is also a wealth of evidence that attitudes motivate and guide behavior. For example, people's attitudes toward recycling are strongly predictive of whether they actually participate in recycling programs, and attitudes toward political candidates are excellent predictors of voting behavior. In these and countless other ways, thoughts and actions are profoundly shaped by attitudes.

Attitudes do not always exert such powerful effects, however. In fact, in addition to the impressive findings about the power of attitudes, the attitude literature is also full of an equally impressive set of failures to find any effect of attitudes on thought or behavior. In fact, by the late 1960s, the literature was so inconsistent that some prominent scholars questioned the very existence of attitudes, sending the field into a period of crisis.

Since then, social psychologists have made great progress toward identifying the conditions under which attitudes influence thoughts and behavior. It is now clear, for example, that attitudes are consequential for some types of people more than others, and in some situations more than others. More recently, social psychologists have also come to recognize that some attitudes are inherently more powerful than others. That is, across people and situations, some attitudes exert a strong impact on thinking and on behavior, whereas others have little or no impact.

### Determinants of Attitude Strength

What makes an attitude strong? Over the past few decades, researchers have identified roughly a dozen distinct features of attitudes that are associated with their strength. These include *knowledge*, the amount of information people have stored in memory about the attitude object; *importance*, the degree to which people care about and attach psychological significance to an attitude object; *certainty*, the degree to which people are sure that their attitudes are valid and correct; *elaboration*, the amount of thought that has been devoted to the attitude object; *extremity*, how far from the midpoint the attitude is on a negative–positive continuum; *accessibility*, how quickly and easily the attitude comes to mind when the attitude object is encountered; *ambivalence*, the degree to which people simultaneously experience both positive and negative reactions to an attitude object; and a handful of other features. In separate programs of research, each of these attitude

features has been shown to relate to one or more of the four defining properties of strong attitudes.

For example, attitudes that a person considers personally important predict his or her behavior much more accurately than do less-important attitudes. Important attitudes are also more resistant to change when a person is confronted by a counterattitudinal persuasive message, and they are more stable over long periods of time. In addition, important attitudes influence information processing in ways that unimportant attitudes do not: They influence how much people like other people, how they evaluate political candidates, and many other cognitive processes.

### Relations Among Strength-Related Attitude Features

Because attitude features relate in similar ways to the strength and durability of an attitude, researchers once assumed that they were interchangeable. To assess the strength of an attitude, a researcher might measure the importance people attach to the attitude or the amount of knowledge they possess about it or the certainty with which they held the attitude, or any one of the other strength-related features. Sometimes researchers would measure several of the strength-related features and combine them together into a single index of attitude strength.

More recently, however, researchers have come to appreciate the rather sharp differences between the various strength-related attitude features. For example, attaching importance to an attitude involves caring deeply and being passionately concerned about it, whereas being knowledgeable simply involves accumulating a large number of facts about the object. Differences of this sort raise the possibility that the various strength-related attitude features may operate differently, with unique consequences for thought and behavior. Indeed, a growing body of evidence supports this view. There is evidence, for example, that some attitudes are strong because people attach a great deal of importance to them, which has a particular set of consequences for thinking and action. Other attitudes are strong because they are based on a great deal of information, which sets into motion a somewhat different set of cognitive and behavioral consequences.

None of this evidence challenges the general notion that some attitudes are strong and others are weak. It reveals, however, that not all strong attitudes

are alike. To the contrary, attitude strength is a multi-dimensional construct with a diverse set of consequences for thought and behavior.

*Penny S. Visser*

*See also* Attitude–Behavior Consistency; Attitudes; Persuasion

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## ATTRACTION

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### Definition

Attraction, to a social psychologist, is any force that draws people together. Social psychologists have traditionally used the term *attraction* to refer to the affinity that draws together friends and romantic partners. However, many current researchers believe there are important qualitative differences among the forces that draw people into different types of relationships.

### History

Perhaps the most influential model of interpersonal attraction was the reinforcement-affect model. According to this model, attraction between people follows simple principles of classical conditioning, or associative learning. A person will come to like anyone associated with positive feelings (e.g., the waitress in a favorite restaurant) and dislike anyone associated with negative feelings (the traffic cop who writes the person a ticket for taking an illegal left turn). A corollary of this model is that the higher the ratio of positive to negative associations one has in a relationship with another person, the more he or she will like that person. In other words, a person will like the person who has provided him or her with three rewards and one

punishment (for a ratio of .75 rewards) more than the person who provides him or her with six rewards and four punishments (yielding a lower overall ratio of .60, despite the higher total number of rewards). This corollary was studied by exposing research participants to other people who varied in their attitudinal similarity (on the assumption that meeting others who agree with them is rewarding).

Later research suggested a slight problem with this model, in that people generally tend to assume other people agree with them. Hence, the reward value of similarity is less than the punishment value of dissimilarity. Indeed, discovering that another person disagrees with one's important values does seem to be particularly unpleasant, and people tend to dislike those who disagree with them (particularly when those disagreeing people are members of their own groups, who they are particularly likely to expect to be similar).

The reinforcement-affect theory is an example of a domain-general model of behavior. Domain-general models attempt to explain a wide range of behavior using one simple principle. In this case, the simple and general principle is this: People, like other animals, will repeat behaviors that are rewarding and will not repeat behaviors that are not rewarding. Another domain-general model attempts to explain attraction by referencing broad principles of social exchange. Social exchange theories presume that people are implicitly driven by economic principles: People choose behaviors that they expect to maximize their future benefits and minimize their future costs. This model differs from a reinforcement-affect model in presuming that people do not simply respond passively to past rewards and punishments, but instead make mental calculations, including estimations of who is likely to be a good bargain in a future relationship. For example, you might pursue a relationship with someone who has never rewarded you in the past, and in fact you might even be willing to pay some initial costs to meet that person, if you have knowledge that they might make a good friend or mate. On the other side, you might pass on a potential mate who has been very pleasant to you if you estimate that you could get a better deal with someone else. Some variants of social exchange models presume that people are uncomfortable with any relationship that is an unfair bargain, whether they are underbenefited (getting less than they deserve) or overbenefited (getting more than they deserve).

## Problems With Traditional Domain-General Models

Domain-general models tend not to be specific enough to predict which features or behaviors of another person will be attractive. What constitutes a general reward or punishment, or a general benefit or cost, for example? It turns out that, without further information, this is a difficult question to answer. Whether a kiss is a reward or a punishment depends on who is kissing whom (e.g., think about a person you find attractive as compared to an overly friendly but unattractive stranger at a bar). Furthermore, you may like someone quite well even when your relationship is very inequitable (a mother may tell you that she has never felt as positively toward anyone as her young baby, despite the fact that the baby tends to wake her with loud demands in the middle of the night and never even say "thank you").

Domain-specific theories of attraction make more particular predictions about what will and will not be attractive, depending on the particular category of relationship between two people and on their particular goals at the time. Social psychologists have suggested several ways to functionally divide types of relationships. One evolution-inspired view presumes that there are a limited number of recurrent problems of social living that all human beings need to solve in their relationships with others. These include affiliation (maintaining a small group of close friends to share various tasks and rewards), status (getting respect from and power over other members of one's group), self-protection (avoiding exploitation and harm from potential enemies), mate-search (choosing a desirable partner), mate-retention (holding onto a desirable partner), and kin-care (taking care of offspring and other close relatives). The rules of social exchange, and the particular content of rewards and punishments, are presumed to differ in important ways for people involved in these different kinds of interactions. For example, although you may keep close track of which friends do and do not pay their share of the restaurant bill, this type of accounting is much less likely to occur between children and their parents. For a man and a woman who have just begun dating seriously, on the other hand, it may be that the man desires to pay the bill to demonstrate his possession of resources and that the woman is content to allow him to pay so as to get a sense of his commitment and ability to provide

resources. For most couples at the early phases of dating, the man is more likely than the woman to request initial sexual behavior and to regard it as a benefit obtained from the relationship.

### Remaining Questions

Social psychologists have only begun to study the implications of domain specificity for attraction. As yet, there is more theory than data on the questions of (a) what it is people find rewarding and punishing in friends versus lovers versus family members, and (b) how people's mental accounting differs for people involved in different types of relationships. Many social psychologists believe that the understanding of such processes will be enhanced by placing human attraction in the context of broad evolutionary principles derived from comparative studies of other animal species. Several such principles discussed elsewhere in this encyclopedia include differential parental investment (linked to the general tendency for offspring to be more costly for females than for males) and inclusive fitness (linked to an animal's success at assisting its genes into future generations via reproduction and assisting its genetic relatives).

*Douglas T. Kenrick*

*See also* Evolutionary Psychology; Social Exchange Theory; Social Learning

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treatment. It can be experienced with regard to one's own outcomes or treatment or those of another person, and with regard to positive as well as negative outcomes or treatment. It occurs whenever there is more than one plausible reason for why a person was treated in a certain way or received the outcomes that he or she received.

### Antecedents of Attributional Ambiguity

A variety of factors may contribute to attributional ambiguity. Most research on this topic has examined a particular form of attributional ambiguity: that which arises in social interactions between people who differ in their social identities or group memberships and in which there is uncertainty about whether an individual's treatment is based on his or her personal deservingness (such as abilities, efforts, personality, or qualifications) versus on aspects of his or her social identity (such as family wealth, appearance, ethnicity, gender).

Attributional ambiguity arises in such interactions when a particular social identity or group membership is associated with a set of stereotypes or beliefs that are valenced, that is, that make a person more or less valued in society. Simple differences among people are not sufficient. Thus, for example, it is unlikely that a student majoring in art would experience attributional ambiguity in his or her interactions with students majoring in psychology unless he or she believed that psychology majors held positive or negative stereotypes about art majors. For individuals to experience attributional ambiguity in their interactions with others, they must suspect that others have some ulterior motive for responding in a particular way. This is more likely to occur when they believe that others are aware of their social identity, are aware of others' stereotypes about their social identity, and have some knowledge of the content or valence of these stereotypes.

People who have a stigmatized social identity (such as members of devalued ethnic groups and the overweight) experience more attributional ambiguity in their everyday encounters than do those who are not stigmatized. Those who stigmatized are aware that others hold negative stereotypes about, and prejudicial attitudes against, their social identity. For some individuals, their stigmatized identity plays a central role in how they see themselves and in how they interpret others' reactions to them. Hence, when they are treated negatively by someone who is aware of their

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## ATTRIBUTIONAL AMBIGUITY

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### Definition

Attributional ambiguity is a psychological state of uncertainty about the cause of a person's outcomes or

social identity, they may be unsure whether it is due to something about them personally or due to prejudice against their social identity.

Positive outcomes also can be attributionally ambiguous for the stigmatized. When there are strong social sanctions against expressing prejudice, those who are stigmatized may become suspicious of positive feedback. They may wonder, for example, whether an evaluator's positive feedback on their essay accurately reflects the quality of their work or reflects the evaluator's desire not to appear prejudiced. Social programs designed to remediate past injustices, such as affirmative action programs, can introduce attributional ambiguity when they are seen as providing an explanation for positive outcomes based on social identity. When such programs make it clear that advancement is based on merit as well as social identity, such ambiguity diminishes. Those who are stigmatized may also find unsolicited kindnesses or offers of help attributionally ambiguous. They may wonder whether these responses reflect genuine caring for them as individuals or feelings of sympathy or pity because of their stigma.

Individuals who possess a statistically deviant but culturally valued social identity (such as extreme wealth, beauty, or fame) also may experience attributional ambiguity, particularly in response to positive treatment or outcomes. Like stigmas, culturally valued attributes are associated with valenced stereotypes, in this case generally positive stereotypes. These individuals may be uncertain whether others' favorable reactions to them are genuine or reflect ulterior motives. Similarly, they may be unsure whether they have earned their positive outcomes through their personal efforts or talents or were accorded them because of their culturally valued mark. In sum, attributional ambiguity is more likely to be experienced when one believes others hold negative or positive attitudes toward one's social identity and when one believes there are strong social norms against individuals expressing their true attitudes.

### **Consequences of Attributional Ambiguity**

Attributional ambiguity has important affective, self-evaluative, interpersonal, and motivational implications. Uncertainty about the cause of one's social outcomes threatens a sense of predictability and control

and is affectively distressing. Uncertainty about the cause of positive outcomes can undermine self-esteem by preventing a person from taking credit for his or her successes or internalizing positive feedback. Uncertainty about the cause of negative outcomes also can undermine self-esteem. When negative outcomes are, in fact, due to prejudice, ambiguity can mask this fact and lead people wrongly to doubt their ability. People who are rejected report higher self-esteem and less stress when they know for sure that the rejection was due to discrimination than when they are unsure of its cause. However, attributional ambiguity can also provide an opportunity for self-esteem protection. When alternative causes for an event are present (such as another's bias), the contribution of other causes (such as one's own ability) is discounted. Thus, attributional ambiguity may buffer self-esteem from negative outcomes if it enables individuals to discount internal, stable aspects of themselves as causes of those outcomes. Indeed, research shows that among individuals who experience negative feedback, the more they blame the feedback on prejudice rather than on themselves, the higher their self-esteem.

Attributional ambiguity can have negative implications for self-knowledge. When alternative attributions for both negative outcomes and positive outcomes are present, individuals may come to regard feedback as not particularly diagnostic of their true ability. Consequently, people who chronically experience attributional ambiguity and who feel vulnerable to being treated on the basis of their stigma find it more difficult to accurately assess their abilities, gauge their potential, and select tasks of a difficulty level that is appropriate to their ability.

Attributional ambiguity can interfere with cognitive performance when it leads people to devote cognitive resources to trying to figure out why they were treated in a particular way rather than focusing on the task at hand. Attributional ambiguity can undermine motivation when it leads people to question the extent to which their outcomes are under their personal control (such as their own effort) as opposed to outside of their control. Attributional ambiguity can damage relationships by undermining trust and engendering suspicion. Finally, attributional ambiguity may lead to physiological changes in the body, such as increased blood pressure and decreased production of antibodies, which have negative implications for health.

*Brenda Major*

*See also* Prejudice; Stereotypes and Stereotyping; Stigma

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## ATTRIBUTION CUBE

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*See* KELLEY'S COVARIATION MODEL

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## ATTRIBUTIONS

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### Definition

The term *attribution* has several distinct meanings. In the 1920s, Austrian philosopher and psychologist Fritz Heider originally referred to attribution as a central process in human perception that helped solve a philosophical puzzle of the time. According to this puzzle, the mind perceives objects that exist in the world, but the perception itself exists in the mind; how, then, can people experience objects as “out there” rather than “in here,” in their own minds? Heider argued that humans engage in a psychological process of *attributing* their subjective experiences to objects in the world. That is, the objects are cognitively reconstructed to be the causal sources of perceptual experiences. By contrast, when people try to imagine (rather than perceive) an object, they attribute this experience to their own minds.

The second meaning is also based on Heider's theorizing. In the 1940s, Heider became interested in social

cognition, the processes by which people perceive and make judgments about other people. Here attributions are also causal judgments, but judgments about the causes of people's behavior. Heider distinguished between two types of *causal attributions*. Attributions to personal causes refer to beliefs, desires, and intentions that bring about purposeful human behavior (e.g., writing a letter with the desire of impressing a potential employer); attributions to impersonal causes refer to forces that don't involve intention or purpose (e.g., the wind drying out a person's eyes). Thus, in the domain of social perception, social psychologists speak of *causal attributions* for behavior, that is, people's attempts to explain why a behavior occurred.

A third kind of attribution is *dispositional attribution*. Beginning with Edward E. Jones in 1965, researchers became interested in a particular judgment people sometimes make when they observe another person's behavior: inferences about the person's more stable dispositions such as traits, attitudes, and values. For example, Dale sees Audrey flutter her eyelashes and concludes she is flirtatious. Sometimes people are too eager to make such dispositional attributions even when the behavior in the particular context does not warrant the inference; in that case, people are said to display the correspondence bias or fundamental attribution error.

Finally, social psychologists speak of *responsibility attributions* and *blame attributions*, which are judgments of a moral nature. When a negative outcome occurs (e.g., a window is shattered), people try to find out who is responsible for the outcome, who is to blame. Often such responsibility attributions rely directly on causal attributions (e.g., whoever shattered the window is responsible and is to blame), but sometimes they are more complex. When the window is shattered because the neighbor's dog tried to chase a cat teasing him behind the window, the neighbor will be responsible, and if a strong wind causes the damage, the insurance will be responsible. Responsibility attributions, then, are based both on causality (who brought about what) and on people's obligations (who ought to do what).

Attributions are thus judgments in which an experience, behavior, or event is connected to its source: the underlying object, cause, disposition, or responsible agent.

*Bertram F. Malle*

*See also* Actor–Observer Asymmetries; Attribution Theory; Correspondent Inference Theory; Kelley’s Covariation Model

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## ATTRIBUTION THEORY

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### Definition

Attribution theory—or rather, a family of attribution theories—is concerned with the question of how ordinary people explain human behavior. One type of attribution theory emphasizes people’s use of folk psychology to detect and understand internal states such as goals, desires, or intentions. People then use these inferred states to explain the behavior they observe. Another type of attribution theory assumes that people observe regularities and differences in behavior to learn about dispositions (e.g., personality traits, attitudes) that are characteristic of themselves or others. Attribution theories pose a challenge to academic efforts to account for behavior that either fail to explain the individual behaviors of individual people or that deny the usefulness of folk psychological (or mentalistic) concepts. Attribution theories are complemented by what is sometimes called *attributional theories*. These theories address the consequences of particular attributions for emotions (e.g., anger vs. pity), judgments (e.g., of guilt vs. innocence), and behavior (e.g., aggression vs. assistance).

### Attribution as Perception

In 1958, Fritz Heider introduced an early version of attribution theory at a time when behaviorist theories of learning and memory and psychoanalytic theories of unconscious motivation dominated academic psychology. These theories had little use for naive explanations of behavior. In contrast, Heider stressed the importance of studying everyday attributions because they influence how people feel and what they do.

Heider made two important distinctions. The first distinction was whether a behavior is seen as intentional or unintentional; the second distinction was whether a behavior is seen as caused by something about the person or by something about the situation. These two distinctions are related because intentional behaviors say more about the person than about the situation. Heider anticipated that people regard personal attributions as most important. Individualist cultures, in particular, foster a tendency to see humans as autonomous agents who have some control over their own behavior. Once they have made a personal attribution, people can predict a person’s future behavior more confidently. Suppose Ringo repays a loan from Paul on time. If Paul concludes that Ringo is trustworthy, he may help him again when the need arises, or feel comfortable to trust Ringo in other ways, as when confiding a piece of gossip about George.

The repayment of a loan is likely seen as an intentional act, especially when there are no signs that the person was coerced. Heider suggested that an attribution of intentionality can be made with little thought, much like the visual perception of objects is largely automatic. In social perception, the person and the behavior form a perceptual unit, and thereby suggest a causal connection. Experiments have shown that the observation of a behavior that implies a certain personality trait (such as the timely repayment of a loan suggests trustworthiness) makes that trait mentally accessible. If, for example, people read about a repaid loan and a host of other behaviors, seeing the word *trustworthy* at a later time helps them recall the specific behavior that suggested it.

Whereas the person–behavior unit is figural in social perception, the situation is usually the background. Compared with a person, a situation is typically not well organized perceptually. It can comprise the presence of other people, current moods, the weather, or the time of day. Only when a particular aspect of a situation commands attention, such as the threat of penalties in the loan example, can situational attributions become more prominent.

The attribution of an intentional, and thus personal, causation is furthered if the actor exerts effort. If we learn that Ringo recently took a second job, we feel more confident about his intention to repay the loan. In general, if a person appears to go the extra mile to produce a desired effect, people attribute the behavior to a conscious goal. The third, and perhaps the strongest cue toward intentionality is what Heider called

*equifinality*. Equifinality can only be revealed by several behaviors that lead to the same end result. Courting behavior is an example. A suitor who sends flowers, cards, and chocolates, and who also serenades the object of his desire really seems to mean it. Note that these cues are not independent. He who seeks many means to achieve the same end can often only do so by exerting more effort than he who is more nonchalant.

### Attribution as Inference

In 1965, Edward Jones and Keith Davis proposed the more formal theory of correspondent inferences. They stressed that attributions of intentionality depend on the impression that the actor freely chose what to do. There had to be alternative options as well as a lack of situational pressures, such as coercion by others. A chosen option is most informative if its alternatives differ in their consequences, and if the person was able to foresee these consequences. For example, we can learn about Ringo's intentions from what he did with the money he borrowed. Suppose he had the options of buying a lawn mower, a new computer, or a cruise for his wife. Choosing the last option is most informative because it has the unique consequence of affirming an important personal relationship.

The question of free choice became a watershed issue for all attribution theories because it most clearly separates personal from situational causes. Originally, Jones and his colleagues believed that people would discount personal explanations if a behavior was externally constrained. In a famous experiment in 1967, Jones and Victor Harris found, however, that people thought a person who, in compliance with an experimenter's request, had written an essay in praise of Fidel Castro, privately held pro-Castro attitudes. The tendency to make inferences about the person even when the situation could fully explain the behavior, was henceforth called the *correspondence bias*, or more evocatively, the *fundamental attribution error*. In short, the theory of correspondent inferences assumed that the road from behaviors to dispositional attributions is a rocky one because of the multiplicity of considerations that is presumably necessary. In contrast, the evidence for quick and potentially biased inferences suggests that people make use of perceptual shortcuts, just as Heider had suspected.

Some of these shortcuts are self-serving. People readily attribute successes and other positive events to

their own efforts or enduring qualities, while attributing failures or other setbacks to chance or to features of the situation (e.g., "The test was unfair!"). Although self-serving biases are suspect from a normative point of view, they have adaptive benefits. People who attribute successes to their own ability and their failures to bad luck are less likely to be depressed and more likely to persevere after setbacks. These biases are truly self-serving only if they are unique to the self-perspective, that is, if the favorable explanatory pattern does not affect explanations of the behaviors or outcomes of others.

A more general bias is the actor–observer effect, which refers to the tendency to make fewer dispositional or more situational attributions for one's own behavior than for the behavior of others. This effect turns out to be rather weak. Bertram Malle has suggested that the main difference between the self- and the observer's perspective is that the former heavily relies on reasons as explanations, whereas the latter relies on causes. Reasons are derived from intentions, which people find available in their own minds but can only infer from the behavior or others; causes include all situational sources of behavior as well as personal dispositions that lie outside the realm of intentional action (e.g., habits, compulsions, automatisms).

### Attribution as Induction

Perceptions and inferences regarding intentionality and causality can involve a fair amount of guesswork. Their quality depends on the perceiver's ability to make reasonable assumptions to make up for missing information. Harold Kelley suggested that attributions are a certain kind of inductive inference. That is, people induce a probable cause from available information. Following the British empiricists, and particularly John Stuart Mill's joint method of agreement and difference, Kelley proposed that an event (e.g., a behavior) is attributed to whichever potential cause is present when the event is present and that is absent when the event is absent.

In Kelley's scheme, there are three sources of variability. Variability over actors is called *consensus*. Consensus is low if only Ringo, but no one else, repays his loan. It suggests that Ringo, but not Paul, should be credited as the source of Ringo's behavior. Variability over stimuli is called *distinctiveness*. Distinctiveness is high if Ringo only repays Paul but not

George, suggesting that Paul has some control over Ringo's behavior. Finally, variability over time is called *consistency*. Consistency is high if the behavior occurs repeatedly, as when, for example, Ringo always repays his loans. By itself, consistent behavior does not reveal much about its likely cause. If, however, consensus or distinctiveness information already suggests a particular attribution, high consistency makes this attribution more certain.

A full suite of information concerning consensus, distinctiveness, and consistency is called a *configuration*. On the basis of such a configuration, a social perceiver can decide whether to attribute a behavior to the person, to the stimulus, to the particular relationship between the two, or to the circumstances prevailing at the time. With each of the three types of information being either high or low, eight different configurations are possible. The configuration of low consensus, low distinctiveness, and high consistency affords the strongest person attribution; the configuration of high consensus, high distinctiveness, and high consistency affords the strongest stimulus attribution. Over the years, numerous refinements to Kelley's model have been introduced. The goal of these efforts has been to identify unique predictions for each possible configuration, and to validate these predictions with empirical data about how social perceivers actually make attributions.

Patricia Cheng's and Laura Novick's probabilistic contrast model advances these ideas by recognizing the uncertainty of many causal attributions. In their model, an aspect of the world (e.g., a person or a situation) is perceived as a cause if the event (e.g., a behavior) is more likely to occur when this aspect is present than when it is absent. That is, causality is inferred from a difference between probabilities. This theory can account for a complex interplay of causes. Suppose that the probability of Ringo repaying a loan is greater if Paul is the lender than if George is the lender, whereas the probability of John repaying the loan is low regardless of lender. Statistically, this pattern is an interaction; it reveals the unique relationship between Ringo and Paul as the most probable cause. Yet, Kelley's theory leads to the same conclusion, because the pattern of covariation is coded as one with low consensus, high distinctiveness, and high consistency. So what has been gained? Note that Kelley's model ignores the probability of another actor (John) repaying another lender (George). If this probability

were high, Ringo's behavior would no longer be unusual, and hence, the attribution of his behavior to his relationship with Paul would also be weakened.

## Attribution as Construction

The probabilistic contrast model is conceptually elegant, mathematically rigorous, and empirically well supported. However, the price for the model's precision is a lack of realism. The Cheng and Novick model, as well as other theories of inductive inference, faces several critical issues, which set the agenda for current and future refinements of attribution theory.

The first issue is that ordinary social perceivers rarely have enough information to evaluate configurations of evidence. To make attributions, they must exploit direct perceptual inferences, inferences based on partial cues, or common social background knowledge. Recent integrative models address this problem by combining aspects of the folk psychology approach with the statistical-reasoning approach.

The second issue is that sources of information are rarely independent. Behavior low in distinctiveness also tends to be highly consistent because people enter different situations sequentially. To untangle distinctiveness from consistency, they must figure out which situations they can treat as identical and how they can mentally correct the conflation of different situations with different times. Formal statistical tools can do this with numerical data, but ordinary intuition is not equipped to handle this task.

The third issue is that trait attributions, once made, do not contribute much to the causal explanation of behavior. Once we believe that Ringo is trustworthy, this characteristic of his becomes a mere enabling condition because it is always there. As a trait, trustworthiness is, by definition, a constant feature and therefore cannot vary. To explain a particular trustworthy act, some additional cause must be invoked. When the additional cause is an aspect of the situation, a peculiar shortcoming of standard attribution theory emerges. Since the days of Heider's theory, personal and situational causes have been treated as competitive. Kelley's famous discounting principle states that the stronger the situational cause is, the weaker the personal cause must be. The assumption of a hydraulic relationship between personal and situational causes may not be realistic. People who react aggressively to provocation, for example, are seen as

having aggressive personalities, whereas people who aggress without provocation are more likely seen as disturbed. Contrary to the classic logic, a situational stimulus can enable a dispositional attribution, rather than inhibit it.

The final and most fundamental issue is that patterns of covariation never prove causation. One can show that a given covariation is not causal, but one cannot prove that a covariation is *not* not causal. Educated people do not believe that the crowing of a rooster calls forth the dawn of a new day even if it consistently precedes it. There is no known mechanism that links the two. In contrast, if a comedian's cracks are always followed by riotous laughter, one can examine the specific properties of the jokes as mediating variables and note the fact that the intervals between jokes can be varied at will.

When there is a plausible process, or mediator, variable that can link an effect to a putative cause, the case for causation becomes stronger, but it still is not proven. The problem reduces again to covariation, that is, to the statistical relationships between the presumed cause and the mediator variable, and between the mediator variable and the effect. That there is no end to this, no matter how many mediator variables are inserted, reinforces philosopher David Hume's skepticism regarding causation. Covariations can be accepted as causal only with the aid of perceptions, inferences, or beliefs that lie outside of the field of observable data.

Whereas attribution theories call on the concepts of folk psychology to support causal claims, the same concepts remain suspect as prescientific from an academic perspective. This leads to the ironic conclusion that ordinary people often have a greater facility in explaining individual behaviors than some formal theories do. Moreover, theories that reject intentions, or conscious will more generally, as a cause of behavior imply that the ordinary person's interest in them must be mistaken. The counterargument is that intentions are no different from other mental phenomena, such as attention, learning, or memory, that many reductionist theories invest with explanatory power. If so, insights gained from folk psychology and formalized by attribution theories can enrich academic theories of human behavior, just as Heider hoped they would.

Most scientific theories rely on experimentation to determine the causes of behavior. If experimentation were the royal road to understanding causation, one might demand ordinary people to conduct experiments before making attributions. They usually do not, and

they should not be blamed, because experimentation is difficult and costly (note that such blaming would be an act of attribution). Experimentation has its own limitations. One is that experiments are better suited for the detection of behavioral trends in groups of people than for finding out why a certain person performed a specific act. Another limitation is that personal characteristics such as traits are, by definition, stable and thus not amenable to experimental variation.

The most important limitation, however, is the general force of Hume's critique. Causality cannot be established by observation alone; instead, it requires a psychological contribution that goes beyond the data given. This is true in scientific experimentation as it is in ordinary social perception. Experiments only yield patterns of covariation. The extra knowledge that scientists use to go beyond covariation is their belief that they can replicate experimental results at will. In other words, their own intentions and sense of agency play a crucial role in their conviction that covariations observed in experimental data can keep Hume's specter at bay. By explaining the causal beliefs of behavioral scientists, attribution theory comes full circle.

*Joachim I. Krueger*

*See also* Actor–Observer Asymmetries; Attributions; Correspondence Bias; Fundamental Attribution Error; Kelley's Covariation Model; Self-Serving Bias; Social Projection

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## AUTHENTICITY

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Authenticity generally reflects the extent to which an individual's core or true self is operative on a day-to-day basis. Psychologists characterize authenticity as multiple interrelated processes that have important implications for psychological functioning and well-being. Specifically, authenticity is expressed in the dynamic operation of four components: awareness (i.e., self-understanding), unbiased processing (i.e., objective self-evaluation), behavior (i.e., actions congruent with core needs, values, preferences), and relational orientation (i.e., sincerity within close relationships). Research findings indicate that each of these components relates to various aspects of healthy psychological and interpersonal adjustment.

The importance of being authentic in one's everyday life is evident in phrases like "keep it real" and "be true to yourself." However, what does it mean to be authentic? For example, does it mean, "be myself at all costs?" Historically, examination of the nature of authenticity and its costs and benefits exists in such diverse sources as William Shakespeare's Polonius, *Star Wars'* Luke Skywalker, and numerous hip-hop gangstas, each portraying characters whose complex challenges involve their *knowing* and *accepting* whom they are, and *acting* accordingly.

### A Multicomponent Conceptualization

One definition of authenticity is that it reflects the unobstructed operation of one's true, or core, self in one's daily enterprise. From this perspective, the essence of authenticity involves four interrelated but separable components: (1) awareness, (2) unbiased processing, (3) behavior, and (4) relational orientation. The awareness component refers to being aware of one's motives, feelings, desires, values, strengths and weaknesses, and trait characteristics. Moreover, it involves being motivated to learn about these self-aspects and their roles in one's behavior. As one learns about these self-aspects, one becomes more aware of both the "figure" and "ground" in one's personality aspects. In other words, people are not exclusively masculine or feminine, extraverted or introverted, dominant or submissive, and so on. Rather, although one aspect of these dimensions generally predominates over the other, both aspects exist. As individuals

function with greater authenticity, they are aware that they possess these multifaceted self-aspects, and they use this awareness in their interchanges with others and with their environments.

A second component of authenticity involves the unbiased processing of self-relevant information. Stated differently, this component involves objective assessment and acceptance of both positive and negative self-aspects and evaluative self-relevant information. Conversely, it involves not selectively denying, distorting, or ignoring positive and negative information about oneself (e.g., one's positive achievements or poor performances). Some people, for instance, have great difficulty acknowledging having limited skills at a particular activity. Rather than accept their poor performance, they may rationalize its implications, belittle its importance, or completely fabricate a new and better score. Others have difficulty acknowledging positive aspects of themselves or their abilities, and they interpret their success to be due exclusively to luck. All of these people are exhibiting bias in processing evaluative self-information that reflects the relative absence of authentic self-evaluation.

A third component of authenticity involves behavior, specifically whether an individual acts in accord with his or her true self. Behaving authentically means acting in accord with one's values, preferences, and needs as opposed to acting merely to please others, comply with expectations, or conform to social norms. Likewise, behavioral authenticity is limited when people act falsely to attain external rewards or to avoid punishments. The distinction between acting authentically versus acting falsely can be complex. For instance, situations exist in which the unadulterated expression of one's true self may result in severe punishments (i.e., insults or exclusion). In such cases, behavioral authenticity exists when a person is aware of the potential adverse consequences of his or her behaviors and chooses to act in ways that express his or her true self. The important point is that authentic behavior does not reflect a compulsion to be one's true self, but rather the choice to express one's true feelings, motives, and inclinations.

A fourth component of authenticity involves one's relational orientation toward close others, that is, the extent to which one values and achieves openness and truthfulness in one's close relationships. Relational authenticity also entails valuing close others seeing the real you, both good and bad. Stated differently, an authentic relational orientation reflects being able and

motivated to express one's true self to intimates. Thus, an authentic relational orientation involves engaging in self-disclosures that foster the development of mutual intimacy and trust. In contrast, an inauthentic relationship orientation reflects deliberately falsifying impressions made to one's close others, or failing to actively and openly express one's true self to them (e.g., avoiding expressing true feelings out of fear of disapproval or rejection). In short, relational authenticity means being genuine and not fake in one's relationships with close others.

### **Distinct yet Interrelated Components**

While the multiple components of authenticity may often play a collaborative role and be in harmony with one another, instances exist where only some are operative. For example, when people react to environmental contingencies (i.e., rewards or punishments) by behaving in accord with prevailing social norms that are at odds with their true self, authenticity may still be operative at the awareness and processing levels. That is, while people may not be behaving authentically, they may still be thinking and processing self-evaluative information authentically. In other instances, authenticity may not be operative at these levels either, as when people rationalize their behavior by distorting its implications (biased processing), or mindlessly behave without consulting their true desires (nonawareness). These considerations suggest that, instead of focusing exclusively on whether actions are authentic, it is useful to focus on the extent to which processes associated with other authenticity components (i.e., awareness, unbiased processing) inform behavioral choices. Social psychologists have yet to examine these complicated issues in research, but this is likely to change in the near future. For now, it is useful to note that although the awareness, unbiased processing, behavior, and relational orientation components of authenticity are interrelated, they are distinct from one another.

### **Research**

Considerable research supports the assertion that authentic functioning relates to positive psychological health and well-being, as well as to healthy interpersonal relationships. For example, researchers have found that authentic functioning relates to higher and

more secure self-esteem, less depression, and healthier interpersonal relationships.

### **Awareness**

Considerable research demonstrates the benefits of possessing self-knowledge that is clear, internally consistent, and well integrated across one's social roles. The same is true for being motivated to learn about oneself: The more one takes an open and nondefensive stance toward learning about oneself, the better one's overall psychological functioning. Moreover, possessing substantial knowledge about one's emotional states, for example, what makes one happy or sad, also confers considerable benefits toward one's health and well-being. Importantly, learning about oneself is an ongoing process that continues throughout the life span.

### **Unbiased Processing**

Processing positive and negative evaluative information in an objective manner allows individuals to gain accurate self-information that they can use to make well-informed decisions regarding their skills and abilities. In contrast, distorting information to exaggerate one's positive qualities or minimize one's negative qualities may feel good in the short run, but it is detrimental in the end. For example, research indicates that experts rate people as narcissistic and not well adjusted if they view themselves considerably more positively than others view them. Conversely, exaggerating negative self-relevant information or being overly self-critical increases one's risk for depression and other psychological disorders.

### **Behavior**

Researchers have found that people who pursue goals that are congruent with their core self are less depressed, feel greater vitality and energy, and generally are more psychologically adjusted than are people who pursue goals that are not congruent with their core self. Thus, it is very important to consider why people adopt their goals. When people adopt goals because they are personally important, interesting, and fun, they are healthier than when they adopt goals because they feel pressured by others or because they want to avoid feeling guilty or anxious (signs that the goal is not fully congruent with the core self). In general, people

whose behavior is consistent with who they really are and their central values are happier and healthier than people whose behavior is based primarily on attaining rewards or avoiding punishments.

### Relational Orientation

Healthy close relationships involve trust and intimate self-disclosures. People vary in how willing or able they are to share their foibles and shortcomings with their relationship partners. Those whose close relationships involve reciprocal intimate self-disclosures are generally more satisfied with their relationships than are people whose close relationships involve more shallow or nonreciprocal self-disclosures. Research indicates that a major factor contributing to adolescents acting falsely (suppressing the expression of their true thoughts and feelings within those relationships) is that they perceive a lack of parental and peer approval. Likewise, adults who do not feel validated by their relationship partners tend to exhibit increased false-self behaviors within the relationship, which in turn accounts for their heightened feelings of depression and low self-esteem.

*Michael H. Kernis  
Brian M. Goldman*

*See also* Self; Self-Awareness; Self-Esteem Stability

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## AUTHORITARIAN PERSONALITY

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### Definition

The authoritarian personality describes a type of person who prefers a social system with a strong ruler—the authoritarian person is comfortable being the strong ruler but if the individual is not the strong ruler then he or she will demonstrate complete obedience to another strong authority figure. In both cases, there is little tolerance toward nonconservative ways of thinking. People whose personalities are structured in the manner of an authoritarian personality tend to conform to authority and believe that complete obedience to rules and regulations is completely necessary; any deviation from rules is to be treated harshly. The authoritarian personality often results in people harboring antagonistic feelings towards minority groups, whether religious, ethnic, or otherwise.

### History and Development

The history of research on the authoritarian personality stems largely from the end of the Second World War and the Holocaust. During the 1950s, one prevailing fear was the potential spread of anti-democratic ideologies as had been seen by the rapid spread of Nazi fascism. The origin of racism and prejudice was an important topic in the academic world because of the mass genocide of the Jews. Scientists also realized

that prejudice and anti-democratic ideologies—and fascism in particular—were not characteristic of any specific group, which meant that they began looking for another theory to explain these phenomena.

Concerns over the potential rise of fascism led to a search for a theory to identify those who were susceptible to anti-democratic ideologies. Theodor Adorno, a sociologist, is credited with the theory of authoritarian personality, which addressed the need for an explanation of prejudice and racism. Adorno believed that a certain personality structure was common among people who may fall victim to anti-democratic ideology. Adorno and his colleagues characterized the authoritarian personality structure on nine dimensions, discussed in the following section.

One implication of the theory that a personality structure causes this susceptibility is that the prejudice or racism is a product mostly of the people believing it, and not of the actual target. More specifically, anti-Semitism would not have much to do with the characteristics of Jewish people, but rather the characteristics of the people who dislike the Jews.

The authoritarian personality is thought to emerge from childhood experiences. This reasoning comes from Sigmund Freud's psychoanalytic theory. Freud suggested that childhood experiences, especially those with parents, lead to people's attitudes as adults. For example, if children have a very strict authoritarian parent, they will learn to suppress thoughts, feelings, and actions which might be considered immoral (e.g., aggression or sex drive). Later, because the child learned not to act on certain urges, the urges are projected onto other "weaker" people, often minorities. This results in the negative attitudes that authoritarian people carry regarding other groups. Again, the projection of internal suppressed urges onto others suggests that the prejudice is due to the individual's personality, not to traits of the oppressed group.

Though the term *authoritarian personality* implies a dominating or controlling personality, in theory a person with an authoritarian personality can actually prefer to be obedient to a clear authority figure. This type of personality desires strict adherence to rules and sees a clear distinction between the weak and the strong. Authoritarian personalities are somewhat conflicted because they want power, but also are very willing to submit to authority.

Despite Adorno's efforts to separate right-wing conservatism from authoritarian personality, Robert Altemeyer's later version of authoritarian personality

was almost synonymous with right-wing conservatism. Altemeyer's take on authoritarian personality included only three of Adorno's nine dimensions associated with authoritarian personality: *conventionalism*, *authoritarian aggression*, and *authoritarian submission*. Recently, a book by John Dean critically discussed conservatism (and the Republican Party) from the right-wing authoritarian personality viewpoint put forth by Altemeyer.

## Research

The first research on authoritarian personality was, for the reasons mentioned above, very politically driven. While the overarching goal was to explain racism and prejudice, the research direction boiled down to trying to predict who would be susceptible to anti-democratic ideas by measuring personality traits.

Three scales that were assumed to be indicative of authoritarian personality (the anti-Semitism, ethnocentrism, and political economic conservatism scale) were used to measure the general agreement with an anti-democratic or fascist viewpoint. Adorno and his colleagues sought to further understand the personality structure and developed a scale, the F-scale, which was meant to measure "implicit antidemocratic tendencies and fascist potential." The scale's more general purpose was to show the underlying structure of an authoritarian personality and to predict potential for conforming to fascism and anti-democratic ideology. The F-scale is made up of questions relating to nine aspects: *conventionalism*, *authoritarian submission*, *authoritarian aggression*, *anti-intraception*, *superstition and stereotypy*, *power and "toughness," destructiveness and cynicism*, *projectivity*, and *sex*.

Each of the aspects of the scale is meant to tap a different part of the authoritarian personality. *Conventionalism* questions get at how strongly one believes in middle-class values. Fascism was thought to originate in the middle class and potential fascists would then score high on conventionalism. Those who are very willing to submit to authority and desire strong leaders would score high on *authoritarian submission* questions. High ratings on the *authoritarian aggression* questions reflect attitudes that imply dislike toward minority groups and the belief that deviations from authority deserve severe punishment. It was thought that a person high in authoritarian aggression had probably had a strict childhood, preventing him or her to indulge in few desires, which led to this person projecting his or her frustration onto

other people who participated in “morally unsound” practices. *Anti-intracception* is a characteristic of the authoritarian personality which results in a low tolerance for creative thinking and emotion-importance; people who are *anti-intracceptive* (i.e., are not particularly self-aware) reject subjective thinking in favor of more concrete thinking (e.g., placing high importance on clearly observable facts instead of thoughts and feelings). *Superstition* and *stereotypy* show the extent to which a person feels that his or her fate depends mostly on external forces and that he or she cannot personally influence outcomes of situations. A strong belief in two types of people (e.g., strong and weak) will be reflected in *power* and *toughness* questions. Authoritarian personalities prefer strong leaders who can maintain order by severe punishment of those who deviate. The *destructiveness* and *cynicism* variable again addresses the authoritarian personality’s aggression, but this time the aggression is not based on morality. The idea here is that people with authoritarian personalities harbor aggression and are just waiting for an opportunity to act on it. The *projection* items on the F-scale are used to tap subjects’ repressed urges (which were mentioned in relation to authoritarian aggression) by asking them about the negative attributes of others. For example, an anti-Semite’s view that Jews are hostile may actually reflect his or her own repressed hostility projected onto someone else. Finally, the *sex* items on the F-scale also deals with the suppression of urges, namely sexual. Because authoritarian personalities suppress their sexuality (they see it as immoral), their attitudes toward people who engage in these acts is especially negative.

Since the creation of the F-scale, its validity (i.e., ability to actually predict what it claims to predict) has been called into question on numerous occasions, and on numerous occasions has failed these validity tests. It has also failed to predict right-wing authoritarianism, as many left-wing group members can score high on the test. However, the F-scale has shown some correlations, or relationships, to other constructs such as superstition and “old-fashioned” values. Another suggestion has been that the F-scale reflects narrow-mindedness.

Overall, scientists have abandoned the use of the F-scale to study prejudice and racism today. If the scale merely reflects values from the early 1900s or superstitious beliefs, it is not very useful for identifying and predicting racist attitudes. Many of the scale’s questions do mirror the cultural environment of the 1920s and 1930s, but this does not necessarily imply that

these values are strongly related to potential for fascist behavior. Also, the idea that racism exists because of alternative attitudes of a few people is not very plausible. Rather, scientists now believe that racism and prejudice result largely from group membership attitudes that reside in all humans. Research on prejudice and racism now tend to take a group approach, instead of studying the personalities of people individually. Political researchers, on the other hand, still make use of authoritarian personality, but generally use Altemeyer’s right-wing authoritarianism in place of Adorno’s original construct.

Noelle M. Nelson

*See also* Attitudes; Personality and Social Behavior; Political Psychology; Prejudice; Racism

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## AUTHORITY RANKING

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*See* RELATIONAL MODELS THEORY

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## AUTOBIOGRAPHICAL NARRATIVES

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### Definition

Autobiographical narratives are the stories people remember (and often tell) about events in their lives. Some autobiographical narratives refer to memories of important personal events, like “my first date” or “the day my father died.” Others may seem trivial, like a memory of yesterday’s breakfast. Many psychologists study the extent to which memories of personal events are accurate. They ask questions like these: How *true* is the memory? Is the story a *distortion* of

what really happened? Other psychologists are interested in what autobiographical narratives say about a person's self-understanding or about social life and social relationships more generally. Their questions include these: What does a particular memory *mean* for the person remembering it? How do people *use* autobiographical narratives in daily life?

### What Do We Remember?

People's memory of personal events is *not* like a video recording that can simply be played back. For one thing, people eventually forget most of the events that occur to them. Try to remember what you ate for lunch on June 1, 2005. Or what you wore the day before that. Clearly, the brain has more important things to do than remember every event that has ever occurred. Second, the details of those events people do recall, even when they recall them vividly, often turn out to be inaccurate and mixed up, especially as those events fade into the distant past. At the same time, research suggests that while people often make errors in recalling the details of important personal events from long ago, their narrative accounts are surprisingly accurate in conveying the overall gist of those events. People remember the big picture better than they do the small facts.

Many psychologists see autobiographical memory as an active and creative process. People *construct* memories by (a) attending to certain features of a to-be-remembered event, (b) storing information about that event according to personally meaningful categories and past experiences, (c) retrieving event information in ways that help solve social problems or meet situational demands, and (d) translating the memory of the event into a coherent story. What people attend to, how they store autobiographical information, what they eventually retrieve from their memory, and how this all gets told to other people are all influenced by many different factors in the person's life and social world, including especially a person's goals. For example, a person whose life goal is to become a physician may have constructed especially vivid personal memories of interacting with doctors and nurses growing up, positive experiences with biology and the health sciences, and episodes of helping other people. Autobiographical narratives provide a ready supply of episodic information that people may consult in making important decisions about the future.

### Development and Functions

Most people can recall virtually nothing from before the age of 2 years. Autobiographical memory begins to manifest itself in the third and fourth year of life as young children begin to form simple memories about events that have happened to them. Parents, siblings, and teachers often provide considerable assistance in the development of early autobiographical memory. They will ask young children to recall recent events (yesterday's trip to the park, Sarah's birthday party) and encourage them to relate the event as a story. By the age of 5, most children are able to tell coherent stories about events in their lives, complete with setting, characters, plot, and a sense of beginning, middle, and end. As children move through elementary school, their autobiographical memories become more complex and nuanced.

In adolescence and young adulthood, people begin to organize memories of particular personal events into larger, integrative life stories. These internalized and developing life stories may serve as expressions of *narrative identity*. In other words, people's life stories—their autobiographical understandings of their lives as a whole—help to provide their lives with meaning and direction, explaining in story form how they believe they came to be who they are today and where they believe their life may be headed in the future. Life stories continue to develop as people move through their adulthood years, reflecting new experiences and challenges as well as their ever-changing understanding of the past. An adult's life story may contain many key scenes, such as especially important early memories, high points, low points, and turning points. While these important scenes may originate from almost any point in the life span, research shows that people tend to have an especially large number of emotionally vivid autobiographical recollections from their late-adolescent and early-adult years—memories of events that took place between the ages of about 15 and 25.

People often share their stories of important personal events with friends and acquaintances. Personal storytelling, therefore, often promotes interpersonal intimacy. Parents often tell their children stories from their own past, teachers often employ autobiographical narratives to promote learning in the classroom, and many adults see personal narratives as effective vehicles for socialization and imparting moral lessons for young people. The stories people tell about their own

lives, furthermore, reflect the values and norms of their culture. For example, research suggests that American children tend to develop more elaborate personal memories than do Japanese and Chinese children, arguably reflecting a Western emphasis on the full expression of the individual self (over and against an East Asian emphasis on the collective). Stories are shaped by social class and gender: Working-class people prefer certain kinds of stories about the self while upper-middle-class people may prefer others; women and men are expected to tell different stories about their lives. In important ways, autobiographical memories reflect what has actually happened in a person's life. But they are also strongly shaped by a person's values and goals; the people with whom, and the occasions wherein, personal stories are told; and the broad forces of social class, gender, religion, society, and culture.

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*See also* Memory; Search for Meaning in Life; Self-Reference Effect

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didn't notice the new store, and you answer, "Oh, I was thinking about our upcoming exam, I didn't even see the square, let alone the new store."

From a psychological viewpoint, something very interesting happened here. How can you drive safely and negotiate traffic without consciously noticing where you are? Let's face it (just remember the first few times you drove a car), driving is really quite complicated. You have to carefully look at the road, at the traffic, and in your rearview mirror. You have to slow down in time before a curve, you have to steer, if you are driving a stick shift, you have to change gears. In addition, you have to do all these things more or less simultaneously. How can you do all of those things while thinking about your exam, that is, without any conscious attention directed at the driving?

The answer is that driving (assuming you are skilled and the route is familiar) is a largely *automatic* process. Of course you saw the square when you passed it; otherwise you could not have negotiated it. You cannot drive blindfolded. However, the process of driving through the square is so automatized that a fleeting glance of the square is enough. You do not need to pay conscious attention, and you do not have to interrupt thinking about the exam. In fact, if you drive a familiar route, you usually pay attention only to things that are unexpected. And those are the only things you later remember ("I did notice there was an accident on Main Street").

## The Four Horsemen of Automaticity

In the 1970s, psychologists started to distinguish between psychological processes that were automatic and psychological processes that were controlled. Automatic processes are unconscious (i.e., you are not consciously aware of them), efficient (they require no effort), unintentional (you don't have to *want* them to happen), and uncontrollable (once started, you cannot stop them). Controlled processes are the opposite: They are conscious (you have to be consciously aware of them), inefficient (they require effort), intentional (they only happen when you want them to happen), and controllable (you can stop them).

Soon thereafter, psychologists discovered a problem. According to the criteria outlined in the previous paragraph, relatively few psychological processes are

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## AUTOMATIC PROCESSES

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### Definition

Automatic processes are unconscious practices that happen quickly, do not require attention, and cannot be avoided.

### Analysis

Imagine you are driving a very familiar route, such as your daily route to school, the university, or your work. You mindlessly drive along various familiar roads and upon arrival, a friend asks you, "Did you see there's a new DVD/video store on the square near the church?" You did pass this square, as you always do, but you

fully automatic and even fewer are fully controlled. There are exceptions of course. If an object (such as a snowball) quickly approaches your face, you close your eyes. This is a reflex and it is fully automatic. It does not require conscious awareness, it does not require any effort, it is unintentional, and also uncontrollable (you cannot stop it). Conversely, writing is fully controlled. You need to be aware of it, it requires effort, it is intentional and controllable. However, most interesting psychological processes have both automatic and controlled elements. Think again about driving. If you are a skilled driver driving a familiar route, driving can be mostly unconscious (except when something unexpected happens). It is also highly efficient as you can easily have an interesting conversation with someone while you drive—that is, the driving does not require effort. However, it is intentional. You do not suddenly find yourself driving somewhere. You drive to school or work because you want to go there. Finally, driving is controllable. You can stop the process if you so desire.

As a consequence, according to the psychologist John Bargh, it would be more useful to look at the separate criteria for automaticity (Bargh called them the four horsemen), rather than viewing automaticity and control as all or none concepts.

1. *Conscious versus unconscious.* Some behavior requires conscious attention; other behavior does not and can proceed unconsciously. Obviously, most bodily functions, such as breathing, do not require conscious awareness. However, many psychological processes are unconscious as well. For instance, we automatically categorize objects or people we perceive as good or bad. That is, we possess the capacity of “automatic evaluation.” Investigating whether processes require conscious awareness can be done in different ways. The technique used most often in social psychological research is priming. Psychologists surreptitiously present people with stimuli (such as words or pictures). When these stimuli have psychological consequences (such as when a primed stimulus influences an impression formed of a person later on) without people being aware of this influence, psychologists can conclude it is an unconscious process.

2. *Efficient versus inefficient.* Some behavior requires effort and uses what is called “attentional resources.” Other behavior does not. The driving example

is useful again. The first few times you drive a car, you need attentional resources to control the car and to navigate traffic. Once you are a skilled driver, however, you do not need attentional resources anymore. The way to investigate whether a process is efficient or not is to have people do it while also performing a secondary task that requires attentional resources (such as memorizing digits or talking). If a process breaks down while one engages in a secondary task, the process is inefficient. If not, it is efficient. A skilled driver can have an interesting conversation with a passenger while driving, because driving has become efficient. A starting driver cannot drive and talk at the same time without running the risk of causing dangerous situations, because driving is still inefficient.

3. *Intentional versus unintentional.* Some behavior only happens when we want it to happen, whereas other behavior unfolds regardless of our desires. Driving is intentional, and so are behaviors such as reading or writing. However, some of the behavior we display during social interactions is unintentional. It has been found that people, without being aware of it, to some extent mimic their interaction partner. If we talk to someone, we often use the same gestures, our bodily postures match, and even our speech patterns converge a little bit. This does not happen because we want it to happen; rather, it is unintentional. One way to find out whether a process is intentional is to see whether it occurs when it has negative consequences. Priming research shows that priming people with a social stereotype leads to behavioral assimilation. For instance, if people are primed with pictures of senior citizens, they become a little slower and more forgetful; if people are primed with professors, they perform better on a general knowledge test. These effects also hold for behaviors that are clearly negative. Priming people with supermodels makes them perform worse on a general knowledge test. This means the effect is unintentional, as no one deliberately wants to come across as stupid.

4. *Controllable versus uncontrollable.* This criterion is relatively simple. Can people stop a psychological process after it has started? If it is stoppable, it is called controllable. Closing your eye when a snowball is about to hit you is uncontrollable. Breathing is too. You can hold your breath for a short while, but not for too long. Reading and talking are controllable. You can stop whenever you want to. Investigating the controllability of a process is relatively easy. See if people can stop an

activity when you ask them to. If so, the process is controllable. If not, the process is uncontrollable.

### Automaticity Is Adaptive

There are basically two kinds of automatic processes. Some things, such as reflexes, are automatic simply because of the way humans developed as a species. Other behavior is initially largely controlled (in the sense that it requires conscious awareness and effort) and can become automatic through learning. Driving is again a good example. Another is people's morning routine. Many people think about the day ahead while they take a shower. This is possible because taking a shower is a routine, automatic process. It is efficient, so that we can use attentional resources to do more important things, such as planning our day. This is highly adaptive: The more we can do automatically, the more time we have left for the behaviors that do require conscious awareness and effort.

*Ap Dijksterhuis*

*See also* Attention; Auto-Motive Model; Consciousness; Nonconscious Processes; Priming; Scripts; Self-Regulation

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## AUTO-MOTIVE MODEL

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### Definition

The auto-motive model as proposed by John Bargh in 1990 describes the complete sequence of goal pursuit—that is, reaching a goal—as a process taking place outside of conscious awareness and control. The term *motive* is chosen to encompass goals, motives, and values, yet in most cases, research has focused on goals used in a broad sense. The auto-motive model complements self-regulatory models that focus more on the

role of conscious goal choice. According to the auto-motive model, a strong mental link is supposed to develop between goals that individuals chronically pursue and cognitive representations of situations. Thus, due to consistent and repeated pairing, goals are automatically activated given a goal-relevant, so-called critical situation. As a consequence, these automatically activated goals direct behavior without intentional or deliberate involvement of the individual. In turn, reflective choice and other controlled influences on behavior can be bypassed. In other words, goals are supposed to be represented in the mind in the same way as stereotypes, schemata, and other social constructs and their activation potential are understood to function in a similar manner. Therefore, they can also be automatically activated by situational features. Procedures and plans to attain the respective goal thus influence subsequent behavior, judgments, and decisions outside of the conscious control of the individual. As an example, a student holding an academic achievement goal returns to campus after a break. Being on campus activates the goal, and the student's behavior now turns more toward studying than parties.

### History and Background

Research on perception up to the 1940s considered perception mainly to be a transformation process. Since the “new look” approach after World War II—numerous studies have shown that consciously and unconsciously activated goals of an individual shape the way this person perceives the environment and how this information is interpreted and remembered. The auto-motive model draws on this motivational principle of perceptual readiness (i.e., more attentional resources are given to context information in line with a current activated goal), yet takes the development of the “new look” research toward cognitive approaches into account. Under this later “new look” perspective, schemata, or stereotypes, were understood to function in a way similar to goals and values in the early days of the “new look.” The model introduced by Bargh bridges the two, motivational and cognitive, perspectives by proposing that much human behavior is guided by goals automatically activated through situational features, similar to cognitive activation effects (e.g., stereotypes). Central to the auto-motive model is the assumption that the situational cues for these motives rest in the unconscious as well.

## Automatic Response Activation According to the Auto-Motive Model

The actual auto-motive model is quite complex and describes several paths for automatic responses to environmental features to occur. In general, automatic goal activation can happen by means of three different routes. First, situational features can activate goals and motives if a consistent pairing preexists between the situational cues and the goal. The activated goals and motives are idiosyncratic in their character, that is, specific to the individual in his or her chronic attainment. Second, situational features can directly activate socially shared norms beyond an idiosyncratic level. In other words, strong normative goals are being activated, too. The third route includes other individuals one is interacting with in the given situation. Thus, the activation does not depend on the situational setting alone, but on the goals and intentions of the interaction partners as well. In this case, perceived goal representations of the interaction partner are being activated. Given these three pathways, the subsequent steps toward behavior are quite different. Within the first route, situational cues lead to an activation of an individual goal: Either goal-relevant procedures or plans are activated. Plans lead to automatic response behavior, whereas procedures influence judgments and decisions. Within the second route, a more global normative activation results in plans that again activate response behavior. For the third path, the route to response behavior is a little more complex because it includes cognition about a third person. The activation of the goal representation of an interaction partner leads to an activation of personal, rather individual reactive goals. It is these goals that activate goal-related plans, which in turn activate corresponding behavior. The reason why the third path is comparatively more complex than the first two is due to the fact that while one can assume an automatic link between environmental features and situational representation, behavioral information of others is much more ambiguous relative to the perceived goal of the interaction partner. Put differently, the individual goal activation depends on the accessibility and applicability of the different possible goals of the interaction partner. Once this perceived goal has been defined, one's own response goal is assumed to be activated immediately. This response goal activation is flexible and is dependent on the most accessible and best applicable perceived goal representation.

As one can easily see, the model encompasses three distinct routes to judgmental or behavioral responses. Depending on the features of the social environment, one of these automatic paths is being utilized.

## Empirical Evidence

The auto-motive model—as described in the previous section—cannot be tested in its full extent, nor is it designed to be tested, as one would expect from a theory. Yet there are many research questions that have been influenced and instigated by the auto-motive model, and research addressing them has provided abundant evidence for each of the three paths to automatic behavior. Above and beyond the general influence of goals on perception, there is evidence for auto-motives in person and group judgment and in interpersonal interaction.

The influence of auto-motives on perception can be tied nicely to early work in the “new look.” It was shown that words describing values participants had previously indicated to hold were recognized faster than words irrelevant to participants' goals and values. More recent research revealed, for example, that individuals who can be labeled as chronic egalitarians recognized words relevant to egalitarianism faster, if they were preceded by a goal-relevant stimulus. In the case of this particular experiment, pictures of African Americans and Caucasians were used as stimuli of which only the pictures of African Americans automatically triggered the chronic goal of egalitarianism for the respective individuals. These participants then showed lower response latencies to relevant target words. In line with the auto-motive model, a specific context activated a chronic goal (i.e., egalitarianism). Given this activation, these goals facilitate what an individual is more ready to perceive and what not.

But auto-motives also function beyond perceptual readiness; they can also influence how people judge other people or nonsocial objects. The body of research in this field is vast, and there is substantial converging evidence. Certain instrumental values or standards not only filter what people perceive in the world around them, they also determine people's interpretation of it. On a more general societal level, goals and values can be embedded in the structure of stratified societies. To sustain this social structure, impressions and social judgments are made in line with the prevailing maintenance goal for the social dominance stratification to which individuals adhere.

Auto-motives also influence interpersonal interaction in very peculiar ways. So far, automatic goal activation within the auto-motive model has been understood to result from context cues and information paired with chronic goals. Recently, evidence has been found for goal activation by human beings close to the individual actor, for example, by a parent or a partner. If, for example, an academic achievement goal is linked to fulfilling the wish of one's father, then the activation of the mental representation of the father can activate the related achievement goal. Another auto-motive is the so-called chameleon effect describing mimicry behavior. This nonconscious imitation is especially pronounced for individuals with a strong perspective-taking ability (i.e., being able to understand the ideas, perceptions, and feelings of another person). For them, interaction partners serve as triggers for their chronic perspective taking, which in turn leads to automatic and uncontrolled imitation behavior (e.g., rubbing your nose or shaking your foot). However, interpersonal relationships do not always have to be characterized by imitation. An intimacy versus an identity goal that is chronically accessible for an individual determines how this person approaches interpersonal relationships, either as a means for interdependence and mutual responsibility or as a constant source for self-verification and establishment of an individual identity.

In sum, the research described in this entry provides sufficient evidence supporting the auto-motive model. It is clear that aspects of detail may be subject to alternative interpretations, but overall the auto-motive model provides a sound background for research describing automatic responses to the environment. It has fused early research on motivated perceptual readiness with later approaches addressing more cognitive activation effects into one comprehensive model with the central tenet that goal activation and response behavior activation can happen unconsciously given a chronic association of the goal with a set of perceived environmental features.

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*See also* Accessibility; Automatic Processes; Goals; Self-Regulation

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## AUTONOMY

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The term *autonomy* literally means “self-governing” and thus connotes regulation by the self (auto). Its opposite, *heteronomy*, refers to regulation by “otherness” (heteron) and thus by forces “other than,” or alien to, the self. In short, autonomy concerns the extent to which a person's acts are self-determined instead of being coerced or compelled.

Within the field of psychology, the concept of autonomy is both central and controversial. Autonomy is central in that developmental (child), personality, and clinical psychologists have long considered autonomy to be a hallmark of maturation and healthy or optimal functioning. It is controversial in that the concept of autonomy is often confused with concepts such as independence, separateness, and free will, generating debates concerning its relevance and import across periods of development, gender, and individualist versus collectivist cultures.

The issue of autonomy was originally imported into social psychology through the work of Fritz Heider and Richard deCharms. Heider argued that it is people's “naive psychology” (their intuitive understanding) that determines how they interpret events and therefore how and why they act as they do. Among the most important dimensions within his naive psychology was Heider's distinction between *personal causation*, in which behaviors are intended by their authors, and *impersonal causation*, in which actions or events are brought about by forces not in personal control. Heider reasoned that individuals usually hold people responsible only for behaviors that they personally caused or intended. Subsequently, deCharms elaborated on Heider's thinking by distinguishing two types of personal causation. Some intentional acts are ones a person wants to do and for which he or she feels initiative and will. These are actions deCharms said have an *internal perceived locus of causality*. Other intentional behaviors are attributed to forces outside

the self, and these have an *external perceived locus of causality*.

Self-determination theory is a contemporary perspective that builds upon the Heider and deCharms tradition with a comprehensive theory of autonomy as it relates to motivation. Self-determination theory specifically defines autonomy as the self-determination of one's behavior; autonomous action is behavior the actor stands behind and, if reflective, would endorse and value. That is, autonomy represents a sense of volition, or the feeling of doing something by one's own decision or initiative. The opposite of autonomous action is *controlled motivation*, in which behavior is experienced as, brought about, or caused by forces that are alien or external to one's self. Controlled actions are those a person does without a sense of volition or willingness.

Any behavior can be viewed as lying along a continuum ranging from less to more autonomy. The least autonomous behaviors are those that are motivated by externally imposed rewards and punishments. Externally regulated actions are dependent on the continued presence of outside pressure or reinforcements and thus, in most contexts, are poorly maintained. A student who does homework only because parents reward him or her for doing so is externally regulated but not very autonomous. When the rewards stop, the effort on homework may also fade. Somewhat less controlled are *introjected regulations*, in which a person's behaviors are regulated by avoidance of shame and guilt and, on the positive side, by desires for self- and other-approval. When a teenager refrains from cheating because he or she would feel guilty, this would be introjected, because the teenager is controlling him- or herself with guilt. Still more autonomous are *integrated regulations*, in which the person consciously values his or her actions and finds them fitting with his or her other values and motives. A person who acts from a deeply held moral belief would be acting from an integrated regulation and would feel very autonomous. Finally, some behaviors are *intrinsically motivated*, which means they are inherently fun or enjoyable. A person who plays tennis after school just for fun is intrinsically motivated and would feel autonomous in doing it.

Several theorists in social and personality psychology have suggested that autonomy is a basic psychological need. This is because in general, when people behave autonomously, they feel better and perform better. Lack of autonomy makes people lose interest in

their work and can even make them sick. Accordingly, factors that support autonomy can enhance not only the quality of motivation but also the individual's overall adjustment.

Many studies demonstrate how social events can affect perceived autonomy and, in turn, people's ongoing motivation. When parents, teachers, or bosses use rewards to control behavior, pressure people with evaluations, take away their choices, or closely watch over them, people typically feel controlled. Conversely, when authorities provide others more choice, allow them to express opinions and make inputs, and provide positive and noncritical feedback, they foster greater autonomy and enhance motivation and persistence.

The topic of how external rewards can affect people's autonomy has been very extensively studied and is very controversial, because it is a very important issue in settings such as work, school, and family life. Studies show that when rewards are administered in a manner intended to control the behavior or performance of recipients, they typically undermine a sense of autonomy and thus diminish both interest and intrinsic motivation. Thus, a child who is learning to play a new musical instrument might become less interested after someone gives her a reward for playing. Now the child would only want to play if again rewarded, which means the child is less intrinsically motivated. However, rewards can also be used in non-controlling ways, such as when they are given unexpectedly or as an acknowledgement of competence; when given in this way, rewards usually do not undermine autonomy.

As noted previously, autonomy is a concept that is often confused with independence. One simple way to distinguish these ideas is to think of *independence* as not relying on others for resources or supports, whereas *autonomy* concerns how volitional or self-determined one is. Thus, people can be autonomously or willingly dependent, as when they choose to rely on someone else for help. People can also be forced to rely on somebody else, in which case they would lack autonomy. Similarly, one can be heteronomously independent, as when forced to "go it alone," or autonomously independent, as when one desires to do something by oneself, without getting help.

Distinguishing autonomy from independence is especially critical for developmental and cross-cultural studies. For example, research has suggested that adolescents who autonomously rely on parents tend to be better adjusted than those who are more detached

or independent of parents. It is also clear that cultures differ greatly in values regarding independence, with individualist cultures placing greater value on people acting independently and collectivist cultures more focused on interdependence. Research suggests, however, that whether a person engages in individualist or collectivist practices, it still matters whether or not they feel autonomous. It appears that people in all cultures feel better when they are acting choicefully, even though what they normatively do may differ. This is why people around the world often fight for freedoms and the right to pursue what they truly value.

Similarly, autonomy is not associated with *separateness*. Separateness refers to a lack of connection with close others. People can be very autonomously connected with others, as when they love someone and want to be close to that person. Indeed, people are often very autonomous in trying to connect with and take care of people they love.

Another important distinction is between autonomy and *free will*. Free will, by most interpretations, involves some notion of an undetermined action, or action that is caused by a soul or self that is completely independent of an environment. Autonomy, in contrast, does not have these implications. Most social scientists believe that all behaviors have an impetus or cause either within the organism or its environment. But even if all actions are caused in this sense, they can still vary considerably in the degree to which they are volitional or autonomous.

Practical applications of research on autonomy can be found everywhere. Insofar as people who are acting autonomously are more persistent, perform better, and are more adjusted, it becomes important to identify factors in the real world that facilitate autonomy. Thus there has been a lot of research on how to support autonomy in domains such as education, sport, work, health care, and psychotherapy. Across domains, both the structure of incentives and supervision styles have been shown to influence autonomy and the positive outcomes associated with it.

Autonomy also is something that can be cultivated from within. Because autonomy concerns regulating behavior through the self, it is enhanced by a person's capacity to reflect and evaluate his or her own actions. One can learn to engage in reflection that is free, relaxed, or interested, which can help one to avoid acting from impulse or from external or internal compulsion. Within self-determination theory, such reflective processing is characterized by the concepts of

awareness and *mindfulness*. Greater mindfulness can help people be clearer about why they are acting as they are and can provide information that helps them subsequently act with more sense of choice and freedom.

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*See also* Control; Self-Determination Theory

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## AVAILABILITY HEURISTIC

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### Definition

The availability heuristic describes a mental strategy in which people judge probability, frequency, or extremity based on the ease with which and the amount of information that can be brought to mind. For example, people may judge easily imaginable risks such as terrorist attacks or airplane crashes as more likely than the less easily imaginable (but objectively more likely) risks of influenza or automobile accidents.

### Context, Consequences, and Causes

Availability was one of three judgmental heuristics (or mental shortcuts), along with representativeness and anchoring and adjustment, that Amos Tversky and

Daniel Kahneman hypothesized people adopt to simplify complex judgments. Because information about events that are more likely, frequent, or extreme is typically more available than information about events that are less likely, frequent, or extreme, the availability heuristic typically yields accurate judgments. However, the heuristic can also produce biased and erroneous judgments—as illustrated by people’s perception that terrorist bombings are more risky than influenza—because cognitive availability can be influenced by factors, such as media coverage or vividness, that are unrelated to probability, frequency, or extremity.

Researchers believe that the availability heuristic is partly responsible for several judgmental biases. People who live together, for instance, tend to claim too much responsibility for collaborative efforts such as washing dishes and starting arguments, partly because it is easier for people to think about their own contributions than to think about their cohabitants’ contributions. People also overestimate the magnitude of the correlation between clinical diagnoses (e.g., depression) and invalid diagnostic tests (e.g., drawing a frowning face), because diagnoses and tests that go together are more available than unrelated diagnoses and tests.

Researchers distinguish between two aspects of availability: the amount of information retrieved (e.g., the number of terrorist bombings) and the subjective experience of retrieving information (e.g., the perceived ease with which people can remember terrorist bombings). The amount of information retrieved and the experience of retrieving information often are confounded; that is, information that is more plentifully retrieved is also more easily retrieved. In a series of experiments, Norbert Schwarz and colleagues demonstrated that the experience of retrieving information influences judgments independent of—and sometimes in spite of—the amount of information retrieved. In one experiment, participants were asked to list either three or nine examples of chronic diseases. Participants who listed three examples judged chronic diseases to be more prevalent than those who listed nine examples because listing three examples is easier than listing nine examples even though three is less than nine.

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*See also* Anchoring and Adjustment Heuristic; Illusory Correlation; Representativeness Heuristic

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## AVERSIVE RACISM

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### Definition

Aversive racism is a form of contemporary racism that, in contrast to the traditional form, operates unconsciously in subtle and indirect ways. Aversive racists regard themselves as nonprejudiced but, at the same time, harbor negative feelings and beliefs about members of minority groups. Aversive racism was originally hypothesized to characterize the attitudes of many well-educated and liberal Whites in the United States, toward Blacks, but the basic principles apply to the attitudes of members of dominant groups toward minority groups in other countries with strong contemporary egalitarian values but discriminatory histories or policies. Despite its subtle expression, aversive racism has resulted in significant and pernicious consequences, in many ways paralleling the effects of traditional, overt racism (e.g., in the restriction of economic opportunity).

### Nature of the Attitudes

Like other forms of contemporary racism, such as symbolic and modern racism (which focus on people with conservative values), the aversive racism framework views contemporary racial attitudes as complex. A critical aspect of the aversive racism framework is the conflict between positive aspects of people’s conscious attitudes, involving the denial of personal prejudice, and underlying unconscious negative feelings toward, and beliefs about, particular minority groups. Because of current cultural values in the United States, most Whites have strong convictions concerning fairness, justice, and racial equality. However, because of a range of normal cognitive, motivational, and

sociocultural processes that promote intergroup biases, most Whites also develop some negative feelings toward, or beliefs about, Blacks, of which they are unaware or which they try to dissociate from their non-prejudiced self-images. These processes include the spontaneous categorization of people as ingroup and outgroup members on the basis of race (and the associated cognitive biases), motivations for status for one-self and one's group, and sociocultural processes that promote stereotypes and system-justifying ideologies. Consistent with the aversive racist framework, Whites' conscious (explicit) and unconscious (implicit) attitudes are typically dissociated.

### Subtle Bias

The aversive racism framework also identifies when discrimination against Blacks and other minority groups will or will not occur. Because aversive racists consciously endorse egalitarian values, they do not discriminate in situations with strong social norms, which would make discrimination obvious to others and to themselves. In these contexts, aversive racists are especially motivated to avoid feelings, beliefs, and behaviors that could be associated with racist intent. However, aversive racists also possess unconscious negative feelings and beliefs, and these feelings are typically expressed in subtle, indirect, and easily rationalized ways. Aversive racists discriminate in situations in which normative structure is weak or when they can justify or rationalize negative responses on the basis of factors other than race. Under these circumstances, aversive racists engage in behaviors that ultimately harm Blacks but in ways that perpetuate their nonprejudiced self-image. In addition, aversive racism often involves more positive reactions to Whites than to Blacks, reflecting a pro-ingroup rather than an anti-outgroup orientation, thereby avoiding the stigma of overt bigotry and protecting a nonprejudiced self-image.

Evidence in support of the aversive racism framework comes from a range of paradigms, including studies of helping behavior, selection decisions, juridic judgments, and interracial interaction. For example, in personnel or college admission selection decisions, Whites do not discriminate on the basis of race when candidates have very strong or weak qualifications. Nevertheless, they do discriminate against Blacks when the candidates have moderate qualifications and the appropriate decision is therefore more ambiguous. In

these circumstances, aversive racists weigh the positive qualities of White applicants and the negative qualities of Black applicants more heavily in their evaluations, which provide justification for their decisions. In interracial interactions, Whites' overt behaviors (e.g., verbal behavior) primarily reflect their expressed, explicit favorable racial attitudes, whereas their more spontaneous and less-controllable behaviors (e.g., their non-verbal behaviors) are related to their implicit, generally more negative, unconscious attitudes.

### Combating Aversive Racism

Traditional prejudice-reduction techniques have been concerned with changing old-fashioned racism and obvious expressions of bias. However, traditional techniques that emphasize the immorality of prejudice are not effective for combating aversive racism; aversive racists recognize that prejudice is bad, but they do not recognize that *they* are prejudiced.

Nevertheless, aversive racism can be addressed with techniques aimed at its roots at both individual and collective levels. At the individual level, strategies to combat aversive racism can be directed at unconscious attitudes, for example, with extensive training to create new, counterstereotypic associations with Blacks. In addition, because aversive racists consciously desire to be egalitarian, inducing aversive racists to become aware of their unconscious negative attitudes motivates them to try to inhibit their bias in both thoughts and action.

At the intergroup level, interventions may be targeted at changing the ways people categorize others. One such approach, the common ingroup identity model, proposes that if members of different groups (e.g., Whites and Blacks) think of themselves in terms of shared group identities (e.g., as Americans), intergroup attitudes will improve. Under these circumstances, pro-ingroup biases will be redirected to others formerly seen as outgroup members thereby producing more positive feelings toward them and reducing intergroup bias. Many of the conditions outlined by the contact hypothesis and other anti-bias interventions reduce bias, at least in part, by creating a sense of a common ingroup identity.

### Summary

Although aversive racism is expressed in indirect and easily rationalized ways, it operates to systematically

restrict opportunities for Blacks and members of other traditionally underrepresented groups, contributes to miscommunication between groups, and fosters a climate of interracial distrust. Understanding the nature of aversive racism can help contribute to policies that inhibit its effects (e.g., by focusing responsibility on decision makers) and help identify new techniques for eliminating unconscious bias.

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*See also* Prejudice; Racism; Stereotypes and Stereotyping

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## AWE

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### Definition

Awe refers to an intense emotional response people may have when they encounter an object, event, or person that is extraordinary. Things that elicit awe are typically vast in size, significance, or both. Frequent elicitors of awe include nature, natural disasters, grand architecture and historical ruins, supernatural or spiritual experiences, scientific or technological marvels, childbirth, and being in the presence of powerful or celebrated individuals.

Awe involves some degree of surprise, disbelief, or disorientation as one strives to assimilate the presence of the extraordinary and make it conform to one's expectations, prior experiences, and beliefs about what is possible. Quite often, awe results in the need to alter

existing belief structures—sometimes in profound and life-changing ways—to accommodate the experience and its implications. This process of change and reorientation may take moments or days and can range in tone from pleasant to terrifying, depending on the situation and the individual's personality.

The roots of the word *awe* lie in Germanic words for fear and terror, and early religious uses of *awe* almost always involve fear (as the result of interactions with the Divine). In modern times, however, the word *awe* is used most often to describe experiences that are positive.

### History and Context

Awe has long been associated with religious traditions, which typically emphasize the life-transforming aspects of awe. Numerous religious texts tell stories that center around a moment of awe in the transformation of an ordinary person into a saint, prophet, or hero (e.g., St. Paul in the New Testament, Arjuna in the Bhagavad Gita). Upon recovery from the experience, the awe-inspired individuals then go forth and spread word of it, often performing great deeds or miracles that induce awe (and awe-inspired changes) in those who witness or (more typically) hear about them. In modern times, a central moment of awe appears frequently in the religious conversion narratives analyzed by William James in *The Varieties of Religious Experience*. Indeed, the experience of awe is often so transformative that many people find it fitting to speak of having been “born again” into a new and more harmonious configuration of self.

Some 60 years after William James, Abraham Maslow made major contributions to the literature on awe. Maslow spent years analyzing people's reports of their encounters with the extraordinary. Maslow used the term *peak experience* to refer to these moments of deep insight and awe, during which new perspectives are revealed to people. Maslow maintained that all humans are capable of having peak experiences, although some appear to be more prone to them than others. He referred to such people as *Peakers* (as opposed to *non-Peakers*) and speculated that they were likely to have greater well-being, deeper relationships, and more meaning in life—predictions that continue to be of great interest to contemporary research psychologists. Maslow also maintained that non-Peakers could learn to become more like Peakers.

Maslow compiled a list of 25 of the most common aftereffects of peak experiences. Included are lack of concern about the self, decreased materialism, feelings of overwhelming positivity (including feelings that the world is good and desirable), transcendence of dichotomies, and increased receptivity to change.

### Awe in Contemporary Society and Psychological Research

Awe, and the pursuit of awe, is a major influence on contemporary culture and the world's economies. People spend billions of dollars per year to visit exotic islands, sacred ruins, grand cathedrals, castles, and national parks. They climb mountains, ride in hot air balloons, sky dive, scuba dive, and take their wide-eyed children to Disney's Magic Kingdom. One of the best illustrations of the relevance of awe to contemporary culture may be found in Hollywood. A content analysis of the top 100 highest-grossing movies of all time indicates that epic, awe-eliciting movies (such as *Lord of the Rings* or *Star Wars*) account for an inordinately high percentage of the top 50 (relative to the bottom 50). Awe is indeed a draw.

While the pursuit of awe has long been a popular pastime, empirical work on awe within the field of psychology is in its infancy. Most of what is known about awe comes from people's retrospective reports of their experiences. Although such methods can add much to researchers' knowledge of awe (as was the case with James's and Maslow's work), experiments that use random assignment and adequate control conditions are typically preferable. Several emotion theorists have justified the paucity of research on awe by arguing that awe is not a "basic" emotion and is therefore less worthy of attention than are other emotions. The term *basic emotion* refers to those six emotions (anger, disgust, fear, joy, sadness, and surprise) that have been shown to have a universal facial expression. Numerous emotions not determined to be basic (e.g., love, guilt, shame, and gratitude) have, however, received ample attention within the psychological literature.

One impediment to the experimental study of awe has been the difficulty of eliciting awe in a laboratory setting. Recent technological advances have, however, made such an undertaking more feasible. Research psychologists are currently using digital video, large screen televisions, vast environments, and virtual reality to begin to elicit awe in the lab and study it experimentally with random assignment and adequate control conditions.

Work has also begun to investigate individual differences in responsiveness to awe. A recent theoretical paper by Dacher Keltner and Jonathan Haidt proposes that individuals who are highly responsive to beauty, nature, and human excellence may also be more responsive to awe experiences and may be more likely to seek them. Like the people Maslow dubbed Peakers, those with higher responsiveness are expected to experience greater overall well-being and be more resilient to stress.

Compelling stories about the unique and powerful ability of awe to make people more malleable and receptive to change (both personal and societal) have been documented for millennia. It is only now, however, that research psychologists are beginning to catch up with thinkers in philosophy and religion in studying the emotion of awe.

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*See also* Emotion; Search for Meaning in Life

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## BABYFACENESS

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### Definition

Babyfacedness refers to a configuration of facial qualities that differentiates babies from adults. A baby's head is characterized by a large cranium with a perpendicular forehead and small lower face with a receding chin. Compared with adults, babies also have relatively large eyes, full cheeks, fine eyebrows, and a "pug" nose. Although the appearance of babies defines babyish facial qualities, babyfacedness is not synonymous with age. At every age level, including infancy and older adulthood, some individuals are more babyfaced than others. Thus, a more babyfaced adult could be younger or older than one who is more maturefaced. More babyfaced individuals share certain features with babies, such as rounder faces, larger eyes, smaller noses, higher foreheads, and smaller chins. There are babyfaced and maturefaced individuals of both sexes, although women's facial anatomy tends to resemble that of babies more than men's does. Babyfaced individuals also are found among people of all racial backgrounds, which is consistent with the fact that the differences in facial appearance between babies and adults are similar for all humans. Indeed, there are even some similarities across species.

### Context and Importance

Recognizing babies and responding appropriately to them has had great evolutionary importance. Those who didn't do so were certainly less likely to have

passed their genes on to the next generation. Thus we have evolved a ready recognition of babies' distinctive appearance qualities that generalizes to people of all ages who resemble babies. There is high agreement in perceiving some adults as more "babyfaced" than others. Moreover, people can recognize babyish facial features in a racially unfamiliar person just as well as in someone from their own group. The ability to identify babyfaced individuals develops at an early age. Not only can infants differentiate babies from older individuals, but also they discriminate between babyfaced and maturefaced people of the same age by showing a preference for looking at the more babyfaced person. Young children are able to show their keen sensitivity to variations in babyfacedness with words. When shown two photographs of young adults and asked which one looks "most like a baby," children as young as 3 years old tended to choose the same face that college students judged as the more babyfaced of the two.

Individuals who resemble babies experience effects far more significant than just being labeled babyfaced. Just as babies deter aggression and elicit warm, affectionate, and protective responses, babyfaced individuals of all ages elicit unique social interactions. These derive from the tendency to perceive them as having more childlike traits, including naïveté, submissiveness, physical weakness, warmth, and honesty.

A sense that babyfaced individuals should be protected from those who are more maturefaced is revealed in the finding that more babyfaced plaintiffs in small claims court are awarded more compensation from maturefaced than babyfaced perpetrators. Other evidence of stronger protective responses to babyfaced

individuals is provided by the finding that people who find a lost letter with a resume enclosed are more likely to return it when the photo on the resume shows a babyfaced than a maturefaced person. A sense that babyfaced individuals are naïve is revealed in the finding that adults speak more slowly when teaching a game to babyfaced 4-year-olds than when teaching the same game to more maturefaced 4-year-olds and in the finding that adults assign less cognitively demanding chores to babyfaced than maturefaced 11-year-olds. The perception that babyfaced individuals are submissive is revealed in the finding that they are less likely to be recommended for jobs requiring leadership than are equally qualified maturefaced job applicants. On the other hand, those who are more babyfaced are more likely to be recommended for jobs requiring warmth. A job applicant's babyfacedness made as much of a difference in job recommendations as the applicant's sex, and the actual jobs that people held were influenced as much by their babyfacedness as by their personality traits, further demonstrating the power of babyfacedness to influence social outcomes.

The perception of babyfaced individuals as more honest and naïve than their maturefaced peers has significant consequences for their judged culpability when accused of wrongdoing. Adults perceive the misbehavior of babyfaced children as less intentional than the same misdeeds by maturefaced children of the same age. Similarly, babyfaced adults are less likely to be convicted of intentional crimes than their maturefaced peers. In contrast, babyfaced adults are more likely to be convicted of negligent crimes, consistent with stereotyped perceptions of their naïveté. These effects have been found not only in laboratory experiments but also in actual trials in small claims courts. Interestingly, when babyfaced adults or children admit committing intentional wrongdoing, they are punished *more* severely than the maturefaced, whereas they are punished less severely for acknowledged negligent acts. It seems that others react more harshly to people's negative behavior when their appearance makes that behavior very unexpected.

One might wonder whether babyfaced individuals actually have the traits that others expect. Although others' expectations may sometimes elicit confirming behavior from babyfaced individuals in a particular social interaction, evidence suggests that babyfaced people do not reliably show the expected traits. Indeed, there are documented differences between babyfaced and maturefaced people that are *opposite* to the stereotypes. More babyfaced young men tend to be more

highly educated, contrary to impressions of their naïveté, more assertive and likely to earn military awards, contrary to impressions of their submissiveness and weakness, and more likely to be juvenile delinquents when they come from a high risk population, contrary to impressions of their honesty. Although these differences are small, they still call for an explanation. One possibility is that babyfaced young men try so hard to refute others' stereotypes of them that they overcompensate.

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*See also* Evolutionary Psychology; Halo Effect; Stereotypes and Stereotyping

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## BAD IS STRONGER THAN GOOD

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### Definition

*Bad is stronger than good* refers to the phenomenon that the psychological effects of bad things outweigh those of the good ones. Bad usually refers to situations that have unpleasant, negative, harmful, or undesirable outcomes for people, while good usually refers to situations that have pleasant, positive, beneficial, or desirable outcomes for people. Bad things have stronger effects than good things for virtually all dimensions of people's lives, including their thoughts, their feelings, their behavior, and their relationships. Few topics in social psychology have approached the generality and validity of bad is stronger than good across such a broad range of human behavior.

### Context and Importance

The bad is stronger than good phenomenon is at the heart of a centuries-old debate, namely, the relative importance of good and bad forces in the struggle of

humankind. History is replete with stories on gods and devils fighting to get the upper hand on humanity. In everyday life, people are confronted with a continuous battle between what is good and what is bad. These battles may concern important issues, for example, behaving altruistically, such as by missing an important interview to help a friend, versus behaving selfishly, such as by refusing to help a friend to attend the interview that may double one's salary. They may also concern mundane issues, such as eating a healthy meal versus devouring a meal at one's favorite junk food restaurant, staying sober versus drinking a glass of beer, or studying for one's exam versus going out with one's friends. Reflecting its importance in people's lives, almost everybody, even little children, know the difference between what is good and what is bad.

What form does this eternal struggle take in social psychology? Ample research in social psychology provides evidence showing that bad is stronger than good. That is, negative events have a greater impact on us than positive events. For example, people are more distressed by the loss of \$50 than they are made happy by finding \$50. This does not necessarily mean that bad will triumph over good. Some researchers suggest that good may prevail over bad by outnumbering it. To illustrate, within good, lasting relationships, friends and intimate partners have approximately five good interactions for each negative interaction. Thus, many good interactions can override the negative effects of one bad interaction. Given equal numbers of good and bad, however, the effects of bad ones are generally stronger than those of the good ones.

The most recognized reason that bad is stronger than good is evolutionary. Organisms that are attuned to preventing bad things are suggested to flourish and thrive more than those oriented primarily toward maximizing good things. A person who ignores the danger of fire may not live to see the next day. A person who ignores the pleasures of a fun night out may lose nothing but that, a fun night out. People's survival and well-being thus seem to require more urgent attention to avoiding bad outcomes than to approaching good outcomes.

## Evidence

A broad variety of evidence confirms the relative strength of bad over good. Probably the strongest evidence is provided by research on relationships. Initially, it was argued that human beings have a

fundamental need to belong, their central task and goal in life being to sustain a network of close, positive, and long-lasting relationships. As it turned out, however, the need to belong does not concern a need for positive interactions as much as a need for non-negative interactions. A closer look at the evidence from relationship research does indeed suggest that the harmful effects of bad relationship characteristics outweigh the beneficial effects of good characteristics of relationships. Typically, in studies on relationships, couples are videotaped for about 15 minutes during which they talk about various topics such as their marital problems or how their day went. Couples' verbal and nonverbal behavior during these interactions is registered and coded as positive or negative.

Reflecting the principle that bad is stronger than good, the findings generally show that the presence or absence of negative behaviors is more strongly related to the quality of a relationship than the presence or absence of positive behaviors. Thus, increasing positive behaviors will affect the relationship less strongly than decreasing the negative behaviors. This has been found in longitudinal studies, daily interactions among spouses, parents, and parents and children. Thus, based on bad is stronger than good, advice for good relationships is not "do the good things" but "do not do the bad things."

Overall the evidence is clear and consistent that bad is stronger than good within relationships. However, bad is stronger than good is not just a relational phenomenon, but reflects a general principle among a broad range of psychological phenomena. For instance, research on how people form impressions of others has found that negative information receives more attention, is processed more thoroughly, and contributes more strongly to an impression than does positive information. Similarly, in the language of emotions and emotion-related words, there is consistent evidence that humans have many more (one-and-a-half times more) words for negative emotions than for positive emotions. With respect to self-esteem, perceptions of rejections appear to be much more important to people's self-esteem and sense of worth than perceptions of acceptance. Research on affective forecasting shows that people overestimate the enduring impact of negative events much more than they overestimate the effect of positive events. As a final example, threatening faces in a crowd are more rapidly detected than are smiling faces.

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*See also* Evolutionary Psychology; Loss Aversion; Need to Belong

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## BALANCE THEORY

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### Definition

Balance theory describes the structure of people's opinions about other individuals and objects as well as the perceived relation between them. The central notion of balance theory is that certain structures between individuals and objects are balanced, whereas other structures are imbalanced, and that balanced structures are generally preferred over imbalanced structures. Specifically, balance theory claims that imbalanced structures are associated with an uncomfortable feeling of negative affect, and that this negative feeling leads people to strive for balanced structures and to avoid imbalanced structures. An example for a balanced structure is when your best friend also likes your favorite rock band; an example for an imbalanced structure is when your best friend dislikes your favorite rock band. According to balance theory, the first case makes you feel good, whereas the second case creates an uncomfortable tension.

### Theoretical Assumptions

The original formulation of balance theory was designed to describe the pattern of relations between three individuals. Such relation patterns between three objects or individuals are often referred to as “triadic” relations. From a general perspective, a triadic relation between three individuals includes (a) the relation between a first person A and a second person O, (b) the relation between the second person O and a third person X, and (c) the relation between the first person A and the third person X (also described as A-O-X triad). In addition, it is assumed that the specific relations between two individuals can be positive (i.e., the two individuals like each other) or negative (i.e., the two individuals dislike each other). According to

balance theory, a triad is balanced when it includes either no or an even number of negative relations. In contrast, a triad is imbalanced when it includes an odd number of negative relations. For example, the resulting triad of relations between Peter, John, and Paul would be balanced if (a) Peter likes John, John likes Paul, and Peter likes Paul; (b) Peter likes John, John dislikes Paul, and Peter dislikes Paul; (c) Peter dislikes John, John likes Paul, and Peter dislikes Paul; or (d) Peter dislikes John, John dislikes Paul, and Peter likes Paul. However, the resulting triad would be imbalanced if (a) Peter dislikes John, John likes Paul, and Peter likes Paul; (b) Peter likes John, John dislikes Paul, and Peter likes Paul; (c) Peter likes John, John likes Paul, and Peter dislikes Paul; or (d) Peter dislikes John, John dislikes Paul, and Peter dislikes Paul.

Even though balance theory was originally developed to explain patterns of interpersonal relations, it has also been applied to study attitudes and opinions about objects. For example, a triad including Sarah, Alice, and country music would be balanced if Sarah likes Alice, Alice likes country music, and Sarah also likes country music. However, the resulting triad would be imbalanced if Sarah likes Alice, Alice likes country music, but Sarah dislikes country music.

Over and above these assumptions for personal sentiments, balance theory assumes that a positive relation can also result from the perception that two objects or individuals somehow belong together. Conversely, a negative relation can result from the perception that two objects or individuals do not belong together. Such kinds of relations are typically called “unit relations.” Positive unit relations can result from any kind of closeness, similarity, or proximity, such as membership in the same soccer team, similar hair style, or same ethnic background. In contrast, negative unit relations can result from distance, dissimilarity, or distinctness, such as membership in different soccer teams, different hair style, or different ethnic background.

### Evidence

The distinction between balanced and imbalanced triads has been shown to have important implications for a variety of different domains. First, research has shown that the uncomfortable feeling associated with imbalanced patterns influences the formation of new attitudes. Specifically, it has been demonstrated that newly formed attitudes usually complete triadic relations in a manner such that the resulting triad is

balanced rather than imbalanced. For example, if Sarah learns that a yet unknown individual is liked by her friend Alice, Sarah will form a positive attitude toward this individual. However, if Sarah learns that the same individual is disliked by her friend Alice, Sarah will form a negative attitude toward this individual.

Second, research has demonstrated a general superiority in memory for balanced as compared to imbalanced information. For instance, people show higher accuracy in recalling balanced patterns such as “Peter likes John, John dislikes Paul, and Peter dislikes Paul.” However, people show lower accuracy in recalling imbalanced patterns such as “Peter likes John, John dislikes Paul, and Peter likes Paul.” This difference in memory performance is even more pronounced when the triad includes the perceiver (e.g., “I like John, John dislikes Paul, and I dislike Paul”).

Third, balance principles have been shown to have important implications for people’s identity and the way people feel about themselves. Research in this area has shown that mental associations between the self and a particular group, evaluations of this group, and personal evaluations of oneself typically show patterns that can be described as balanced rather than imbalanced. For instance, if a Black person has a strong mental association between the self and the category Black, and in addition shows a positive evaluation of the category Black, this person will also exhibit a positive self-evaluation (i.e., “I’m Black, Black is good, therefore I’m good”). However, if a Black person has a strong mental association between the self and the category Black, but shows a negative evaluation of the category Black, this person will likely exhibit a negative self-evaluation (i.e., “I’m Black, Black is bad, therefore I’m bad”). According to balance theory, this transfer of evaluations is due to the inherent “unit” between the self and the category Black.

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*See also* Cognitive Consistency; Cognitive Dissonance Theory

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## BARNUM EFFECT

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### Definition

The Barnum effect refers to personality descriptions that a person believes applies specifically to them (more so than to other people), despite the fact that the description is actually filled with information that applies to everyone. The effect means that people are gullible because they think the information is about them only, when in fact the information is generic.

### History and Modern Usage

The Barnum effect came from the phrase by the circus showman P. T. Barnum who claimed a “sucker” is born every minute. Psychics, horoscopes, magicians, palm readers, and crystal ball gazers make use of the Barnum effect when they convince people that their description of them is highly special and unique and could never apply to anyone else.

The Barnum effect has been studied or used in psychology in two ways. One way has been to create feedback for participants in psychological experiments who read it and believe it was created personally for them. When participants complete an intelligence or personality scale, sometimes the experimenter scores it and gives the participant his or her real score. Other times, however, the experimenter gives participants false and generic feedback to create a false sense (e.g., to give the impression they are an exceptionally good person). The reason that the feedback “works” and is seen as a unique descriptor of an individual person is because the information is, in fact, generic and could apply to anyone.

The other way that the Barnum effect has been studied is with computers that give (true) personality feedback to participants. Personality ratings given by computers have been criticized for being too general and accepted too easily. Some researchers have done experiments to see if people view actually true feedback as being any more accurate than bogus feedback. People do see actually true descriptions of themselves as more accurate than bogus feedback, but there is not much of a difference.

The Barnum effect works best for statements that are positive. People are much less likely to believe that a statement applies to them when it is a negative statement, such as “I often think of hurting people

who do things I don't like." Thus, Barnum effect reports primarily contain statements with mostly positive items, such as the items listed here. Note that the negative phrases are offset by something positive to end the statement.

- "You have an intense desire to get people to accept and like you."
- "Sometimes you give too much effort on projects that don't work out."
- "You prefer change and do not like to feel limited in what you can do."
- "You are an independent thinker who takes pride in doing things differently than others."
- "Sometimes you can be loud, outgoing, and a people-person, but other times you can be quiet, shy, and reserved."
- "You can be overly harsh on yourself and very critical."
- "Although you do have some weaknesses, you try very hard to overcome them and be a better person."

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*See also* Deception (Methodological Technique); Self-Serving Bias

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## BASE RATE FALLACY

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### Definition

Imagine that you meet Tom one evening at a party. He is somewhat shy and reserved, is very analytical, and enjoys reading science fiction novels. What is the likelihood that Tom works as a computer scientist? The answer depends on both the knowledge you have about Tom and the number of computer scientists that exist in the population. Tom fits the stereotype of a computer scientist, but there are relatively few computer scientists in the general population compared to all other occupations. The knowledge you have about Tom is often called *individuating* or *case-based* information, whereas knowledge about the number of

computer scientists in the general population is often called *distributional* or *base rate* information. When presented with both pieces of information—be it when judging the risk of contracting a disease, when judging the likelihood of a defendant's guilt, or when predicting the likelihood of future events—people often base their judgments too heavily on case-based or *individuating* information and underutilize or completely ignore *distributional* or *base-rate* evidence. Underutilizing or ignoring base-rate evidence in intuitive judgments and decision making is known as the *base rate fallacy*.

### Background

The classic scientific demonstration of the base rate fallacy comes from an experiment, performed by psychologists Amos Tversky and Daniel Kahneman, in which participants received a description of 5 individuals apparently selected at random from a pool of descriptions that contained 70 lawyers and 30 engineers, or vice versa. Participants were asked to predict whether each of the 5 individuals was a lawyer or an engineer. The compelling result was that participants' predictions completely ignored the composition of the pool (i.e., the base rates, meaning whether the pool was made up of 30% lawyers or 70% lawyers) from which the descriptions were drawn. Instead, participants seemed to base their predictions of each person's occupation on the extent to which the description resembled, or was similar to, the prototypical lawyer or engineer. Relying on this *representativeness heuristic* led participants to completely disregard the base rates that should also have been incorporated into their predictions.

Results like these have been replicated in a wide variety of contexts since this initial demonstration. Underutilizing population base rates has been used, for instance, to explain why people are overly concerned about extremely rare events (such as dying in a terrorist attack or contracting a rare disease), why people pay for insurance they do not need, and why doctors misdiagnose their patients. However, broad conclusions about the general existence and robustness of the base rate fallacy in daily life have become quite controversial for two reasons. First, experimental results often show that people do indeed utilize base rates at least some of the time. Empirical research simply does not support the claim that people completely ignore base rate evidence when making judgments and decisions. Second, statisticians have pointed out the difficulty in determining exactly how much people

should incorporate base rates into their judgments in daily life. It is therefore difficult, in some contexts, to argue that people *should* incorporate base rates into their judgments and decisions that they naturally ignore or apparently underutilize.

### Evidence

Empirical evidence suggests that base rates are sometimes completely ignored and at other times are utilized appropriately. The key issue for social psychologists, then, is to understand when the base rate fallacy is likely to emerge and when it is not. At least four major factors are known to moderate people's use of base rates in judgments and decisions.

First, people are more likely to utilize base rates when making repeated judgments of events with different base rates than when making a single judgment of an event with only one base rate. Making repeated judgments highlights the varying base rates between events in a way that a single judgment alone does not, and therefore increases the likelihood that people will utilize those base rates when rendering their judgments. People judging the likelihood that they will experience each of three accidents, such as a gunshot wound, a paper cut, or a sprained ankle, will be more sensitive to the base rates of those accidents in the population than people judging the likelihood that they will experience *only one* of those accidents (without mention of the other two accidents).

Second, people are more likely to use base rates when they have no individuating or case-specific information to use in its place. People are more likely to utilize base rates, for instance, when predicting the behavior of a randomly selected person than when predicting their own behavior, in large part because no individuating or case-based information is available for the "random person" but a good deal of individuating information is present when predicting one's own behavior.

Third, people are more likely to utilize base rates when they are perceived to be valid and reliable. Base rate information about elderly adults, for instance, is more likely to be utilized when making judgments about elderly adults than when making judgments about young adults. Base rates tend to be ignored when they are perceived to be invalid and unreliable.

Finally, people are more likely to use base rates when they are presented as frequencies than when they are presented as single-case probabilities. People would be more sensitive to the actual population base

rates, for instance, when predicting how many commercial airplane flights out of 1,000 will crash due to mechanical malfunctions than when predicting the likelihood (from 0% to 100%) that any single airplane flight will crash due to mechanical malfunctions.

### Importance

Both trivial and important decisions are often based on the perceived likelihood of events. People avoid flying if they believe the likelihood of a crash is high, marry a dating partner if they believe the likelihood of divorce is low, and start new businesses depending on the perceived likelihood of success. Nearly all likelihood judgments require the integration of case-based or individuating information and distributional or base rate evidence. Understanding when people are likely to utilize these base rates appropriately versus inappropriately provides insight into when people are likely to make good versus bad decisions, and understanding why people might sometimes commit the base rate fallacy provides insight for how to improve everyday decision making.

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*See also* Decision Making; Representativeness Heuristic

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## BASKING IN REFLECTED GLORY (BIRGING)

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### Definition

Basking in reflected glory, also known as BIRGing, refers to the tendency of individuals to associate themselves with the successful, the famous, or the celebrated. A baseball fan's use of the inclusive term *we* to describe the victory of his or her favorite team (as in "We won") is an example of BIRGing. Mentioning that one has taken a class taught by a Nobel Prize winner is also an example of basking in reflected glory. Other examples include recounting the story of a chance encounter with a celebrity, such as sitting next

to them on a plane or dining at the same restaurant, and mentioning that one is related to a famous politician or musician. Basking in reflected glory need not be limited to verbal associations (e.g., people are more likely to wear clothing affiliated with a winning team than a losing team).

### Background and History

Basking in reflected glory was first scientifically investigated in the mid-1970s by a team of researchers headed by Dr. Robert Cialdini. According to their research, after a winning football game, not only were college football fans more likely to wear clothing that endorsed the football team, they were more likely to use the pronoun *we* to describe the events of the game as compared to fans after a losing football game. In the case of a loss, college students distanced themselves from the football team, a tendency called cutting off reflected failure (CORFing). In the case of a team loss, the fans were less likely to wear clothing such as hats and T-shirts endorsing the team, and, when asked to describe the events of the game, they were more likely to use the pronoun *they* to describe the events (e.g., “They blew it”).

Basking in reflected glory has also been demonstrated outside the sports domain. For instance, people in Belgium who endorsed a political party that swept the national elections were more likely to display posters and lawn signs that endorsed their political part for a longer duration after an election than were those who endorsed the losing party. This suggests that people who place bumper stickers on their cars endorsing their preferred political party or candidate may be more likely to leave the sticker on the car after a win than a loss.

Basking in reflected glory is one of many *indirect* impression management tactics. When people engage in impression management, they emphasize certain qualities that they think will make the best impression on their audience. For instance, when a man on a date tries to impress his date (e.g., by mentioning his success in the workplace), he is trying to create the impression that he would be a good provider and therefore a good long-term partner. Similarly, a computer programmer trying to impress a prospective employer may mention that a computer program she developed won a prestigious reward. These are examples of a *direct* impression management tactic. Indirect impression management tactics such as BIRGing involve emphasizing or de-emphasizing connections with

others. For instance, in an attempt to convey the impression he would be a good long-term partner, that same man on a date may BIRG by emphasizing how close he is to his brother who is happily married. And in an attempt to convey competence, the computer programmer may BIRG by mentioning that she once worked with a celebrated computer programmer. So, individuals BIRG in an attempt to make themselves look better by associating themselves with the glorious rather than by directly boasting of their own gloriousness.

Basking in reflected glory serves to enhance people’s public image or self-esteem. However, the situations in which people BIRG vary, and certain situations may lead individuals to BIRG more. Because BIRGing is intended to enhance an individual’s self-esteem, people are more likely to engage in basking in reflected glory when their public self-image is threatened. For instance, people who receive feedback that they performed poorly on a test are more likely to engage in BIRGing than are people who receive feedback that they did well. However, the type of association people emphasize may vary. That is, if a person fails on a test of math ability, that person is more likely to emphasize his or her connection with an individual who is good at something other than math if given the option between basking in reflected glory of a math expert or sports expert. People do this because it makes them feel better to emphasize an association with a celebrated other; after all, it is something positive about themselves.

The connections people emphasize between themselves and others when they BIRG are often trivial connections (e.g., being a fan of a successful team, a member of a winning political party, or the relative of someone who met someone famous). It brings to light a positive yet trivial connection between the individual and the celebrity. However, these connections need not be trivial, and in some cases, basking in reflected glory may occur when the connections are strong (e.g., parents who place “my child is an honor’s student” bumper stickers on their cars are BIRGing).

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*See also* Impression Management; Self-Presentation

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## BEHAVIORAL CONTAGION

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### Definition

Behavioral contagion is the tendency for people to repeat behavior after others have performed it. People very often do what others do. Sometimes we choose to imitate others, for example, by wearing the same type of clothes as our friends. Most of the time, however, we are not aware of the fact that we copy behavior. Research shows that humans nonconsciously imitate a lot of behaviors. Examples are speech variables such as syntax, accents, speech rate, pauses, tone of voice and behavioral variables such as gestures, mannerisms, postures. Furthermore, we take over each other's facial expressions, moods, and emotions. Other well-known examples are laughter and yawning.

### Analysis

Why do we imitate? Whereas behavioral synchrony in many species of animals promotes safety (think of schools of fish or flocks of birds), in humans, imitation also serves other functions. First, imitation is a very efficient tool to understand others and learn from them. By doing what another does, we know what the other person is doing. We don't have to make the same mistakes and go through trial and error learning; rather, we can copy the best behavioral option immediately. This is also an efficient way to transfer skills and culture. In case of emotional contagion, when we take over the facial expression of our interaction partner, we feel what others feel, we understand them and can empathize with their pleasure or pain, which brings us to another function of imitation.

Imitation also serves a social function and is a powerful tool in bonding and binding people together: It functions as social glue. We like others who imitate us (as long as we don't notice it, otherwise it will feel awkward), act more prosocial toward them and feel closer to them. Many salespersons and other professionals know this aspect of imitation and use it in attempts to influence consumers or clients. Imitation or mirroring is often advised in commercial books on sales and influence tactics.

How do we imitate? The human brain seems to be wired for imitation. There is an intimate connection between perception and action, seeing and doing, in the human brain. A nice example of this intimate link is the so-called mirror neuron, discovered by a group of

Italian researchers in the mid-1990s. These brain cells are active both when people perform a certain behavior (e.g., grasping) and when we merely see someone else perform that behavior. These brain cells do not discriminate between our own and other people's behavior. Although there is no final word about these mirror neurons and whether they actually *cause* imitation, there is more and more evidence for the hypothesis that imitation is hardwired in the human brain. Researchers nowadays are trying to explain exactly how imitation works and how it is related to human characteristics such as empathy and mind reading.

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*See also* Mimicry; Similarity-Attraction Effect; Social Learning

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## BEHAVIORAL ECONOMICS

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### Definition

Everyday life is full of decisions and choices. Economic decisions are especially important to our lives whether we are deciding what to buy for lunch, shopping around for the best price on books, thinking about saving for vacation, or negotiating for a better salary. An important question for many researchers is how people make economic decisions. Specifically, researchers are interested in the assumptions, beliefs, habits, and tactics that people use to make everyday decisions about their money, work, savings, and consumption. Behavioral economics is a field of study that combines the techniques, methods, and theories of psychology and economics to research, learn about, and explain the economic behavior of real people. Whereas neoclassical economics has traditionally looked at how people *should* behave, behavioral economics tries to answer the question of *why* people act the way they do.

Behavioral economics can inform a variety of real-world phenomena, including stock market pricing, bubbles, crashes, savings rates, investment choices, buying

habits, consumption addiction, and risky behavior—all of which are important economic issues with tremendous monetary and lifestyle implications for all of us. Although behavioral economics is a relatively new field of study, it has attracted supporters in academia, industry, and public policy along with criticism from skeptics, who question its contribution and methods.

## History

As neoclassical microeconomics developed during the 20th century, psychology as an academic discipline was in its infancy—with techniques, theories, and methods that were not considered well developed by many academicians. As a result, those who studied economics viewed psychology skeptically, and the two disciplines developed independently. As psychology developed into a sound, theoretically based discipline, its theories and findings were nonetheless largely ignored by economists because of the long and separate history between the two disciplines. As a result, economists and psychology have tended to look at financial behavior through different lenses. Neoclassical economists tend to assume that human beings will, for the most part, act rationally when it comes to decision making and money. They also assume that people know what they want, try to always get the most that they can and consistently make the same types of choices under similar circumstances. On the other hand, psychologists have come to understand that human beings are prone to make mistakes, are fickle and inconsistent, and often do not get the best deal when making financial choices. Psychologists investigate the biases, assumptions, and errors that affect how people make decisions in all aspects of life. Over time, economists also began to wonder why financial markets and the individuals that participate in them did not always act according to traditional economic theory. The convergence of economics and psychology eventually created a new field of study referred to as *behavioral economics*.

## Theoretical Developments

The concept of *bounded rationality* is extremely important to understanding behavioral economics. Bounded rationality suggests that people are neither purely rational nor completely irrational in their economic behavior but instead try to be sensible and thoughtful economic decision makers. Bounded rationality further suggests that because human beings are limited in how much

information they can process at any one time, they are prone to errors and biases when they formulate their preferences and choices. We often make decisions based on emotion, whim, or by mistake. We sometimes even avoid making certain financial decisions, such as saving for retirement, because the process is just too complicated or we are having too much fun doing other things. People tend to cope with difficult economic decisions by using tricks like mental accounts, habits, heuristics (simple rules of thumb), satisficing (settling for a minimum but not the maximum level of an outcome), maximization, and selective processing of information. These are the phenomena that behavioral economists are interested in. Although traditional economists prefer to assume that people (or *agents* as they are referred to by economists) are perfectly rational and will try to maximize their own personal, financial gain (or *maximize utility* as economists like to say), bounded rationality suggests that we do not always choose the most rational or even the most optimal choice when making economic decisions.

A key paper in the development of behavioral economics was published in 1979 by Daniel Kahneman and Amos Tversky and introduced *prospect theory*, which stimulated interest in understanding the underlying psychological mechanisms of economic preference, judgment, and choice. In 2002, Vernon Smith (who was instrumental in developing economics into an experimental discipline) and Kahneman were awarded the Nobel Prize in Economics for their contributions to experimental and behavioral economics.

## Methodology

Behavioral economics tends to use experiments to test theories and hypotheses. However, more recent work has included many other techniques used in traditional economics studies, including field data, field experiments, and computer simulations. In addition, studies in behavioral economics have also used tools from social psychology and cognitive science—including brain scans, psychophysical techniques such as galvanic skin conductance, hormonal levels, and heart rate—to measure subject response.

Over the past 50 years, scientists have experimented with a number of hypothetical game scenarios to determine models of how people make choices in economic situations. Researchers often use games to simulate the kind of financial scenarios that happen in the real world. One game often used in behavioral economics

studies is the *ultimatum game*, which is also called the “take it or leave it” game. In the ultimatum game, a player, Ann, is given a sum of money (usually referred to in economics as an *endowment*) and is asked to split the money between herself and another player, Bob. At that point, Bob can decide whether to take it or leave it. In other words, if the split is accepted, each player gets what Ann had originally decided to give, but if Bob decides that the deal is not good enough, he can reject the deal and neither player will get anything, thereby ending the game. Classical game theory assumes that we will all act rationally and choose to maximize our own outcome. Therefore, according to game theory, Bob should accept any amount that Ann offers as long as it is more than zero, since something is better than nothing. If Ann assumes that Bob is perfectly rational, Ann will offer the minimum amount, say \$1, to Bob so that she is maximizing her own “expected utility.” However, in repeated experiments of the ultimatum game, a surprising outcome occurs. People don’t act rationally when they feel others are taking advantage of them, and people often choose to act altruistically so that a sense of fairness exists between the two players. Neither of these two strategies leads to a traditional type of income maximization.

Another game that is often used in behavioral economics experiments is called the *trust game*, or the stock broker game. Just as in the ultimatum game, Ann starts off with a pot of money, usually \$10, and she can choose to keep some of the money for herself and invest the remaining amount with Bob. Bob functions like a stock broker or a trustee. The money that Ann gives Bob is tripled, and Bob can now decide how much he wants to keep and how much he wants to give back to Ann. This game tests how altruistic, trusting, and trustworthy people are when it comes to money. Again, experiments have uncovered an interesting effect. If the game is repeated over many rounds, investors tend to invest about half of their money with the broker and the brokers tend to return to the investor more than was originally sent or about half the tripled amount. This indicates that people do not always try to get as much as they can for themselves, but instead try to play fair most of the time—especially when they are involved in multiple transactions with the same partner.

## Topics

A number of topics have been investigated by behavioral economists. Some of the key topics in behavioral

economics include *intertemporal choice*, *loss aversion*, *framing*, and *fairness*.

Intertemporal choice deals with how people choose to make decisions about events in the past, present, and future. Examples of the type of intertemporal choices that people make every day include deciding whether to save for retirement or choosing to buy a new outfit on impulse. While neoclassical economists assume that people discount the future at a rational and constant rate, behavioral economists look at how the psychology of an individual shapes the decisions and choices about the future.

Loss aversion is an important phenomenon investigated in seminal papers by Tversky and Kahneman. They found that people tend to value losses and gains differently. In fact, the research found that people are much more sensitive to suffering a “loss” than they are to netting a “gain.” According to neoclassical economics, people should value both losses and gains the same as long as the final outcome is the same. However, experiments have found that a loss is seen by most people as much more painful than the pleasure from an equal gain.

Framing is another important concept that developed from the loss aversion finding. Framing refers to how outcomes that are presented or stated to a person will influence which choice the person will make. An example of the framing effect can be seen in the *Asian disease problem*. The problem poses to research subjects a hypothetical situation wherein a disease threatens 600 citizens and the subjects need to choose between two options. In the positive frame, subjects are given the choice between (a) a 100% chance of saving 200 lives, or (b) a one-third chance of saving all 600 with a two-thirds chance of saving no one. In the negative frame, subjects are given the choice between (c) 400 people dying for sure, or (d) a two-thirds chance of 600 dying and a one-third chance of no one dying. Although all of the choices result in the same number of lives at risk, most people choose a over b in the positive frame, switching their preferences to choose d over c in the negative frame. Depending on which frame is presented, research subjects tend to change the type of solution they choose, which would be considered inconsistent and irrational by neoclassical economists.

Fairness is an interesting concept that seems to have a great deal of impact on economic choices, but it is not included in traditional economic models. Studies have found that people tend to reject inequality even if

it means walking away from a reward, which does not seem to indicate a rational agent in all situations. The ultimatum game and the trust game have been used in experiments to test when fairness, altruism, and trust influence economic decision making.

### New Directions

New research directions based on ideas and theories from behavioral economics have started to use methods developed in cognitive neuroscience. Advances in brain imaging technology (e.g., *functional magnetic resonance imaging*, or fMRI), in addition to clinical studies using patients with brain lesions compared to normal subjects, have been used to examine which neural substrates underlie economic decision making. This new area, coined as *neuroeconomics*, has opened up new areas of inquiry for behavioral economic questions. Neuroeconomics is interested not only in exposing brain regions associated with specific behavior but also in identifying neural circuits or systems of specialized regions that control choice, preference, and judgment.

### Criticism

Behavioral economics has been criticized in a number of ways. One criticism is that it focuses on anomalies in behavior instead of creating a unified theory that explains what people usually do. However, researchers in this area argue that anomalies in behavior may be just as important to understanding economic choice since these anomalies have proven to have powerful effects in markets. Examples of these powerful effects can be seen in bubbles and crashes in the stock or real estate markets, anger at the gas pump when prices rise too quickly, or conflict in deciding whether to save a tax refund or spend it on a fancy dinner.

In addition, some have criticized the validity of experiments (which are based in the laboratory) because they are seen as being too different from real-world situations. However, the use of repeated experimental tests of findings and the additional use of field data have been cited as substantiating the findings in the lab.

Current models of decision making only partially explain human behavior. When the actual behavior of real people is examined, these elegant, simple, mathematically based models are not always very accurate or realistic. Behavioral economists defend their discipline by arguing that behavioral economics augments

and informs these traditional economic models and provides a more realistic view of the how and why of financial decision making.

### Conclusion

Behavioral economics, like the related disciplines of behavioral finance, behavioral game theory, economic sociology, and neuroeconomics, attempts to enrich the classical theories of economics to build better theories, concepts, and models about economic decision making. By attempting to integrate psychological factors into economic theory, it is not the intent of behavioral economists to supplant the important contributions that traditional economics has made, but instead to enhance and augment economic theory so that a more complete and realistic view of economic behavior can be developed. Understanding market phenomena, such as stock market crashes and real estate bubbles, why people do or don't save, how people spend their money and how people make risky decisions, is important not only to academicians but also to public policymakers who seek to create as stable an economic system as possible to preserve the public good. Behavioral economics can even be applied to public health issues such as smoking and other risky behaviors by attempting to understand what economic mechanisms underlie people's consumption choices.

Above all, behavioral economics strives to improve understanding of the financial choices that are an important part of everyday life. Through experiments and field data, behavioral economics has been able to test new ideas about how people make economics choices in a variety of settings in an attempt to create better predictive models of economic and financial decision making and to hopefully help everyone make better financial choices.

*Dante Pirouz*

*See also* Bad Is Stronger Than Good; Decision Making; Delay of Gratification; Gain–Loss Framing; Prospect Theory; Research Methods

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Scientists studying belief perseverance have been most interested in cases in which people appear to cling too strongly to prior beliefs.

## Types

Three different types of belief perseverance have been extensively studied. One involves *self-impressions*, beliefs about oneself. Examples include beliefs about your athletic skills, musical talents, ability to get along with others, or even body image. Perhaps you know someone who is extremely thin but who persists in believing that he or she is too fat. Such a mistaken and perseverant belief can lead to serious consequences. Another involves *social impressions*, beliefs about specific other people. Examples include beliefs about your best friend, mother, or least favorite teacher. The third type involves *naïve theories*, beliefs about how the world works. Most perseverance research on naïve theories has focused on *social theories*, beliefs about people and how they think, feel, behave, and interact. Examples include stereotypes about teenagers, Asian Americans, Muslims; beliefs about lawyers, artists, firefighters; even beliefs about the causes of war, poverty, or violence.

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## BELIEF PERSEVERANCE

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### Definition

People tend to hold on to their beliefs even when it appears that they shouldn't. Belief perseverance is the tendency to cling to one's initial belief even after receiving new information that contradicts or disconfirms the basis of that belief. Everyone has tried to change someone's belief, only to have them stubbornly remain unchanged. For example, you may have had such debates concerning the death penalty, or abortion, or evolution.

In many cases, resistance to challenges to beliefs is logical and defensible. For example, if you've always done well in math classes, getting a "C" on a math test should not lead you to abandon your belief that you are usually good at math. However, in some cases people cling to beliefs that logically should be abandoned, or at least modified. There is overwhelming evidence that smoking increases the likelihood of contracting cancer and that exposure to media violence increases the likelihood of aggressive behavior. Yet, some people strongly deny these scientific truths.

### Studies

Early belief perseverance studies tested whether people sometimes truly cling to unfounded beliefs more so than is logically defensible. But, it is difficult to specify just how much a given belief "should" change in response to new evidence. One "C" on a math test should not totally overwhelm several years of "A"s in other math classes, but how much change (if any) is warranted?

There is one clear case in which researchers can specify how much belief change should occur. That case is when the basis of a specific belief is totally discredited. For example, assume that Mary tells José that the new student Sam is not very smart. José may even meet and interact with Sam for several days before learning that Mary was actually talking about a different new student. Because José knows that his initial belief about Sam's intelligence was based on totally irrelevant information, José's social impression about Sam should now be totally uninfluenced by Mary's initial statement. This essentially describes the *debriefing paradigm*, the primary method used to study unwarranted belief perseverance.

In the first belief perseverance study using this method, half of the research participants were led to believe that they had performed well on a social perceptiveness task; the other half were led to believe that they had performed poorly. Later, all were told that their performance had been manipulated by the researcher to see how participants responded to success or failure. Participants were even shown the sheet of paper that listed their name and whether they were supposed to be given success or failure feedback. Later, participants had to estimate how well they really did and predict how well they would do in the future on this task. Logically, those in the initial success and failure conditions should not differ in their self-beliefs about their actual or future performance on this social perceptiveness task, because initial beliefs based on the fake feedback should revert to their normal level once it was revealed that the feedback was faked. Nonetheless, participants who received fake success feedback continued to believe that they were pretty good at this task, whereas those who received fake failure feedback continued to believe that they were pretty bad at it. Other studies of self and social impressions have found similar effects concerning very different beliefs.

The first study of social theory perseverance used a similar debriefing paradigm to see whether fictitious information about the relation between the personality trait “riskiness” and firefighter ability could produce a perseverant social theory. In fact, after debriefing about the fictitious nature of the initial information, participants initially led to believe that risky people make better firefighters and those initially led to believe that risky people make poorer firefighters persevered in their initial beliefs.

At least three psychological processes underlie belief perseverance. One involves use of the “availability heuristic” to decide what is most likely to happen. When judging your own ability at a particular task, you are likely to try to recall how well you’ve done on similar tasks in the past, that is, how available (in memory) are past successes versus failures. But whether you recall more successes or failures depends on many factors, such as how memorable the various occasions were and how often you’ve thought about them, but not necessarily on how frequently you’ve actually succeeded or failed. A second process concerns “illusory correlation,” in which one sees or remembers more confirming cases and fewer disconfirming cases than really exists. A third process involves “data distortions,”

in which confirming cases are inadvertently created and disconfirming cases are ignored. For example, if you are told that a new student is rude, you are more likely to treat that person in a way that invites rudeness and to forget instances of politeness.

Research also has investigated ways to reduce belief perseverance. The most obvious solution, asking people to be unbiased, doesn’t work. However, several techniques do reduce the problem. The most successful is to get the person to imagine or explain how the opposite belief might be true. This de-biasing technique is known as *counterexplanation*.

Craig A. Anderson

*See also* Anchoring and Adjustment Heuristic; Attitude Change; Availability Heuristic; Illusory Correlation

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## BELIEFS

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### Definition

Beliefs are generally defined as convictions that things held in the mind are true. If individuals think particular tenets are likely to be true, they are said to believe them. If individuals think particular tenets are unlikely to be true, they are said to disbelieve them. In their most

basic form, beliefs are nonevaluative. For example, if one believes the sky is blue, that belief could either be positively evaluated (if the individual likes the color blue and thinks the sky would look worse in red), or that belief could be negatively evaluated (if the individual dislikes the color blue and thinks a red sky would be nicer). As such, there is a fine distinction between attitudes and beliefs. Often, beliefs will, at least partially, form the basis or foundation of attitudes.

Beliefs can also form the basis of behavior. An example of this is found in health psychology via the health belief model. In this model, health behavior is predicted by several types of beliefs: (a) beliefs about all of the possible consequences of engaging in or failing to engage in a particular health behavior, (b) beliefs about personal vulnerability (i.e., how likely is the occurrence of these outcomes for oneself), (c) beliefs about the likelihood that a behavioral change would either stop negative outcomes from occurring or would facilitate positive outcomes, and (d) beliefs about whether the necessary behaviors can be enacted. According to this model, behavior change occurs when individuals believe that a particular action leads to negative, likely consequences that could be personally stopped. This model has successfully predicted smoking cessation, skin cancer preventative behaviors, tooth flossing, breast self-examination, safer sexual behavior, and eating a balanced diet.

Beliefs are important foundations of attitudes and behavior, but they can be extremely difficult to change. Often, people will vehemently maintain their beliefs even in light of disconfirming evidence. This phenomenon is known as *belief perseverance*. Belief perseverance typically occurs because people base their beliefs on information that they find logical, compelling, or attractive in some way. Therefore, even when beliefs are seemingly disconfirmed by new evidence, the foundation for what the person believes may still exist. At times, the belief will still be maintained because of the remaining support of the explanation behind it.

Understanding how beliefs form and how they underlie subsequent attitudes and behaviors is important because it can aid understanding of social phenomena like prejudice and discrimination, helping and aggressive behaviors, impression formation, obedience to authority, interpersonal attraction, and group decision making. In general, beliefs are the most basic type of social knowledge.

*See also* Attitudes; Belief Perseverance

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## BENEVOLENT SEXISM

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### Definition

Benevolent sexism is a form of paternalistic prejudice (treating a lower status group as a father might treat a child) directed toward women. Prejudice is often thought of as a dislike or antipathy toward a group. Benevolent sexism, however, is an affectionate but patronizing attitude that treats women as needing men's help, protection, and provision (i.e., as being more like children than adults). Benevolently sexist attitudes suggest that women are purer and nicer than men, but also mentally weaker and less capable. Behaviors that illustrate benevolent sexism include overhelping women (implying they cannot do something themselves), using diminutive names (e.g., "sweetie") toward female strangers, or "talking down" to women (e.g., implying they cannot understand something technical).

Although benevolent sexism might seem trivial, patronizing behaviors can be damaging. For instance, people who see a woman repeatedly being treated chivalrously by a man (opening doors, pulling out chairs) view her as less independent. On the job, when women are given patronizing praise instead of promotions or important assignments, they become angry and their performance suffers. Patronizing praise that communicates low expectations (e.g., "You figured out how to tie your shoes—good for you!") is irritating and harmful. Because benevolent sexism is often more subtle, however, many women are induced to accept its promise of men's affection, protection, and help, without fully realizing that this can diminish their own independence and opportunities.

*Natalie D. Smoak*

## Measurement

Benevolent sexism is typically measured by assessing people's beliefs using the benevolent sexism scale, which is part of Peter Glick and Susan Fiske's Ambivalent Sexism Inventory. The Ambivalent Sexism Inventory also includes a hostile sexism scale that measures hostility or antipathy toward types of women whom sexists view as seeking power or control over men (e.g., feminists or women who use sexuality to "control" men). Considerable research (both in the United States and in other nations) confirms that benevolent and hostile sexism are distinct forms of sexist belief (though their positive correlation indicates that sexists tend simultaneously to endorse both the hostile and benevolent varieties). Benevolent sexism is related to subjectively favorable, and hostile sexism to subjectively unfavorable, stereotypes of women, but both are associated with traditional views about gender roles (e.g., that a woman's place is in the home).

## Origins and Function

Paternalistic prejudices, such as benevolent sexism, develop when intergroup inequality is combined with interdependence between the groups. Although men have more power (in most societies) than women, the two sexes are intimately interdependent. Men need women to reproduce. Heterosexual men rely on women as romantic partners and, in traditional relationships, to raise their children and keep their houses. This interdependence means that even if men are more powerful than women, it is in men's interest to gain women's cooperation, rather than to elicit their resentment. Whereas some intergroup relations are purely hostile, intimate interdependence between the sexes means that hostility must be tempered with benevolence; it is unlikely, for example, that men will ever commit genocide against women.

Yet benevolent sexism placates women while still maintaining men's power by encouraging women to remain in traditional roles. This is why it is a form of sexism—because it promotes continued inequality (even if most people who endorse benevolent sexism are not fully aware of how it functions). A key point is that benevolent sexism is directed only at women who stay within traditional gender roles (as wives, mothers, and helpers) that do not challenge (but rather reinforce) men's power and that serve men's needs.

Benevolent sexism may be sweet, but it is also contingent—women who fail to fulfill its expectations (e.g., by challenging male power) instead evoke hostile sexism (dislike or antipathy).

The ambivalent sexism inventory has been administered in dozens of nations. Cross-cultural comparisons reveal that societies where people more strongly endorse benevolently sexist beliefs have the least gender equality (e.g., fewer women in powerful positions in government and business) and exhibit the most hostile sexism. That is, benevolent sexism comes at the cost of gender inequality—women are protected and provided for only if they yield power to men—and, in such societies, women who reject this bargain are treated with hostility.

In sum, benevolent and hostile sexism are complementary tools of control, rewarding women for sticking to traditional roles and punishing those who do not. If women faced only hostile sexism, they would be likely to be resentful and rebellious. By "sweetening the pot" (promising that men will use their greater power and resources to take care of women), benevolent sexism punctures women's resistance to inequality. In fact, women who endorse benevolently sexist beliefs are more likely to endorse other gender-traditional attitudes, including hostile sexism. Benevolent sexism, by falsely appearing to offer only benefits to women, induces many women to accept the idea that men ought to be in charge.

*Peter Glick*

*See also* Prejudice; Sexism; Stereotypes and Stereotyping

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## BENNINGTON COLLEGE STUDY

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### Definition

The Bennington College study was conducted by sociologist Theodore Newcomb from 1935 until 1939. The study examined the attitudes of students attending the then all-female Bennington College early in the college's history; indeed, the study began during the first year that the college had a senior class. The study is notable not only for the findings it yielded in relation to group influence on individual attitudes, but also because of its methodological significance in being the first major study to interview the same group of individuals about their attitudes on multiple occasions across time.

### Background and History

The social climate at the time that the study was conducted was one of change and controversy. Many of the students came from affluent families with very conservative political attitudes. The faculty at Bennington College, however, were predominantly male, social activists in their 30s with liberal social, political, and economic attitudes.

Beginning in 1935 with the incoming freshman class, Newcomb measured the Bennington College women's attitudes toward nine social and economic issues. He then reassessed the women's attitudes each year until 1939. Most of the women's attitudes changed from conservative to liberal. Newcomb concluded that the college's social climate was liberal enough that students perceived liberal, as opposed to conservative, attitudes as the social norm, a norm that then became their reference group.

A few individuals, however, did not change their attitudes in the liberal direction. Two things seemed to predict who would and would not change their attitudes. The first was the degree of involvement of the student in the college community. Students who desired more independence from their families and who wanted to take a more active role in college activities changed their attitudes more than those students who desired to maintain close familial ties. The second, but related, factor was the personality of the individuals who did not change their attitudes. These individuals tended to have lower self-esteem, be more socially insecure, and be more socially isolated.

Importantly, the attitude change observed among the majority of the Bennington College students was quite stable. In 1960–1961, Newcomb conducted a follow-up study with the women who participated in the initial study. The correlation between the women's attitudes at the time of graduation and their attitudes in the early 1960s was .47, suggesting remarkable consistency in the attitudes over the 20+ year span of time. Additional follow-up studies up to 50 years later showed similar patterns of stability in attitudes over time.

### Importance and Consequences

The fact that the majority of the women's attitudes changed from conservative to liberal over the course of their 4 years in college, remained remarkably consistent from that point on suggests that late adolescence is a key time for change and influence in people's social and political attitudes. More importantly, however, the Bennington College study highlights the influence of a group on individual attitudes and preferences. The salience of the liberal group norm at the college, in combination with students' willingness to break with existing beliefs and a desire to assume leadership positions within the group, facilitated the ease with which the majority of women changed their attitudes from conservative to liberal.

*Robin M. Kowalski*

*See also* Attitudes; Reference Group

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## BETRAYAL

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### Definition

Betrayal refers to situations in which individuals (victims) believe that a relationship partner (a perpetrator) has harmed them by knowingly violating a norm

governing their relationship. In this context, norms refer to expectations about how the relationship partners should treat one another. Typical betrayals might involve witnessing a romantic partner flirt with somebody else at a party or learning that a good friend has lied to you about something important. Although betrayals are especially likely to be experienced in close relationships, they can also be experienced in more casual relationships. For example, individuals may feel betrayed when a casual acquaintance spreads nasty gossip about them.

Norms vary in the degree to which they are generally accepted in a given culture versus distinctive to a particular relationship. In 21st-century American culture, for example, most individuals agree that having an extramarital affair and lying to one's partner about it constitutes a betrayal. In contrast, other norms apply only within certain specific relationships (e.g., "We must check in with one another at least once every three hours"). Victims experience betrayal when they perceive a norm violation by the perpetrator, regardless of whether the norm is commonly accepted in the culture or distinctive to that particular relationship.

### **The Experience of Betrayal**

Severe betrayals are among the most painful experiences individuals endure during their lifetimes, frequently resulting in negative emotions such as anger and/or sadness and in motivations to enact revenge and/or to avoid the partner. In extreme cases, betrayals can color all aspects of victims' lives for an extended period of time, leaving them in a state of pain, confusion, and uncertainty. Even in more mild cases, betrayals are upsetting, frequently causing victims to experience impulses toward grudge and retaliation.

As a consequence of its negative effects on victims, betrayals create an interpersonal debt wherein the perpetrator owes some sort of compensation to repair the damage. Imagine that Linda and James are involved in a happy romantic relationship until James lies to Linda about something important. This betrayal temporarily alters the dynamics in their relationship: Linda becomes hurt and angry; James may well experience guilt and remorse. Both partners experience a sense that James has the primary responsibility to get the relationship back on track. In a sense, James owes Linda something, perhaps acknowledging the responsibility to "make it up" to her with gifts or other considerate gestures.

The situation is complicated, however, by perpetrators' and victims' tendencies to experience betrayal incidents from strikingly different perspectives. In a process termed the *empathy gap*, both the victim and the perpetrator engage in self-serving distortions of perspective that allow them to view themselves in the most positive light. Relative to perpetrators, victims regard perpetrator behavior as more arbitrary, incomprehensible, and gratuitous; experience greater distress; describe the transgression as more severe; attribute responsibility more to the perpetrator than to the self; and report that the transgression exerted more damaging and enduring effects on the relationship. Perpetrators experience greater guilt than victims do but also tend to regard victims' reactions as somewhat excessive and out of line with the magnitude of the transgression.

### **Responding to Betrayal**

Victims of betrayal are faced with a difficult decision: to act on the basis of retaliatory impulses or to overcome them in favor of more forgiving responses. Although forgiveness generally predicts enhanced relationship and personal well-being, it is typically incompatible with victims' gut-level impulses. In addition, forgiveness cancels the interpersonal debts created by the betrayal, which is likely to benefit the relationship but also to strip the victim of a privileged status.

Research has identified many factors that promote victims' willingness to forgive betrayals. For example, certain personality characteristics of the victim (e.g., empathy, self-control, lack of entitlement) predict tendencies toward forgiveness. Second, certain properties of the betrayal event itself (e.g., low severity, minimal implication that the perpetrator disrespects the victim, the victim's belief that the betrayal was unintentional or uncontrollable) seem to make forgiveness easier. Third, certain characteristics of the perpetrator-victim relationship (e.g., trust in and commitment toward the perpetrator) predict the willingness to forgive betrayals. Finally, forgiveness is more likely if the perpetrator accepts responsibility for the betrayal by sincerely apologizing and making genuine efforts to atone.

### **A Benefit of Betrayal**

Although relationships are generally better off to the degree that they have a smaller rather than a greater number of betrayal incidents, there is one substantial relationship benefit that can emerge from the

experience of betrayal: Betrayals, and both partners' behaviors in response to them, provide excellent opportunities to evaluate the partner's motivations toward the self.

Because betrayals tend to pit the victim's and the perpetrator's motives against one another, they frequently provide circumstances in which individuals can evaluate the partner's willingness to work toward the betterment of the relationship. For example, if a perpetrator of a betrayal is clearly distraught by the pain caused to the victim and atones sincerely, the victim might actually become more confident in the relationship than before the betrayal was perpetrated. Similarly, if the victim forgives the betrayal despite having every right to hold a grudge, the perpetrator learns valuable information about the victim's devotion to the relationship. In short, although betrayals are frequently harmful to relationships, they can sometimes provide the opportunity to strengthen them.

*Eli J. Finkel*

*See also* Forgiveness; Interdependence Theory; Norms, Prescriptive and Descriptive

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*Neuroticism* (vs. Emotional Stability), *Extraversion* (or Surgency), *Openness to Experience* (also called Culture or Intellect), *Agreeableness* (vs. Antagonism), and *Conscientiousness*. As a memory aid, note that the first letters can be rearranged to spell OCEAN, a term that suggests the vast scope of this model in encompassing personality traits.

## The Big Five Dimensions

Personality is structured hierarchically; at the broadest or *domain* level are the Big Five, and below them, at a lower level of generality, are narrower traits or *facets*. Thus, each of the Big Five dimensions is a combination of several distinct but closely related traits or characteristics. For example, most people who like to cooperate with others are also more honest and compassionate. Although there are individual exceptions to this rule, the associations among these characteristics in the general population are strong enough to justify combining them under the broader category of Agreeableness. When specific facets are formally included in a Big Five model, the term *Five-Factor model* is commonly used to describe the hierarchy.

People who score high on Neuroticism are emotionally sensitive; they become upset easily and frequently experience negative emotions. Individual facets include sadness, anger, anxiety/worry, self-consciousness, vulnerability to stress, and a tendency to act impulsively. People who score low on Neuroticism are emotionally stable and calm. Even under stressful conditions, they remain confident and experience few negative emotions.

Highly extraverted people are warm, talkative, and generally like to be around others. They are assertive, active and full of energy, cheerful and high in positive affect, and they prefer stimulating environments. Introverted people, in contrast, like to be alone or with a few close friends. They rarely want to lead others. They are reserved and serious, value their independence, and prefer quiet environments.

People who score high on Openness to Experience are curious, imaginative, have broad interests, and easily embrace unconventional ideas and values. Other facets include sensitivity to aesthetic experiences and fantasy, as well as a rich emotional life. People who are low in Openness have a narrower set of interests and are more conventional in their outlook and behavior. They are closed to new ideas, actions, and value or belief systems. They also experience their emotions less intensely.

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## BIG FIVE PERSONALITY TRAITS

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### Definition

The Big Five personality traits are the most basic dimensions that shape the structure of human personality and underlie the regularities in people's thinking, feeling, and behavior. The Big Five are dimensional, which means that each of them describes a continuum between two extreme poles. All people, regardless of gender, age, or culture, share the same basic personality traits, but people differ in their relative standing on each of the traits. The individual Big Five are

Highly agreeable people are altruistic, cooperative, compassionate, and trust the good intentions of others. The facets of modesty and straightforwardness are associated with Agreeableness as well. Disagreeable people, in contrast, tend to be characterized by antagonism, skepticism, and a competitive rather than cooperative take on life.

Finally, people who score high on Conscientiousness strive to achieve high standards and are self-disciplined, orderly, deliberate, and dutiful. Low-conscientious persons rarely plan ahead. They may be careless and disorganized in personal matters, and they often fail to establish a well-defined set of life goals.

Although the Big Five are most easily characterized by their extreme poles, it is important to keep in mind that relatively few people are at the extremes. Most people are around the middle of the continuum.

### Theoretical Perspectives

The American trait approach to personality, from which the Big Five were derived, originated in the 1930s. Whereas previous approaches to personality research tied their inquiries to theoretical preconceptions, the trait approach focused on data, especially on the analysis of person-descriptive adjectives found in common speech. Words like *shy*, *irritable*, or *inquisitive* are part of every natural language and illustrate the typical patterns of how people think and talk about themselves and others. The trait approach aims to identify the broad dimensions underlying such everyday personality descriptions. Because of its focus on language analysis, this line of research is also called the *lexical* approach.

Today, there is a wide range of theoretical perspectives regarding Big Five research. Researchers in the lexical tradition such as Lewis R. Goldberg and Gerard Saucier have been content to describe the structure of personality traits without attempting to explain their causes or consequences. Others have focused on relatively specific aspects of the Big Five. Interpersonal researchers such as Jerry S. Wiggins examined the relationship patterns that are associated with certain personality characteristics central to social interactions. Based on increasing evidence for a genetic basis of the Big Five, David M. Buss and other evolutionary psychologists have studied the implications of certain trait configurations for reproduction and survival.

The Five-Factor Theory (FFT) postulated by Robert R. McCrae, Paul T. Costa, Jr., is a more comprehensive

theoretical account that addresses the structure of the personality system as well as its causal underpinnings and real-life consequences. According to FFT, personality traits are genetically based biological dispositions. Depending on our relative standing on these *basic tendencies* and in interaction with our individual environment, we develop specific patterns of thoughts, feelings, and behaviors (also referred to as *characteristic adaptations*) that in turn influence our *objective biography*. Although our standing on the five basic tendencies is thought to remain generally stable over time, characteristic adaptations may change. For example, a woman who is high in Neuroticism (basic tendency) may develop coping strategies (characteristic adaptations) that help her deal with stressful situations, and this allows her to take on a challenging new job (objective biography). Nevertheless, she is still high in Neuroticism and remains more emotionally sensitive than the average person.

### Measurement

The Big Five are commonly measured by asking people to describe themselves on questionnaires. Some measures are simply lists of person-descriptive words (e.g., “talkative”), but such adjective lists tend to be ambiguous because of their lack of interpretive context. Whole sentences (e.g., “I enjoy parties with lots of people”) provide a better assessment of personality. As an alternative to such self-reports, relatives, friends, or other people who know a person very well may provide observer ratings for this person’s personality.

A comprehensive assessment of personality is provided by the NEO Personality Inventory–Revised (NEO PI–R). Based on people’s agreement with 240 short sentences, the NEO PI–R not only provides scores for the five broad domains but also scores for six subordinate dimensions (or facets) within each of the Big Five.

### Personality Development Across the Life Span

From early infancy, children show individual differences in general activity or irritability. These biologically based tendencies (also referred to as *temperament*) evolve into differentiated personality traits over the course of childhood. The familiar Big Five structure was found in children as young as elementary school level and appears to be firmly established by adolescence.

In adolescence and early adulthood, personality changes in predictable ways. On average, people become less neurotic and extraverted and more agreeable and conscientious. Openness peaks in young adulthood and declines thereafter. After the age of 30, personality remains comparatively stable, although small changes continue in these same directions.

Although average levels of adult personality remain relatively stable, individual changes are of course possible. Depressive episodes, for example, are associated with an increase in Neuroticism. With the onset of dementia, people become more distress prone or higher in Neuroticism and less conscientious. In comparison to personality changes related to psychological disorders, changes in response to significant life events such as marriage or divorce are usually small and not very consistent across different studies.

### Real-Life Outcomes

Over the years, the Big Five have been linked to a wide range of relevant outcomes. To give just a few examples, people who score high in Neuroticism cope more poorly with stressors and are more likely to be diagnosed with psychiatric disorders; extraverted people have a higher number of romantic partners and excel in sales and management positions; open individuals do well in creative professions; low Agreeableness is associated with juvenile delinquency; and high Conscientiousness is related to healthy behaviors and greater longevity—arguably the most important “outcome” of all.

When it comes to evaluating the real-life implications of the Big Five, it is important to examine the full profile of a person’s personality instead of focusing only on individual traits. For instance, people who score high in Neuroticism are more likely to abuse drugs if they are also low in Conscientiousness, and people with clinical depression have less chance of recovery if they are not only high in Neuroticism but also low in Extraversion.

The wide range of real-life implications of the Big Five traits illustrates that understanding the basic structures that underlie a person’s personality is not merely an academic exercise but highly relevant for helping clinical psychologists, personnel recruiters, teachers, or health care workers adjust their strategies to the individual needs and abilities of their clients.

Corinna E. Löckenhoff  
Paul T. Costa, Jr.

*See also* Agreeableness; Extraversion; Individual Differences; Neuroticism; Traits

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## BINGE EATING

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### Definition

Binge eating is eating a large amount of food in a small amount of time. It is distinguished from overeating because it is accompanied by a feeling of a loss of self-control while eating. The process of the binge is engrossing, pleasant, and can have a frantic quality. At some point the bingeing ends, and the binger is usually upset, embarrassed, and full of negative thoughts and feelings about his or her behavior and self.

### Analysis

Binge eating is significantly more common among women, although a small number of men engage in it as well (often as part of a social group such as an athletic team where weight is an issue). Binge eating is often done in private, although it can happen as part of a small social group.

Binge eating is a main component in two recognized psychological disorders: bulimia nervosa and binge eating disorder. The behavioral pattern of binge eating, however, is essentially a large exaggeration of a normal phenomenon. It is typical for Americans to eat large amounts of calories at special events, holidays, parties, and so on. This is often followed by dieting, increased exercise and activity levels, and a conscious decision to diet or otherwise reduce weight and food intake. Occasional food binges are common enough among men and women, but repeated binge eating, often done alone and with a loss of control, followed by increased depression, lowered self-esteem, and

other dark thoughts are considered to be a sign of a significant problem.

People who are concerned about their body image, their weight, and their physical appearance and attractiveness are most likely to engage in binge eating. This is probably because these kinds of psychological concerns lead to dieting. Successful dieting is very difficult, and there are numerous physiological and neurological mechanisms that can act powerfully to maintain body weight. Dieters are often very hungry, smells and tastes improve in their urgency, and food-related thoughts can dominate the dieter's day. If a dieter engages in what is known as "black and white thinking," with a strong line drawn between "good" and "bad" foods, between "healthy" and "unhealthy" eating, then any small falling off of a diet, even a bite or two of a forbidden food becomes a significant and total failure. This small failing has the effect of disinhibiting eating—when a person has crossed the line into forbidden territory, the next bad behavior is not much more of an offense. With this kind of thinking, bingeing can spiral out of control. When it ends, the binger is left with self-blame, guilt, and unhappiness. This in turn leads to renewed commitment to dieting, exercise, and lowering caloric intake. This in turn sets up the next bingeing episode.

The clinical evidence for this cycle is excellent and is much the same for people who have trouble controlling their drinking, gambling, smoking and other drug taking, or sexual appetites. The most important difference between binge eating and binge drinking or gambling, sexual binges, or drug addictions is that eating is a normal and essential part of life, and one cannot forswear eating. This makes the careful management of eating, allowing some eating—but not too much—more important, and self-control becomes especially difficult. Stress, life challenges, or simply depletion from working on other problems all make self-control more difficult, and this can increase the probability of setting of a binge.

Binge eating is also associated with a range of other variables associated with poor psychological functioning, including anxiety, low self-esteem, depression, perfectionism, and so on. All of these are indicators of difficulty with functioning in life, particularly in the area of self-control. There is evidence that binge eaters are people who continually have troubles with self-control, either as a personality trait or because they experience life stress or other difficulties that deplete their ability to manage their eating. Binge eating, like

other addictive behaviors, may be a way to avoid paying attention to the self. Because binge eating allows a person to narrowly focus on a pleasant and (temporarily) rewarding activity, binge eating can shut out competing, more painful awareness of failings, unfulfilled desires, and personal shortcomings.

Binge eating is not entirely new, but the high rates of binge eating—particularly among adolescent women—do seem to be a fact of the past few decades. This has been traced to social changes that allowed increased access to food, a connection of thinness to attractiveness and high social class among women, and related facts of modern life. There is little evidence that bingeing, followed by shame, guilt, and resolutions to diet (or more rarely, vomiting), existed in any high numbers before the 1970s.

Binge eating seems to run in social groups, such as cheerleading squads, men's and women's athletic teams, dance camps, and sororities. There is evidence that binge eating is a behavior that is passed among friends. Sorority members seem to pick it up from their friends. When entering a group with social norms that favor binge eating, women have been shown to increase their binge eating levels to match those of their friends. Conversely, when women with higher rates of binge eating join a friendship group with lower rates of binge eating, their own binge eating tends to go down. Men on athletic teams where weight is an important determinant of competitiveness (e.g., wrestling, lightweight crew) often acquire binge eating and purging as part of their repertoire. This cycle might become part of their week, with dieting leading up to the weigh-in day, followed by binge eating. Even though this cycle becomes a part of the week, it is rarely accompanied by shame, guilt, or feelings of being out of control. When binge eating is a part of athletics, there is often little or no affective roller coaster, and the binge eating often ends with the competitive season.

Binge eating is not unusual and is quite common among adolescent and college-age women. Many women seek treatment when binge eating gets out of control and when it is accompanied by significant and painful feelings of anxiety, depression, shame, and guilt. But the underlying pattern of binge eating, followed by regret and a determination to "be good" in the future, is a common and normal phenomenon. It is only when it becomes frequent and uncontrollable that it becomes a problem.

*Chris Crandall*

*See also* Bulimia; Depression; Guilt; Self-Regulation; Shame

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## BIOPSYCHOSOCIAL MODEL

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### Definition

The term *biopsychosocial model* refers to a type of theory in which biological, psychological, and social psychological processes are combined or integrated to explain behaviors in ways that account for how these different types of processes combine or influence a type of behavior.

### Background

Beginning in the 1990s, Jim Blascovich and colleagues developed and expanded a biopsychosocial model of challenge and threat motivational processes. In motivated performance situations, ones that are important to the individual, challenge or threat may occur. Challenge results when the individual assesses, consciously or unconsciously, that his or her resources (e.g., abilities, social support) meet or exceed the demands of the situation (e.g., required effort, danger), and threat results when the individual assesses that the demands of the situation exceed his or her resources.

To measure challenge and threat, Blascovich and colleagues use cardiovascular (i.e., heart-related) responses, including how hard a person's heart is beating (specifically, how strongly the main pumping chambers are contracting); how much a person's arteries are opening or closing; and how much blood is being pumped by the heart through the arteries to the body. In several studies, these investigators determined that when subjects were challenged by a task, their hearts would

beat harder, their arteries would dilate, and more blood would be pumped by the heart throughout the body.

The biopsychosocial model of challenge and threat has proven useful in at least two major ways. First, within basic research, the model allows examination of many different social psychological phenomena via their motivational implications. Second, within applied social psychological research, the model has proven valuable for predicting future performance of various activities in which individuals are motivated to engage.

### Basic Research

The rationale for using the biopsychosocial model and its associated cardiovascular measures is based on a simple idea. Specifically, if a challenge or threat prediction can be hypothesized or deduced from a specific social psychological theory, then challenge and threat measures (i.e., the cardiovascular patterns associated with challenge and threat) can be used to test the specific social psychological theory. Quite a variety of social psychological theories have been tested in this way.

For example, many attitude theories suggest that having an attitude (e.g., a like or dislike for something) helps people make decisions in everyday life, such as what to buy in a grocery store. In other words, attitudes are functional. If these theories are correct, then individuals with relevant attitudes should find decision making more challenging than would individuals without relevant attitudes. In one study, investigators induced research participants' attitudes toward abstract paintings by having them say out loud how much they liked or disliked each of a set of 15 abstract paintings they had never seen before that was repeatedly shown to them. Later, investigators asked these same participants to decide quickly which of two paintings they liked more in each of many slides of randomly paired abstract paintings. For half the participants, the paintings were drawn from the ones that they had expressed their attitudes toward in the first part of the experiment. For the other half, the participants had never seen the paintings before. All the while, their cardiovascular response patterns associated with challenge and threat were recorded. In line with both attitude functionality theory and the biopsychosocial model, participants in the first condition exhibited the challenge pattern of cardiovascular responses, and participants in the second condition exhibited the threat pattern.

Another example involves *social comparison theory*. When individuals are unsure about how well they are performing, they often socially compare themselves to others to gauge or estimate how they perform compared to others. Sometimes this results in what is called “downward social comparison,” that is, when the other’s performance is worse than one’s own. Sometimes, it results in “upward social comparison,” that is, when the other’s performance is better than one’s own. Researchers reasoned that if an individual was performing and comparing with a downward comparison other, challenge should result and that if an individual was performing and comparing with an upward comparison others, threat should result. Using the cardiovascular markers, these hypotheses were confirmed by the researchers.

Many social psychologists have studied how people interact with *stigmatized others*; more specifically how nonstigmatized individuals interact with members of stigmatized groups. A stigmatized group is one that is devalued in a society. For example, in the United States, race, physical deformities, and low socioeconomic status, among other characteristics, can cause an individual to be identified as a member of a stigmatized group. For more than 40 years, stigma researchers hypothesized that interactions with members of stigmatized groups were threatening to nonstigmatized individuals. However, until the biopsychosocial model was developed and its cardiovascular markers validated, little evidence existed to support this hypothesis. Recently, researchers have conducted many experiments in which nonstigmatized and stigmatized individuals worked with each other on a cooperative task; they found that the cardiovascular markers confirmed the stigma threat notion. Furthermore, threat occurred whether the interactant was stigmatized because of disfigurement, race, socioeconomic status, speech accent, and so on.

### Applied Research

Recently, researchers have conducted studies to determine whether challenge and threat theory and its associated cardiovascular patterns could be used to predict how well people would perform on a future task. Their rationale was that if individuals were required to give a speech about how they would perform in a critical situation, the cardiovascular markers of challenge and threat would predict actual performance in the future during the type of critical situation discussed in the speech.

These researchers focused on baseball. University varsity baseball and softball players each gave two 3-minute speeches, one about friendship (a control speech) and one about how they would approach a critical hitting situation (the critical or predictor speech). Controlling for the cardiovascular responses during the control speech, the cardiovascular challenge/threat index that occurred during the performance-relevant speech reliably predicted major outcome measures of offensive baseball performance (runs created, batting averages, etc.). Hence, what was important to predict baseball performance was not how threatening participants experienced speech giving in a psychology laboratory but the relevance of the speech to the predicted task.

### Summary

The biopsychosocial model of challenge and threat is one being continuously refined and used for basic and applied research purposes in social psychology. Its demonstrated valid physiological (i.e., cardiovascular) measurement techniques to assess whether an individual is experiencing challenge or threat has proven valuable for both of these research approaches.

*Jim Blascovich*

*See also* Approach–Avoidance Conflict; Motivated Cognition; Motivated Reasoning; Social Psychophysiology

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## BLAMING THE VICTIM

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### Definition

A victim is a person who is harmed by the actions of another person or as the result of circumstance. Blaming the victim occurs when people hold the victim

responsible for his or her suffering. When people blame the victim, they attribute the cause of the victim's suffering to the behaviors or characteristics of the victim, instead of attributing the cause to a perpetrator or situational factors.

### Why People Blame Victims

Ironically, victim blame often stems from a desire to see the world as a just and fair place where people get what they deserve. This belief in a just world lets people confront the world as though it were stable and orderly. If people did not believe in a just world, it would be difficult to commit themselves to pursuing long range goals or even to getting out of bed in the morning! Because believing in a just world is so adaptive, people are very reluctant to give up this belief. The "problem" with victims, then, is that they violate people's belief that the world is just and fair. One way to restore this threat to their belief system is for people to convince themselves that the victims actually deserved their fate. By derogating victims and blaming them for their negative outcomes, people can maintain the belief that the world is a fair place after all.

One psychological benefit of blaming victims lies in the fact that it lets people convince themselves that they could never be subject to the same fate as the victim. When Hurricane Katrina struck the Gulf Coast in August 2005, leaving many residents of New Orleans trapped for days in miserable conditions inside the Superdome, many people responded by saying that the victims' fate was their own fault for not evacuating. In actuality, many of the people trapped in the Superdome had no access to transportation out of the city and had no money to afford a place to go. Nevertheless, by blaming the hurricane victims for their own suffering, people are able to maintain their belief that the world is fair and just. Ultimately, blaming victims allows people to maintain their own sense of control. It lets them think, "That could never have happened to me, because I would have done things differently."

### Evidence

In one enlightening study of victim blame, participants were given descriptions of a series of events that took place between a young woman and a man during a date. In some versions of the study, participants read that the date ended with the man raping the woman. In other

versions, the date ended with the man taking the woman home (and not raping her). When participants rated the behaviors of the woman, they were much more likely to rate her behavior as foolhardy and irresponsible if the date ended in rape than if it did not. That is, the exact same behaviors were seen in a different light depending on the outcome of those behaviors. This shows how when people are faced with injustice, it can motivate people to find fault with the victim's behavior even though they would not find fault with those same behaviors under other circumstances.

Characteristics of the victim can influence how much people blame victims. People are more likely to blame respectable victims than less respectable victims because the fate of the former seems more unjust and increases the need for people to restore their sense of justice through victim blame. For example, one study examined reactions to rape victims who were virgins, married, or divorced. Women who were virgins or married were more likely to be blamed for the rape than women who were divorcees. The knowledge that innocent, respectable females can be raped is threatening to people's beliefs that the world is just, which leads people to reduce the threat by blaming the victims.

Numerous other factors can influence how much blame people assign to victims. First, people with right-wing, conservative political ideologies are more likely to blame victims, especially victims of poverty and racial discrimination, while people with more left-wing, liberal ideologies are more likely to blame situational and environmental factors. Second, people who are angry or upset by previous events unrelated to the victim's fate are more likely to blame victims. Negative emotions can carry over into other domains, and people can misinterpret their anger and anxiety as being caused by the victims' fate, which leads them to blame the victims more strongly. Finally, some individuals are more committed than others to the belief in a just world. People who strongly endorse the belief that the world is a fair place are more likely to be threatened when they witness the suffering of innocent victims, which in turn leads them to blame the victims.

### Reducing Victim Blame

There are several ways to reduce victim blame. If people have immediate and easy solutions to alleviate the suffering of victims, they are less likely to blame those victims. Helping victims allows people to restore the threat to their belief in a just world, reducing the

need to restore the threat via victim blame. However, sometimes there are no easy and immediate solutions to alleviating victim's suffering. Once people have jumped to the conclusion that a victim is responsible, it is harder to convince them to aid the victims. It is also possible to reduce victim blame by encouraging people to empathize with victims. If people are able to take the perspective of the victims or can easily imagine being in the victim's shoes, they are less likely to blame the victim. Finally, most people feel that it is not really fair to blame innocent people for their suffering. Many times people blame victims without being consciously aware of what they are doing. Giving people conscious reminders that victim blame is socially unacceptable can encourage them to withhold from blaming the victim.

*Laurie T. O'Brien*

*See also* Attributions; Beliefs; Control; Ideology

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## BOBO DOLL STUDIES

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### Definition

Albert Bandura conducted the Bobo doll studies in the 1960s to investigate whether children could learn new behaviors through observation. The descriptive name of these studies comes from an inflatable child's toy, a "Bobo doll," that had a weighted bottom which allowed it to be repeatedly knocked over and yet bob back up. Children who observed an adult kicking, punching, or otherwise attacking the Bobo doll were more likely to later act in the very same way against the doll than were children who had observed nonviolent play or no play at all. Variations of the original study produced similar findings, even when a live clown was used in place of a doll. Collective findings from the Bobo doll studies

aided Bandura in the development of social learning theory.

### Study Description

Nursery school children were divided into three similar groups. Children in two of the groups were taken individually by an experimenter into a room where they could play with a variety of toys. The experimenter also escorted an adult into a corner of the same room to play with another set of toys. At this point, the children observed one of two things. Children in one group saw the adult in the corner playing quietly with a set of Tinker toys. However, children in the other group saw the adult begin to play with the Tinker toys, but then begin behaving aggressively toward the Bobo doll. This aggressive play included punching the doll in the nose, picking up a mallet and pounding the doll, and tossing the doll in the air. Although each child was in a position to observe this entire situation, no direct contact existed between the adult and the child.

After 10 minutes, the experimenter led the child into another room. This phase of the study also included children from a third group who had not observed an adult in either of the previous play conditions. After experiencing a frustrating situation (not being allowed to play with nicer toys), the child was led into yet another room to play while the experimenter completed paperwork nearby. The room contained toys that could be played with violently (such as dart guns), nonviolent toys (such as dolls and toy trucks), and a Bobo doll.

Children who had observed the adult playing with the Bobo doll in an aggressive manner were more likely to act aggressively toward the doll than were children who had watched the adult playing nonaggressively. However, children who had viewed nonaggressive play were more likely to later play peacefully than even those children who had not observed any modeled play. Thus, it was demonstrated that children could learn both good and bad behaviors in the absence of punishment or reward simply by observing others modeling those behaviors.

*L. Brooke Bennett*

*See also* Modeling of Behavior; Social Learning

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## BOGUS PIPELINE

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### Definition

If you ask a person about their sexual activity, illicit drug use, or prejudices against certain others, you may not get a straight answer. Embarrassment, fear of legal repercussions, or a simple desire to look good can create distortions in responses to such questions. Social psychologists have developed many research techniques to get more accurate responses to survey questions. Contemporary implicit measurement techniques, such as the Implicit Association Test, use computer assessment of millisecond-level differences in response time to sidestep respondents' strategic efforts at self-presentation. Much earlier, social psychologists used a more primitive method. The bogus pipeline technique, pioneered in the early 1970s, was based on the idea that people might give truer responses if they feared getting caught in the act of lying. The term itself refers to a purported "pipeline to the soul" that happens to be faked.

The bogus pipeline involved an elaborately theatrical laboratory procedure. The researcher staged a ruse to convince the respondent that a newly developed lie detector was capable of providing highly accurate feedback on the truthfulness of any answer to a survey question. As a result, the respondent might answer truthfully to embarrassing questions because the prospect of being caught in a lie feels worse than any potential embarrassment. Of course, error-free lie detectors do not exist today, and they certainly did not exist in the 1970s. A key component of the bogus pipeline procedure, therefore, was to convince respondents that the impressive-looking machine that they were being wired into was truly effective at lie detection. This was accomplished by having respondents first complete a supposedly anonymous survey in another lab room, during which their answers were surreptitiously recorded. Later, when wired into the lie detector (which did not actually work), a hidden researcher manipulated the fake machine to produce the "correct" responses as the respondent was asked the same questions as earlier. Once respondents had been "convinced" that the lie detector worked as advertised, the main experiment would proceed, with the main survey questions of interest now posed.

The bogus pipeline works. Its effectiveness was verified across many experiments in which responses

collected using the bogus pipeline were compared directly to responses collected using the more traditional "paper-and-pencil" survey method. A study from the early 1970s, for example, revealed racial prejudice to be more common among respondents tested using the bogus pipeline than with paper and pencils. In the 1980s, the technique was widely used to gauge illicit drug use among young adults. Not surprisingly, however, some condemned the procedure on the grounds that its elaborate deception was unethical, that it was wrong to lie to people to get better survey responses. Largely supplanted today by more effective implicit measurement techniques (one of which goes by the name *bona fide pipeline*), simpler versions of the technique are nevertheless still used on occasion to shed light on theoretical problems involving implicit versus explicit cognition.

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*See also* Deception (Methodological Technique); Implicit Association Test; Research Methods; Self-Presentation; Social Desirability Bias

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## BRAINSTORMING

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### Definition

Brainstorming is a widely used method to stimulate creativity in problem solving. In a structured session, people (usually in a group) generate as many creative ideas as possible. Social psychologists have mainly studied whether it is more effective to brainstorm in a group or alone, and have come to the counterintuitive conclusion that brainstorming often is better done alone.

Underlying the brainstorming procedure are two basic principles. First, people are encouraged to come up with as many ideas as possible, because the more

ideas, the more likely it is that good ideas are among them (“quantity breeds quality”). Second, although eventually the quality of ideas should be evaluated, idea generation and evaluation are strictly separated (“deferment of judgment”), because fear of negative evaluation interferes with people’s creativity. There is evidence for both principles: Quantity and quality of ideas are positively related, and fear of evaluation is bad for idea quality.

Brainstorming is usually done in groups, and much research has studied the effectiveness of group brainstorming. These studies have consistently revealed that people generate more ideas and better ideas when they brainstorm individually as compared to when they brainstorm in a group. In these studies, the number of ideas generated by a group is compared to the number of ideas of the same number of people who brainstorm individually. Counting duplicate ideas (ideas generated by more than one person) only once, results show that  $N$  individuals generate more ideas than an  $N$ -person group. The difference is quite large and increases with group size.

One major factor that causes the so-called productivity loss of groups is production blocking: Group members have to wait for their turns to express ideas, because only one person can speak at any given time. Thus, group members block each other’s contributions, which hampers their idea generation.

At the same time, people generally think that their creativity is enhanced in a group and feel that overhearing others’ ideas is stimulating. And in fact, this also is true: There is evidence that listening to others generating ideas helps one’s own idea generation. However, production blocking completely overrides these positive effects in normal brainstorming sessions. If ideas are not articulated aloud but are shared on pieces of paper (*brainwriting*) or through computers (*electronic brainstorming*), production blocking can be eliminated. Indeed, groups can be more productive than individuals when ideas are exchanged on written notes or through computers, rather than articulated aloud.

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*See also* Creativity; Group Performance and Productivity

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## BRAINWASHING

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### Definition

*Brainwashing* is a term that was adopted by the press to describe the indoctrination of U.S. prisoners of war (POWs) during the Korean War. Social scientists now recognize brainwashing as a form of severe indoctrination marked by physical and psychological stress, intense social pressure, and a variety of persuasion techniques. This form of intense indoctrination usually promotes some particular form of political or religious doctrine, often entailing costly sacrifices by adherents.

### History

Modern social scientists became concerned with brainwashing when American POWs during the Korean War were subjected to systematic persuasive techniques by their captors. Following this indoctrination, some of these POWs did, in fact, cooperate with the enemy, at least superficially. Such prisoners praised their captors or made hard-to-believe confessions about participating in various war atrocities. The brainwashing procedures directed against American POWs in Korea were modeled upon indoctrination procedures used by Chinese revolutionary forces when “educating” their own political cadres. In point of fact, however, at the end of hostilities in Korea, only a handful of these POWs actually elected to refuse repatriation to the United States. When one considers that several thousand American soldiers were exposed to these techniques, this low rate of refusal indicates that the long-term persuasive results from these early procedures were meager. Beginning in the 1970s however, shocking events—including series of group suicides among the members of groups such as the Heaven’s Gate cult and the Peoples Temple (where over 900 people perished)—established that group indoctrination could induce extremely costly

behavior from group members. In light of these events, social scientists took renewed interest in extreme forms of systematic indoctrination.

### Procedures and Analysis

According to most experts, the intense indoctrination associated with the term *brainwashing* unfolds in a series of stages. The earliest stage entails strong forms of psychological and physical stress. Here, the indoctrinee, or recruit, is almost always sequestered in a retreat or a training center away from their normal friends, coworkers, and family, where they are surrounded instead by members of the indoctrinating group and other indoctrinees. Here prolonged sleep deprivation is extremely common, as are changes in diet and pattern of dress. Public self-criticism is generally encouraged often under the guise of self-analysis. The recruit's time is carefully regimented and filled with a multitude of activities most often related to, and advocating, an unfamiliar, complex doctrine. This advocacy can take the form of lectures, readings, and other group activities. This initial stage can be as short as a few days but also can extend for weeks. It is designed to evoke such emotions as fear, guilt, exhaustion, and confusion on the part of the recruit.

This introductory stage segues subtly into the second stage of indoctrination in which the recruit is encouraged to "try out" various group activities. These activities may involve such things as self-analysis, lectures, praying, and working at group-related chores. This tentative collaboration may be spurred by such elements as social pressure, politeness, legitimate curiosity, or a desire to curry favor with authority figures. Eventually however, this collaboration leads the recruit to begin to seriously consider the wisdom of the doctrine in question, thereby leading to the third stage of indoctrination in which actual belief change begins. In this third stage, the recruit is typically surrounded by believers and kept isolated from anyone who might disagree with the doctrine, thereby producing particularly potent peer pressure. In addition, the information and reading provided to recruits is carefully screened to justify the group teachings. Added to this, the recruit generally remains physically and mentally exhausted and is given little time for unbiased analysis of the doctrine. This makes it difficult for the recruit to generate private cognitive objections to the group doctrine. As a result, sincere belief change commonly begins at this point in the process.

In the final stage of indoctrination, initial belief change regarding the group and its doctrine is consolidated and intensified to the point that the new recruit comes to accept group teachings and decisions uncritically while viewing any contrary information as either enemy propaganda or necessary "means/ends trade-offs." By this point, the recruit has been cajoled into taking a series of public and/or irrevocable actions in service to the group. These acts entail increased effort, cost, and sacrifice over time. As one example, when Patricia Hearst was being indoctrinated by the Symbionese Liberation Army, she initially was asked to just train with the group. Then she was asked to tape-record a prewritten radio speech. Next she was asked to both write and record such a talk. Soon after that, she was required to accompany the group on a bank robbery carrying an unloaded weapon. Thus, the level of sacrifice required of her escalated over her time with the group. In this final stage, as before, recruits remain surrounded by those who endorse the doctrine. These co-believers corroborate the recruit's expressions of that doctrine. Moreover, they admire, reward, and endorse the recruit's acts of loyalty and sacrifice. Interestingly, according to recent news reports, these procedures correspond quite closely to those followed in the training of suicide bombers once they express an initial willingness to make such a sacrifice. Such individuals are kept secluded in safe houses, cut off from family, and often make videos to be used in later propaganda efforts.

Experts note that the procedures (stages) described in the previous paragraphs coordinate a variety of potent persuasive techniques. Peer pressure is known to be particularly effective when an individual faces a united consensus especially if the individual is confused, frightened, or facing an ambiguous issue. People's ability to resist a flawed persuasive message is particularly impaired when they lack the opportunity to think clearly about inadequacies of the message due to fear, sleep deprivation, and/or overactivity. Moreover, when likeminded individuals (such those found in extremist groups) discuss a topic they basically agree upon, the result is a polarization of opinion, with group members taking a more extreme view after discussion. Similarly, extreme attitudes also result when people find that others share and admire their opinions. In addition, when individuals agree to costly (and public) sacrifices, they have a strong tendency to justify such actions by intensifying any attitudes that support these acts, a process referred to as the *reduction of cognitive dissonance*. Finally, the grandiose

goals of many extremist groups appeal to the human need to feel important, significant, and part of some timeless, meaningful social movement be it religious, political, scientific, or historic. In this emotional context, the intense indoctrination associated with the term *brainwashing* combine to create a persuasive milieu that, at least for some targets, has the power to evoke surprising changes in both belief and behavior.

*Robert S. Baron*

*See also* Cognitive Dissonance Theory; Conformity; Group Polarization

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## BROADEN-AND-BUILD THEORY OF POSITIVE EMOTIONS

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The broaden-and-build theory of positive emotions was developed to explain why people experience positive emotions. What purpose might be served by fleeting feelings of joy, gratitude, serenity, or love? Did such pleasant states confer adaptive value over the course of human evolution?

Within prior theories of emotions, positive emotions posed a puzzle. This was because most prior accounts rested on the assumption that all emotions—both pleasant and unpleasant—were adaptive to human ancestors because they produced urges to act in particular ways, by triggering *specific action tendencies*. Fear, for instance, is linked with the urge to flee, anger with the urge to attack, disgust the urge to expel, and so on. A core idea within the concept of specific action tendencies is that having these particular actions spring to mind made emotions evolutionary adaptive because such quick and decisive actions helped early humans to survive specific threats to life or limb. Another core idea is that specific action tendencies are *embodied thoughts*: As they overtake conscious thought, they also trigger rapid bodily changes that

support the actions called forth. If you, at this moment, saw danger looming and were experiencing fear, you would not only experience an overwhelming urge to flee to safety, but also within milliseconds your cardiovascular system would have switched gears to redirect oxygenated blood to large muscles so that you'd be physically ready to run away. The major contribution made by the concept of specific action tendencies, then, was to explain why emotions infuse both mind and body and how the forces of natural selection might have shaped and preserved emotions as part of universal human nature.

The trouble with the concept of specific action tendencies came when past theorists tried to pinpoint the tendencies sparked by positive emotions. Joy had been linked to the urge to *do anything*, and serenity with the urge to *do nothing*. Not only were these urges vague and nonspecific, it's doubtful whether doing nothing is an action at all! Positive emotions, then, did not fit the theoretical mold that worked so well for negative emotions. Noticing this puzzle and other intriguing features of positive emotions, Barbara L. Fredrickson offered the broaden-and-build theory to explain the evolved adaptive significance of positive emotions.

The broaden-and-build theory holds that, unlike negative emotions, which narrow people's ideas about possible actions (through specific action tendencies), positive emotions *broaden* people's ideas about possible actions, opening their awareness to wider ranges of thoughts and actions than are typical for them. Joy, for instance, sparks the urge to play and be creative, interest sparks the urge to explore and learn, and serenity sparks the urge to savor current circumstances and integrate them into new self-views and worldviews.

Whereas the narrowed mindsets sparked by negative emotions were adaptive in instances that threatened survival in some way, the broadened mindsets sparked by positive emotions were adaptive in different ways and over longer time scales: Broadened mindsets were adaptive because, over time, such expansive awareness served to build humans' resources, spurring on their development, and equipping them to better handle subsequent and inevitable threats to survival.

To illustrate, consider the playful mindset sparked by joy. Ethological research documents that as complex organisms play with conspecifics, they forge social alliances (i.e., friendships). In times of trouble, these gains in social resources might spell the difference between life and death. Consider also the urge to explore novel environments sparked by interest. Behavioral research documents that positive and open

mindsets—because they yield exploration and experiential learning—produce more accurate cognitive maps of the local environment, relative to negative and rejecting mindsets. Such gains in intellectual resources might again spell the difference between life and death in certain circumstances.

The broaden-and-build theory states that positive emotions were adaptive to one's human ancestors because, over time, positive states and their associated broadened mindsets could accumulate and compound in ways that transformed individuals for the better, leaving them with more social, psychological, intellectual, and physical resources than they would have otherwise had. When these ancestors later faced inevitable threats to life and limb, their greater resources would have translated into better odds of survival and of living long enough to reproduce. To the extent that the capacity to experience positive emotions was genetically encoded, this capacity would have been shaped by natural selection in ways that explain the form and function of the positive emotions that modern-day humans experience.

Since its inception, the broaden-and-build theory has been tested and supported by a wide range of empirical research. Controlled laboratory experiments document that, compared to neutral and negative states, induced positive emotions widen the scope of people's attention, expand their repertoires of possible actions, and create openness to new experiences. Prospective field studies show that people who, for whatever reasons, experience more positive emotions than others are better equipped to deal with life's adversities and challenges. Last but not least, randomized controlled tests of interventions designed to augment people's positive emotions—like practicing meditation or cultivating the habit of counting blessings—have documented that these interventions build people's enduring resources, including immune functioning, mindfulness, and relationship closeness.

At a practical level, the broaden-and-build theory gives modern-day humans reason to cultivate and cherish positive emotions. Pleasant states like joy, interest, serenity, gratitude, and love do not merely feel good in the moment, but they also place people on trajectories toward positive growth: As these positive emotions accumulate and compound, they pave the way for people to reach their higher ground: to become healthier, more knowledgeable, more resilient, and more socially integrated versions of themselves.

*Barbara L. Fredrickson*

*See also* Emotion; Independence of Positive and Negative Affect

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## BUFFERING EFFECT

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### Definition

A buffering effect is a process in which a psychosocial resource reduces the impact of life stress on psychological well-being. Having such a resource contributes to adjustment because persons are less affected by negative life events. Social support is a known buffering agent: Persons with high support show less adverse impact from negative events.

### History and Modern Usage

The concept of buffering originated from studies on the effects of life stress. Researchers observed that there was considerable variability in individual reactions to major negative events such as illness, unemployment, or bereavement. Some persons were very affected by the events, showing high levels of depression, anxiety, and physical symptoms; but other persons who experienced such events did not show very high levels of symptomatology and recovered more quickly. These observations led to the concept that persons who had certain resources were relatively protected (i.e., buffered) from the adverse impact of life events.

Buffering effects are demonstrated in studies that include measures of major life events experienced during a certain time frame (e.g., the past year), a proposed resource, and psychological and/or physical symptomatology. Persons who have experienced more negative life events have higher levels of symptomatology, but studies show that life events have less impact (sometimes almost no impact) among persons with high levels of psychosocial resources.

The resource most often studied is social support. Persons who have high levels of social support are less affected by negative life events. Buffering effects have been found for aspects including emotional support (being able to confide in a friend or family member when one is having problems) and instrumental support (being able to obtain goods or services, e.g., money, transportation, child care) that help one to deal with stressful events.

Studies of social support have found buffering effects with mortality as the outcome. Life stress increases mortality over 5- to 10-year periods, but persons with larger social networks, more emotional support, and more participation in community activities have relatively lower rates of mortality under high stress, compared with persons having less social support. *Social capital*, interpersonal trust, and cohesion at the community level, may also have such an effect.

Social relationships are not the only buffering agent. A personality complex termed *hardiness*, an orientation toward stressors based on feelings of commitment, control, and challenge, has shown such effects: Persons with a hardy personality show fewer symptoms under high stress. *Optimism*, the belief that things will generally turn out well, is an outcome expectancy that can produce buffering effects for psychological and physical symptomatology.

Research on buffering has helped to delineate pathways through which life stress may bring on health problems. It has also shown that buffering resources influence how people cope with stressors, leading to procedures for training persons in adaptive coping mechanisms so that effects of negative events can be reduced.

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See also Hardiness; Social Support; Stress and Coping

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## BULIMIA

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### Definition

*Bulimia* literally means “ox hunger” and is short for bulimia nervosa—an eating disorder characterized by binge eating episodes in which an individual feels a loss of control over eating and eats very large amounts of food. The individual reacts to binge episodes by using extreme measures to prevent weight gain, such as self-induced vomiting, laxative abuse, diuretic abuse, fasting, or excessive exercise. Within the United States, self-induced vomiting is the most common method for avoiding weight gain among individuals with bulimia nervosa. Importantly, research has shown that vomiting is not effective in getting rid of the calories consumed during binge-eating episodes. Vomiting only eliminates approximately 25% of the calories consumed during a typical binge-eating episode. Similar to individuals with anorexia nervosa, individuals with bulimia nervosa base their self-worth on their weight and shape. Like all eating disorders, bulimia nervosa is a form of mental disorder recognized by the fields of psychology, social work, nutrition, and medicine. Bulimia nervosa is an important subject in the field of social psychology because social factors play an important role in causing the disorder.

Bulimia nervosa most often occurs in adolescent and young adult females, affecting 0.5% to 3.0% of women (or 1 in 200 to 1 in 33) at some point in their lifetimes. Bulimia nervosa is far less common in males. Estimates suggest that 0.05% to 0.3% of men (or 1 in 2000 to 1 in 300) suffer from bulimia nervosa at some point in their lifetimes. Bulimia nervosa appears to be a modern problem. A British physician first used the term *bulimia nervosa* in 1979 to describe

normal-weight female patients who regularly binged and vomited. Rates of bulimia nervosa increased dramatically over a very short period of time in the second half of the 20th century. In addition to being a modern problem, bulimia nervosa appears to be a problem restricted to Western cultures such as the United States and England or individuals who have been exposed to Western ideals.

### **Western Ideals and Bulimia Nervosa**

The increasing idealization of thinness for women in Western culture provides one explanation for increasing rates of bulimia nervosa over the second half of the 20th century and the increased rates of the disorder in women compared to men. In modern, Western culture, being thin has been equated with being beautiful. The idealization of thinness has created associations between thinness and other positive qualities, such as success, intelligence, motivation, likeability, and strength. In contrast, fatness has been associated with many negative qualities, such as laziness, stupidity, loneliness, ineptitude, weakness, and dependence.

The thin ideal contrasts sharply with the reality of what most women's bodies look like, leaving most women dissatisfied with their own body weight and shape. In bulimia nervosa, dissatisfaction with weight and shape influence self-esteem, and the potential impact of weight gain on self-esteem motivates extreme attempts to control weight. Ironically, extreme attempts to control weight may trigger binge-eating episodes, locking individuals with bulimia nervosa in a vicious cycle of dieting, binge eating, and purging. The processes by which attempts to control weight lead to behaviors that cause weight gain are similar to processes described in social psychology in the area of self-regulation. Further, work by Vohs and colleagues has shown that low self-esteem is directly linked to binge eating among individuals who perceive themselves as overweight and have high levels of perfectionism. Although binge eating would increase the chasm between actual weight and perfectionistic weight ideals, it temporarily reduces painful self-awareness in individuals with low self-esteem. This explanation is consistent with models put forth by Baumeister and colleagues for other self-destructive behaviors as being motivated by a desire to escape the self.

Given the widespread nature of body dissatisfaction among adolescent girls and young adult women, bulimia nervosa is actually quite rare. This means that within a culture that idealizes thinness there are factors that further increase risk for developing bulimia nervosa. Social environments that increase pressures to adhere to the thin ideal, such as ballet schools or social groups that model eating disorder behaviors, may further increase risk for developing bulimia nervosa. Peer influence may play an important role in causing the disorder.

### **Peer Influence**

Researchers have hypothesized that peer influence is a likely causal factor in the development of bulimia nervosa during adolescence. As teenagers acquire more independence from their parents, peers become more important as a reference group. Peer influence is likely to increase dramatically when adolescents go away to college because they leave their homes to live among peers.

Researchers have examined the similarity of peer behaviors as one indicator of peer influence. According to the principle of homophily, social groups tend to share similar behavioral and interpersonal characteristics. Similar to results from studies of other health risk behaviors such as smoking, alcohol use, and drug use, research indicates that bulimic symptom levels are more similar within friendship groups than between friendship groups in high school girls. The process of socialization may cause this similarity.

### **Socialization**

In the process of socialization, attitudes and behaviors spread from one group member to another. Social norms arise for characteristics that are important to the group. Individuals experience social rewards for adhering to these norms, such as an increase in popularity, and social punishments for deviating from them, such as a decrease in popularity or even rejection from the social group. Over time, this social pressure toward uniformity has a causal effect on an individual's behavior. As group members spend more time together, their attitudes and behaviors should become more similar.

Evidence for the socialization of bulimic symptoms comes from Christian S. Crandall's study of friendship

groups in college sororities. Girls living in one of two sorority houses completed questionnaires that assessed binge eating and friendship groups in the fall and the spring of one academic year. Crandall hypothesized that socialization during the school year would lead to similarity on binge eating within peer groups in late spring (e.g., a few weeks before the sorority closed for the end of the term). As predicted, Crandall found that friends' binge eating grew increasingly similar over the course of the academic year. In both sororities, popularity was related to the extent to which an individual's binge eating was similar to the norm for her sorority. However, binge-eating patterns differed between the two sororities, suggesting that the "right" level of disordered eating depended upon local social norms—rather than reflecting college- or culture-wide norms. In an extension of this work, Zalta and Keel found socialization of bulimic symptoms in a general college sample, but this effect was specific to peers who had been selected on the basis of having similar levels of perfectionism and self-esteem.

### Treatment and Outcome

The most successful treatments for bulimia nervosa include cognitive-behavioral therapy and antidepressant medication. Cognitive-behavioral therapy directly challenges the association between self-worth and body weight/shape. Both treatments have produced higher rates of recovery compared to other forms of treatment used for the disorder. Overall, approximately half of women treated for bulimia nervosa achieve full recovery during treatment. Rates of recovery continue to increase over time such that 75% of women are recovered by 10 years following treatment. Although most women with bulimia nervosa will recover, a significant minority continues to struggle with their eating disorder into midlife. Bulimia nervosa is associated with significant health problems and problems in interpersonal relationships in these individuals. Treatment response and outcome for male patients or adolescent patients are not well described because most studies are restricted to adult female samples.

### Other Influences

Although social factors play a crucial role in the development of bulimia nervosa, many other factors are involved as well. Biological factors, such as genes, contribute to risk for developing bulimia nervosa. In addition, personality factors play an important role in

the development of the disorder. Finally, stressful life events may serve as triggers for the onset of bulimia nervosa in vulnerable individuals. For these reasons, bulimia nervosa is an important topic in many areas of psychology.

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*Alyson K. Zalta*

*See also* Self-Esteem; Self-Regulation

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## BULLYING

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### Definition

Bullying is aggressive behavior in which there is an imbalance of power or strength. Usually, bullying is repeated over time. Bullying behaviors may be direct (e.g., hitting, kicking, taunting, malicious teasing, name calling) or indirect (e.g., rumor spreading, social exclusion, manipulation of friendships, cyberbullying). Although adults may tend to view bullying as an aggressive exchange between two individuals (a child who bullies and his or her victim), it is more accurately understood as a group phenomenon, in which children may play a variety of roles as aggressors, victims, observers, and defenders.

### Attention to Bullying

Although bullying is an age-old phenomenon, it has only recently been recognized as a serious and pervasive

problem among children and youth in the United States. Led by the pioneering work of Dan Olweus in Norway, research attention to peer bullying in Scandinavia has been active for more than 3 decades, and there has been widescale public attention to the problem in Scandinavian countries since the early 1980s. In the United States, such widescale interest in bullying was not aroused until the spring of 1999, when media accounts of the shootings at Columbine High School identified the perpetrators as victims of bullying by classmates. Research on the nature and extent of bullying among children and youth has increased significantly in recent years. A smaller, but growing, literature on adult workplace bullying has also emerged.

### Prevalence

Rates of bullying among children and youth vary depending on the definition that researchers use and the populations studied. In an important nationally representative study of more than 15,000 students in Grades 6 to 10, Tonya Nansel and her colleagues found that 17% of children and youth reported having been bullied “sometimes” or more often during the school term and 19% had bullied others “sometimes” or more frequently. These researchers also found that 6% of the students were “bully victims”—they had bullied others and also had been bullied.

### Demographic Differences

The nature and prevalence of bullying among children and youth have been found to vary by age and gender. Most research suggests that children are most likely to be bullied during their elementary school years, followed by middle school, and high school. Children and youth typically are bullied either by same-age peers or by older children and youth. This may explain why somewhat different age trends are found when focusing on rates of bullying others versus rates of victimization. Most researchers have found that children and youth are most likely to bully others during early to mid adolescence.

Although both girls and boys are frequently engaged in bullying problems, researchers have debated the relative frequency with which they engage in and experience bullying. Studies relying on self-report measures typically have found that boys are more likely than girls to bully. Research findings are less consistent when examining gender differences in peer victimization. Some studies have found that boys

report higher rates of victimization than girls. Other studies, however, have found either no gender differences or only marginal differences. What is clear is that girls are bullied by both boys and girls, while boys are most often bullied by other boys. Perhaps more important than the relative frequency of bullying among boys and girls is the types of bullying in which they are involved. The most common form of bullying experienced by both boys and girls is verbal bullying. However, there are also notable gender differences. Boys are more likely than girls to experience physical bullying by their peers. Girls are more likely than boys to be bullied through rumor spreading or being the subjects of sexual comments or gestures.

### Causes of Bullying

Bullying is a complex phenomenon with no single cause. Rather, bullying among children and youth is best understood as the result of an interaction between an individual and his or her social ecology—his or her family, peer group, school, and broader community. For example, although children who bully tend to share some common individual characteristics (e.g., have dominant personalities, have difficulty conforming to rules, and view violence in a positive light), research also has confirmed that there are some common family characteristics of children who bully, including a lack of warmth and involvement on the part of parents, a lack of supervision, inconsistent discipline, and exposure to violence in the home. A child’s peer group also may influence his or her involvement in bullying. Children who bully also are likely to associate with other aggressive or bullying children. Not only are bullying rates influenced by characteristics associated with individual children, family units, and peer groups, but they also may be affected by characteristics of schools (e.g., have staff with indifferent or accepting attitudes about bullying) and by factors within a community or the broader society (e.g., exposure to media violence).

### Effects of Bullying

Bullying can affect the mental and physical health of children, as well as their academic work. Bullied children are more likely than their nonbullied peers to be anxious, suffer from low self-esteem, be depressed, and to think of taking their own lives. They also are more likely than other children to experience a variety of health problems, such as headaches, stomach pain, tension, fatigue, sleep problems, and decreases in

appetite. On average, bullied children also have higher school absenteeism rates, are more likely to say they dislike school, and have lower grades compared to their nonbullied peers. Not only can bullying seriously affect children who bully, but it also may cause children who observe or “witness” bullying to feel anxious or helpless. Bullying can negatively affect the climate or culture of a school.

Finally, there also is reason to be concerned about children who frequently bully their peers, as they are more likely than their peers to be involved in vandalism, fighting, theft, and weapon carrying, and are more likely than nonbullying peers to consume alcohol.

### Prevention and Intervention in Schools

Significant recent effort has focused on prevention of bullying in schools. Research to date suggests that the most successful efforts are comprehensive school-based prevention programs that are focused on changing the climate of the school and norms for behavior.

*Susan P. Limber*

*See also* Aggression; Power; Rejection; Sexual Harassment

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*bystander effect* describes the phenomenon in which such individuals are less likely to seek help or give assistance when others are present. This does not mean that bystanders are apathetic to the plight of others, for bystanders often show signs of distress, anxiety, and concern if they delay responding or fail to respond at all. It also does not necessarily mean that a victim will be less likely to receive help as the number of bystanders present increases—after all, the greater the number of other people present, the greater is the likelihood that at least one of them will intervene. In the event of a medical emergency, for instance, a larger group of bystanders is more likely to contain someone trained to administer appropriate first-aid measures. Rather, the term refers simply to any given individual bystander’s diminished likelihood of offering help when part of a group.

#### Context and Importance

As she was returning to her apartment on March 13, 1964, at 3:30 a.m., a young woman named Kitty Genovese was attacked and killed in the Kew Gardens district of Queens, a borough of New York City. Up to 38 witnesses later admitted witnessing the attack from their apartments as it was taking place, but no one intervened or reported the attack. These witnesses certainly had ample opportunity to call the police—the attack lasted between 30 and 40 minutes. The public and the media wanted to know why. Analysts and news commentators tended to focus on stereotypes of New Yorkers as being uninterested or calloused and lacking concern for their fellow human beings; they saw the event as an outgrowth of the anonymity fostered by life in a very large city. Social psychologists Bibb Latané and John Darley did not find such explanations particularly compelling; they thought that perhaps any individual in a similar circumstance might have hesitated to help. They argued that, among other reasons, it was the knowledge that there were so many other potential helpers, ironically, that inhibited each bystander’s willingness to act. Indeed, since the murder of Kitty Genovese, the bystander effect has been observed literally dozens upon dozens of times in many other cities and countries, and it is not unique to New York. On November 7, 2004, in Corona, California, for instance, a security camera at a mall parking lot recorded two men kidnapping a woman. The men chased a woman around the parking lot, carrying her back to the car where the men then proceeded to stuff her into the trunk of the vehicle. The camera also recorded the images of a

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## BYSTANDER EFFECT

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### Definition

Individuals who see or hear an emergency (but are otherwise uninvolved) are called *bystanders*. The

dozen bystanders scattered throughout the scene and at various stages of the kidnapping. Several bystanders turned their heads to watch the incident, but none of them called the police or went to the woman's aid. The security camera even recorded automobiles that drove past without slowing down to help the screaming woman as she was being stuffed into the trunk.

The essential element of a social psychological analysis of the bystander effect focuses on the question of why individuals in groups are less likely to help or are slower to respond than those who are alone.

## Evidence and Explanations

Bystander effects have been shown to occur in a variety of laboratory and field settings. Bystanders in groups are less likely to help people who are in need in a subway, or to give to individuals seeking small amounts of change for a phone call. Individuals in groups are less likely to give or seek help when someone apparently has been hurt falling from a ladder, when a stranger suffers an epileptic seizure, and when smoke pours into their room.

There are three fundamental reasons that the presence of others inhibits helping; each of these reasons grows more powerful as the number of other people present increases.

1. *Social inhibition.* For this factor to operate, individuals must believe that the others can see them. The concern here is that the individual wants to avoid attracting negative attention for misinterpreting the situation, overreacting, or doing the wrong thing. Individuals fear negative evaluation (sometimes especially from strangers) because they have a strong need to belong and be accepted. Consequently, they try to minimize rejection and exclusion by inhibiting any actions that potentially might bring derision.

2. *Pluralistic ignorance.* Another cause of the bystander effect is pluralistic ignorance (or conformity to the inaction of others). Imagine sitting in a room and hearing what sounds like someone falling off a ladder in the hallway. If alone, you might hesitate slightly to consider whether it was really an accident, but you are likely to go investigate. In a group, however, you are first likely to check out others' reactions surreptitiously to get assistance in interpreting the situation. If they, too, are calmly checking out others' reactions, then there is a room full of others who are not acting and who appear to be unalarmed. This

becomes the information that guides interpretations and, ultimately, the behavior of bystanders. In short, the message is that this is not an emergency because no one else is acting like it is an emergency; therefore, help is not needed. Pluralistic ignorance requires that the individual can see the others.

3. *Diffusion of responsibility.* Another explanation requires neither seeing others or being seen by others; it merely requires believing that others are around who could help (as was the case in the Kitty Genovese murder). This belief reduces the individual's obligation to help because others share that same obligation. The more bystanders who are believed to be present, the less responsibility the individual bears. Diffusion of responsibility has been demonstrated to be sufficient to cause the bystander effect even in the absence of conditions necessary for social inhibition or pluralistic ignorance.

A variety of factors can either lessen or amplify the bystander effect, but these factors are not likely to eliminate it. One very robust factor is group size: the larger the group is, the less likely any individual will act (or the more slowly that person will act). This is not a linear effect (i.e., it is not the case that ten bystanders are twice as slow as five bystanders), because the greatest impact occurs as the number present grows from one to two bystanders, with slightly less impact from two to three, and so on. In other words, additional bystanders beyond the seventh or eighth person have little additional impact. Other studies show that the bystander effect is smaller when the bystanders are friends than when they are strangers, when the person in need is more similar to the bystanders, and when the situation is clearly an emergency. Individual differences matter, too. Individuals who score higher in agreeableness and prosocial orientation are faster to help.

Still other studies show that the bystander effect is not restricted to emergency situations and can even explain someone's failure to help another person pick up dropped pencils, or not taking a coupon for a free meal in the presence of others. In fact, diffusion of responsibility for helping can be seen as a more general example of social loafing—that is, exerting less effort as a function of being part of a collective, no matter what the request is.

Research has demonstrated that the bystander effect is an extremely consistent phenomenon. Regardless of the nature of the situation requiring help, the type of assistance called for, the age or gender of the research

participants, or the location in which the research is being conducted, people are less likely to help when part of a group than when alone. This finding has occurred almost without exception, with the existing body of research presenting nearly 100 such comparisons to date.

The accepted but not well-tested method of countering the bystander effect is for victims to narrowcast their pleas for help (“You in the red coat, call an ambulance!”) rather than broadcasting the request to everyone. The victim’s singling out one person does not allow the bystander to assume that someone else may help. Being specific in the type of help that is being requested, targeting an individual from whom it is requested, and clearly indicating that the situation is an emergency will aid in eliminating many of the ambiguities that may exist, thus focusing social pressure on the individuals whose help is needed.

### **Implications**

Bystander helping intervention is regulated both by individual differences and the power of the situation.

People in general say they would help in a situation that requires aid. Research and naturalistic observations reveal, however, that having more people in a situation requiring help actually decreases the likelihood that help will be given. To combat the bystander effect, Good Samaritan laws have been created in several countries requiring bystanders, at minimum, to dial an emergency number or face legal implications.

*Kipling D. Williams*  
*Alvin Ty Law*

*See also* Diffusion of Responsibility; Informational Influence; Need to Belong; Pluralistic Ignorance; Social Loafing

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## CATHARSIS OF AGGRESSION

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### Definition

According to catharsis theory, acting aggressively or even viewing aggression is an effective way to reduce angry feelings and aggressive impulses. The word *catharsis* comes from the Greek word *katharsis*, which, literally translated, means “a cleansing or purging.” The first recorded mention of catharsis occurred in Aristotle’s *Poetics*. Aristotle taught that viewing tragic plays gave people emotional release (*katharsis*) from negative feelings such as pity and fear. In Greek drama, the tragic hero didn’t just grow old and retire—he often suffered a violent demise. By watching the characters in the play experience tragic events, the viewer’s own negative feelings were presumably purged and cleansed. This emotional cleansing was believed to benefit both the individual and society.

Catharsis also played an important role in ancient religious and magical healing rituals. By venting their emotions, people presumably called forth and expelled the demons and evil spirits that possessed their bodies.

The ancient notion of catharsis was revived by Sigmund Freud, who believed that repressed negative emotions could build up inside an individual and cause psychological symptoms, such as hysteria (nervous outbursts). Freud believed that expressing hostility was much better than bottling it up inside.

Freud’s therapeutic ideas on emotional catharsis form the basis of the so-called hydraulic model of anger, based on the idea of water pressure (*hydraulic* means “water-related”). The hydraulic model suggests that frustrations lead to anger and that anger, in turn,

builds up inside an individual, like hydraulic pressure inside a closed environment, until it is released in some way. If you don’t let your anger out but try to keep it bottled up inside, it will eventually cause you to explode in an aggressive rage. The modern theories of catharsis are based on this hydraulic model.

The entry on Media Violence and Aggression discusses whether viewing violence increases aggression. This entry will therefore focus on whether acting aggressively (e.g., screaming, yelling, hitting, kicking) increases aggression.

### Belief in Catharsis Is Widespread

The belief in the value of venting is widespread around the world. For example, for over 20 years Tokyo residents have been venting their frustrations at an annual screaming contest. The use of a concept in the popular press is a sign of how widespread it is. Catharsis messages frequently appear in plays, films, television programs, radio programs, magazines, and newspapers.

You can even buy products to vent your anger. For example, the “Tension Shooter” is a wood gun that shoots up to six rubber bands per round at targets that can be personally labeled (e.g., Boss, Mother-in-Law). Another product is “Wham-It,” an inflatable punching bag. Products such as these are based on the hydraulic model of anger. The companies that make them count on customers who believe that venting anger against inanimate objects is safe, healthy, and effective. If there were no such customers, such products would not exist.

The concept of catharsis even infiltrates everyday language. In the English language, a pressure cooker is often used as a metaphor for anger. (A pressure cooker

is a pot used to cook food under pressure, which reduces cooking time. The pot has a locking lid and valve that can be used to reduce pressure.) People are like pressure cookers, and their anger is like the fluid inside the cooker. As the anger increases, the fluid rises. People talk about anger “welling up inside” a person. If people are very angry, their “blood boils” or they reach the “boiling point.” If the anger becomes too intense, people “explode,” or “blow up.” To prevent the explosion, people are encouraged to “vent their anger,” “blow off steam,” “let it out,” and “get it off their chest.”

### Research Evidence

If catharsis theory is true, then venting anger should decrease aggression because people should get rid of the anger. Almost as soon as psychology researchers began conducting scientific tests of catharsis theory, they ran into trouble. In one of the first experiments on the topic, published in 1959, participants received an insulting remark from someone who pretended to be another participant (a confederate). Then some of the insulted participants were set to work pounding nails for 10 minutes—an activity that resembles many of the “venting” techniques that people who believe in catharsis continue to recommend even today. The act of pounding nails should reduce subsequent aggression (if catharsis theory is true). Participants in the control group received the same insult but did not pound any nails. Participants were then given a chance to criticize the person who had insulted them. The results showed that people who had hammered the nails were *more* hostile toward the accomplice afterward than were the ones who didn’t get to pound any nails. Apparently, venting anger against those nails made people more willing to vent anger against another person. Numerous other studies have found similar findings. In 1973, Albert Bandura, a famous social psychologist, issued a statement calling for a moratorium on catharsis theory and the use of venting in therapy. A comprehensive review of the research published in 1977 found that venting anger does not reduce aggression; if anything, it makes people more aggressive afterward. The authors also concluded that venting anger can reduce physiological arousal (e.g., heart rate, blood pressure), but only if people express their anger directly against the person who angered them and that person cannot retaliate. Venting against substitute targets does not reduce arousal. More recent research has shown that venting doesn’t work even

among people who believe in the value of venting and even among people who report feeling better after venting. Aggression breeds further aggression.

One variation of venting is intense physical exercise, such as running. Although physical exercise is good for your heart, it is not very good for reducing anger. Angry people are highly aroused, and the goal is to decrease arousal levels. Exercise increases rather than decreases arousal levels. Also, if someone provokes you after exercising, the arousal from the exercise might transfer to the provocation, making you even angrier.

In summary, venting anger is like using gasoline to put out a fire: It just makes things worse. Venting keeps arousal levels high and keeps aggressive thoughts and angry feelings alive—it is merely practicing how to behave more aggressively.

### If Venting Doesn’t Work, What Does?

If the metaphor of a pressure cooker is used to describe anger, there are three ways to deal with buildup of steam. The first approach is to try to contain the pressure. The problem with this approach is that it might cause the pressure cooker to explode when it can no longer contain the pressure. Stuffing anger inside and ruminating about it continually can lead to heart disease later in life. A second approach is to periodically siphon off some of the steam. This approach of venting anger or blowing off steam sounds good in theory, but it doesn’t work. A third approach is to turn down the flame and reduce the heat! With the heat down, the pressure will go down as well. This third approach is much more effective than the other two approaches at reducing anger.

All emotions, including anger, consist of bodily states (such as arousal) and mental meanings. To get rid of anger you can work on either of those. Anger can be reduced by reducing arousal levels, such as by relaxing. Anger can also be reduced by mental tactics, such as by reframing the problem or conflict, or by distracting oneself and turning attention to other, more pleasant topics. Certain behaviors can also help get rid of anger. For example, doing something such as kissing your lover, watching a comedy, petting a puppy, or performing a good deed can help, because those acts are incompatible with anger and so the angry state becomes impossible to sustain.

*Brad J. Bushman*

See also Aggression; Media Violence and Aggression

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## CENTRAL TRAITS VERSUS PERIPHERAL TRAITS

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### Definition

A central trait is an attribute in someone's personality that is considered particularly meaningful, in that its presence or absence signals the presence or absence of other traits. For example, if a person has a warm personality, it usually means that he or she is also friendly, courteous, cheerful, and outgoing—among many other possible traits. A peripheral trait is one whose presence or absence does not imply many other characteristics. For example, if a person is sarcastic, it might imply that he or she is cynical about the world or has a dark sense of humor—but not much else.

### Usage and Implications

The notion of central versus peripheral traits appears emerges in three related, but separate, areas of psychology.

#### **Descriptions of Personality**

The first usage of these terms crops up in descriptions of an individual's personality. Gordon Allport asserted that an individual's personality often contained between five to ten central traits that organized and influenced much of that person's behavior. What those five to ten traits were, however, differed from

individual to individual, but if those traits could be identified, an observer could then predict how the person would respond in a wide variety of situations. At times, Allport conceded, a person's behavior might be dependent on more peripheral traits (which he termed *secondary traits*), but the operation of these traits would be much narrower than that of a person's central attributes.

#### **Descriptions of Self**

The second usage of central versus peripheral traits refers to people's perceptions of themselves. Central traits loom large in a person's self-concept; peripheral traits do not. According to psychological theorists stretching back all the way to William James, self-esteem is influenced the most by people's performances along these central traits. For example, if *intelligence* is a central trait for a person, then academic performances will have a greater impact on self-esteem than it will for someone for whom intelligence is not central.

Studies show how a trait's centrality influences self-esteem as well as behavior. People like to do well along central traits. Indeed, they like to think of themselves as superior to others along these traits. This desire can even lead people to sabotage the efforts of their friends so that they can outperform those friends along central traits, according to the work by Abraham Tesser on his self-evaluation maintenance model. Along peripheral traits, no such sabotage occurs. Instead, people bask in the reflected glory of their friend's achievements along these peripheral dimensions and feel no envy about being outperformed.

The link between trait centrality and self-esteem, however, is complex. Failure along central traits does not guarantee a significant or long-lasting blow to self-esteem. This is because people often reevaluate a trait's centrality after succeeding or failing along it. If a person chronically fails in the classroom, for example, that person can choose to de-emphasize the centrality of academic achievement in his or her self-concept. If the person succeeds in some other arena—in social circles, for example—he or she can decide to emphasize traits relevant to that arena (e.g., social skills) as more central to their self-concept. Recent evidence shows that the traits people view as central to their self-concept just happen to be the ones that they already think they have. One would expect this if people constantly reanalyzed a trait's centrality based on past successes and failures.

## Impressions of Others

The third usage of the concepts central versus peripheral traits focuses on perceptions of others. Information about central traits influences perceptions of others more than does information about peripheral traits. When people hear that another person possesses a central trait (e.g., *moral*), they are more willing to make a host of inferences about that person than if they hear that the person possesses a more peripheral trait (e.g., *thrifty*).

Two classic experiments demonstrate the impact that central traits have on people's impressions of others. In 1946, Solomon Asch presented some students with a description of a person who was *intelligent, skillful, industrious, warm, determined, practical, and cautious*. For other students, the term *warm* was replaced with *cold*. Students later described the first person much more positively—as wiser, happier, and more humorous, for example—than they did the second person. These differences arose, Asch argued, because *warm* and *cold* are central traits that have a powerful impact on the range of conclusions people are willing to reach about others. Supporting this view, replacing *warm* and *cold* with *polite* and *blunt*, respectively, did not carry the same impact, presumably because these were more peripheral traits. Echoing Asch's findings, Harold Kelley in 1950 introduced a guest lecturer to a class to some students as a *warm* person and to others as a *cold* individual. Students receiving the first description were more likely to engage in class discussion and to rate the lecturer as effective and less formal.

One note should be mentioned about trait centrality for the self and trait centrality for judgments about others. Often, the traits considered central in the self-concept are also the traits that show up as more central in impressions of others. If *extraversion* is a trait that is central to a person's self-concept, he or she will judge others more centrally on whether they are extraverted. If *morality* is a central trait for self-esteem, morality is likely to operate as central trait in impressions of others. Theorists suspect that self-central traits are used more centrally in judgments of others because doing so bolsters self-esteem. If one's own attributes suggest so many other characteristics and abilities in other people, then those attributes must be important, and it must be good to possess such important traits.

*David Dunning*

*See also* Schemas; Self-Evaluation Maintenance

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# CHEATER-DETECTION MECHANISM

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## Definition

The human brain can be thought of as a computer—an organic one, designed by natural selection to process information in adaptive ways. It is composed of many programs, each of which evolved because it was good at solving a problem of survival or reproduction faced by hunter-gatherer ancestors in the past. The cheater-detection mechanism is one of these evolved programs. The adaptive problem it evolved to solve is detecting cheaters in situations involving social exchange.

## Usage

Whenever you exchange favors, buy things (trading money for goods), or help someone who has helped you, you have engaged in social exchange. It is a way people cooperate for mutual benefit: I provide a benefit of some kind to you, and you reciprocate by providing a benefit to me, either now or later. As a result, we are both better off than we would have been if neither of us had helped the other. Evolutionary biologists demonstrated that social exchange cannot evolve in a species unless those who engage in it are able to detect cheaters, that is, individuals who take benefits from others without providing them in return. Inspired by this finding, psychologists discovered a cheater-detection mechanism in the human brain: a program that searches for information that could reveal whether a given individual has cheated in a specific social exchange.

## Background

Wherever you find humans, you will find them engaging in social exchange: It is as cross-culturally universal and typical of the human species as are language and tool use. Sometimes it is explicit and formal, as

when people agree to trade goods or services. Other times it is implicit and informal, as when a woman living in a hunter-gatherer band shares food she has gathered with someone who has helped her in the past.

That people can make each other better off by exchanging favors, goods, and help is so rational and obvious to humans that they take it for granted. But most species cannot engage in social exchange. Its presence in some species but not others says something about the programs that generate social exchange behavior. Operant conditioning produces behavior contingent on rewards received (like social exchange does). But the programs causing this general form of learning are found in all animal species and so cannot be the cause of social exchange (if they were, many or most species would engage in it). Some of our primate relatives do engage in social exchange, so it must not require the special forms of intelligence that humans possess. Indeed, schizophrenia can impair general reasoning and intellectual abilities without impairing one's ability to detect cheaters in social exchange.

Evidence from many reasoning experiments shows that reasoning about social exchange is much better than reasoning about other topics, and it activates inferences not made about other topics. The patterns found indicate that the human brain contains programs that are *specialized* for reasoning about, and engaging in, social exchange, including a subroutine for detecting cheaters (the cheater-detection mechanism).

## Evidence

Consider the following situation: Your mother knows you want to borrow her car, so she says, "If you borrow my car, then you must fill the tank with gas." This is a proposal to engage in social exchange because it is an offer to provide a benefit *conditionally* (conditional on your satisfying her requirement—what she wants in return). Cheating is taking the benefit offered without satisfying the requirement that provision of this benefit was made contingent on. So you would have cheated if you had borrowed the car without filling the tank with gas.

Understanding this offer requires conditional reasoning—the ability to draw appropriate inferences about a conditional rule of the form "If P then Q." Psychologists interested in logical reasoning found that when people are asked to look for violations of conditional rules that do not involve social exchange, performance is poor. But performance is excellent when the conditional rule involves social exchange and

looking for violations corresponds to looking for cheaters. Subsequent tests show that this is not because social exchange activates logical reasoning abilities; instead, it activates inferences that are adaptive when applied to social exchange but not when applied to conditional rules involving other topics.

The cheater-detection mechanism looks for *cheaters*, not *cheating*; that is, it looks for people who have *intentionally* taken the *benefit* specified in a social exchange rule without satisfying the requirement. It is not good at detecting violations caused by innocent mistakes, even if they result in someone being cheated. Nor can it detect violations of rules lacking a benefit: Conditional rules specifying what a person is required to do, without offering to provide a *benefit* in exchange for satisfying this requirement, are not social exchanges and do not elicit good violation detection.

Good performance in detecting cheaters does not depend on experience with an advanced market economy: Hunter-horticulturalists in the Amazonian rainforest are as good at detecting cheaters as are college students in the United States, Europe, and Asia. Familiarity is irrelevant: Performance is excellent for novel, culturally unfamiliar social exchange rules but poor for familiar rules not involving social exchange. By age 3, children understand what counts as cheating in social exchange but not what counts as violating conditional rules describing the world. That is, the cheater-detection mechanism develops early and across cultures.

Brain damage can impair cheater detection without damaging one's ability to detect violations of logically identical social rules that do not involve social exchange. Neuroimaging results show that reasoning about cheaters in social exchange produces different patterns of brain activation than reasoning about other social rules. This is further evidence that cheater detection is caused by a specialized mechanism in the human mind/brain.

## Importance

This research shows that evolutionary biology can help one discover new mechanisms of the mind and supports the idea that minds are composed of many specialized programs.

*Elsa Ermer*  
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*See also* Deception (Lying); Evolutionary Psychology; Social Exchange Theory

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## CHOKING UNDER PRESSURE

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We have all heard the term *choking under pressure* before. In the sports arena we talk about the *bricks* in basketball when the game-winning free throw is missed. In academic domains, we refer to *cracking* in important test taking situations. But what exactly do these terms mean and why do less-than-optimal performances occur—especially when incentives for optimal performance are maximal?

### Definition

The desire to perform as well as possible in situations with a high degree of personally felt importance is thought to create *performance pressure*. However, despite the fact that performance pressure often results from aspirations to function at one's best, pressure-packed situations are where suboptimal skill execution may be most visible. The term *choking under pressure* has been used to describe this phenomenon. Choking is defined as performing more poorly than expected, given one's skill level, and is thought to occur in many different tasks.

### Analysis

Some of the first attempts to account for unwanted skill decrements can be traced back to investigations of the arousal–performance relationship. According to models of this relationship (often termed *drive theories* or the *Yerkes–Dodson curve*), an individual's performance level is determined by his or her current level of arousal or *drive*. Too little arousal, and the basketball player will not have the tools necessary to make the shot. Too much arousal, and the shot will be missed as well. Although drive theories have been useful in

accounting for some types of performance failures, they fall short in a number of ways. First, drive theories are mainly descriptive. That is, drive theories link arousal and performance, but they do not explain how arousal exerts its impact. Second, within drive theory models, there are often debates concerning how the notion of *arousal* should be conceptualized (e.g., as a physiological construct, emotional construct, or both). Third, there are situations in which certain types of drive theories have trouble accounting for observed behavior. For example, one derivation of drive theory (i.e., social facilitation) predicts that one's dominant response will be exhibited in high-arousal or high-drive situations. However, this does not always seem to hold when the pressure is on.

Building on drive theory accounts of performance failure, more recent work has attempted to understand how pressure changes how one thinks about and attends to the processes involved in skill performance. These accounts are often termed *attentional theories*. Two main attentional theories have been proposed to explain choking under pressure.

First, *distraction theories* propose that pressure creates a distracting environment that compromises working memory (i.e., the short-term memory system that maintains, in an active state, a limited amount of information relevant to the task at hand). If the ability of working memory to maintain task focus is disrupted, performance may suffer. In essence, distraction-based accounts of skill failure suggest that performance pressure shifts attention from the primary task one is trying to perform (e.g., math problem solving) to irrelevant cues (e.g., worries about the situation and its consequences). Under pressure then, there is not enough of working memory's limited resources to successfully support both primary task performance and to entertain worries about the pressure situation and its consequences. As a result, skill failure ensues.

Although there is evidence that pressure can compromise working memory resources, causing failure in tasks that rely heavily on this short-term memory system, not all tasks rely heavily on working memory (and thus not all tasks should be harmed when working memory is consumed). For example, well-learned sensorimotor skills, which have been the subject of the majority of choking research in sport (e.g., simple golf putting, baseball batting, soccer dribbling), are thought to become proceduralized with practice such that they do not require constant attention and control—that is, such skills are not thought to depend heavily

on working memory at high levels of learning. How then do such skills fail, if not via the consumption of working memory resources? A second class of theories, generally known as *explicit monitoring theories*, has been used to explain such failures.

Explicit monitoring theories suggest that pressure situations raise self-consciousness and anxiety about performing correctly. This focus on the self is thought to prompt individuals to turn their attention inward on the specific processes of performance in an attempt to exert more explicit monitoring and control than would be applied in a nonpressure situation. For example, the basketball player who makes 85% of his or her free throws in practice may miss the game-winning foul shot because, to ensure an optimal outcome, the player tried to monitor the angle of the wrist as he or she shot the ball. This component of performance is not something that the basketball player would normally attend to. Paradoxically, such attention is thought to disrupt well-learned or proceduralized performance processes that normally run largely outside of conscious awareness.

From the previous description of distraction and explicit monitoring theories, one might conclude that performance pressure exerts one kind of impact on cognitive skill performance and another kind of impact on sensorimotor skill performance. It seems more likely, however, that pressure always exerts at least two different effects: It populates working memory with worries, *and* it entices the performer to try to pay more attention to step-by-step control, resulting in a double whammy. These two effects may be differentially relevant to performance depending on the attentional demands of the task being performed. If a task depends heavily on working memory but does not involve much in the way of proceduralized routines (e.g., difficult and novel math problem solving), then it will suffer from pressure-induced consumption of working memory, but it will not be harmed by the attempt to focus what attention remains on step-by-step control that is also induced by pressure. Conversely, if a task relies heavily on proceduralized routines but puts little stress on working memory (e.g., a well-learned golf putt), then that task will suffer from performance pressure because of the shift of attention to step-by-step control and not because the overall capacity of working memory has been reduced.

In conclusion, research examining the choking under pressure phenomenon does not seek merely to catalogue instances of performance failure but also

attempts to shed light on the reasons why skills fail in high-stakes situations. Such knowledge aids in the development of training regimens and performance strategies designed to alleviate these less-than-optimal performances.

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*See also* Arousal; Attention; Automatic Processes; Drive Theory; Social Facilitation

### Further Readings

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## CLOSE RELATIONSHIPS

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### Definition

Why are we attracted to some people? How do people know they are in good relationships? Why do people fall in love? Does good communication really produce successful relationships? Are men really from Mars and women from Venus? These are just some of the intriguing questions that social psychologists attempt to answer. Indeed, the study of close relationships has become one of the most important domains in social psychology over the past several decades.

But what are close relationships? It turns out that answering this question is not as easy as it seems. One key concept, developed by Harold Kelley and John Thibaut in the 1960s and 1970s, describes close relationships in terms of *interdependence*. Close relationships differ from having acquaintances by the profound way in which the well-being and psychological

processes of one individual resonate with, and are tied to, the same processes in another person. Furthermore, close relationships are characterized by relatively high levels of trust, love, knowledge, commitment, and intimacy. However, close relationships themselves divide into two further categories: platonic friendships versus romantic relationships. Romantic relationships differ from close platonic friendships in two major ways. First, romantic relationships contain the elements of sex and passion, and second, individuals are typically involved in just one romantic attachment at one time. Friendships can be intense and are of enormous psychological importance in our lives, but most research in social psychology has been devoted toward understanding romantic relationships. Accordingly, this entry focuses on this domain in this synopsis.

### A Brief History

A social psychological approach to close relationships focuses on the interaction between two individuals, paying close attention to both behavior and what goes in people's minds (emotions and cognitions). Within social psychology, up to the late 1970s, research into relationships concentrated on interpersonal attraction; namely, what factors lead people to be attracted to one another at the initial stages of relationship development? This research tended to be atheoretical and the results read like a shopping list of variables that influence attraction, including similarity, proximity, physical attractiveness, and so forth. In the 1980s the psychological zeitgeist shifted toward the study of the much greater complexity inherent in the development, maintenance, and dissolution phases of dyadic romantic relationships. This shift was prompted by several key developments in the 1970s. First, John Gottman and others in the clinical area began research that, for the first time, observed and carefully measured the dyadic interchanges of married couples in an attempt to predict who would divorce. Second, Zick Rubin and others became interested in love and devised reliable scales that could measure the concept. Third, Harold Kelley led a team of social psychologists in producing a seminal book published in 1983 (*Close Relationships*), which presented the first full-blooded treatment of close relationships from an interactional, social psychological perspective.

Social psychological research in psychology over the past two decades has been marked by three major developments. First, there has been an explosion of

work concerned with understanding the role that social cognition (beliefs, cognitive processes, etc.) and emotions play in intimate relationships. This work has borrowed theories and methodologies from both social and cognitive psychology. Second, there has been a burgeoning interest in how attachment and bonding processes contribute to adult romantic relationships. Attachment research in adults appropriated the basic theories from the work in the 1960s and 1970s by John Bowlby and Mary Ainsworth concerning infant–caregiver attachment bonds. Third, the study of interpersonal attraction (in the context of romantic relationships, this is typically labeled *mate selection*) has once again become a hot topic, but under the new banner of evolutionary psychology. This approach is based on the evolutionary work of Darwin, but it has been honed into modern social psychological guise by figures such as David Buss and Jeffry Simpson.

Thus, as can be seen, social psychologists have freely borrowed from other domains in studying close relationships. However, this process is a two-way street, with social psychological research and theorizing being imported back into and enriching these same domains. Social psychologists have made important contributions in four major domains: how people choose their mates, love and commitment, communication and relationship interaction, and gender differences in the context of romantic relationships. Each of these domains will be discussed here.

### Searching for the “Ideal” Mate

In New Zealand, the United States, African hunter–gatherer cultures, indeed around the world, people focus on similar categories in evaluating potential mates: personality factors related to warmth and intelligence, cues related to attractiveness and health, and the possession of status and resources. Moreover, there is remarkable agreement across both gender and cultures concerning which factors are most important in selecting mates for long-term relationships: The winner is warmth and loyalty, a close second is physical attractiveness and general vitality, and down the track is status and resources.

Research suggests that individuals do not differ simply in whether they set their mate standards as demanding or modest. Rather, they attach more or less importance independently across these three categories. Thus, some people (both men and women) are essentially on the hunt for an exciting, passionate

relationship, whereas others care relatively little about passion and are preoccupied with the search for intimacy, warmth, and commitment. Yet still others are prepared to sacrifice somewhat on the passion and intimacy front, if they can obtain a partner with considerable status and resources.

Why do people not want it all? Why is Jane's ideal partner not incredibly kind, handsome, remarkably fit with a wonderful body—and rich? First, such people might be plentiful in TV soap operas, but in real life they are remarkably thin on the ground. Second, even when Jane meets such a male paragon, he will probably not be interested in Jane (who is not a perfect 10 in every category). Third, even if Jane succeeds in striking up a relationship with such a catch, he may be difficult to retain, and Jane may find she needs to invest an exhausting amount of time and resources in maintaining the relationship.

The name of the mating game is to do the best one can in light of the available pool of mates, one's own perceived mate value, and other prevailing circumstances. What causes individuals to attach different amounts of importance to different ideal categories? Perhaps the major factor is self-perceived mate value. For example, those who perceive themselves as more attractive give more weight to this particular aspect in choosing a mate. This is one major reason why people are strongly similar with their mates on factors such as physical appearance and education level.

Evolutionary-based models of mate selection typically frame their predictions and explanations relative to two different goals: the search for a short-term sexual fling or the search for a mate who would make a suitable partner in a long-term committed relationship. It should be stressed that these goals are not necessarily conscious and typically find their expression in emotions and desires. This distinction in goals is exploited by Steve Gangestad and Jeffry Simpson to argue that humans can, and do, change their mating aims depending on circumstances, but both men and women may adopt a characteristic mate-selection style as a function of their upbringing, personal experiences, situational contingencies, and so forth.

In short-term sexual liaisons, women need to invest heavily in any subsequent offspring resulting from such a union but will not have the benefit of a lifelong mate and father for the children. Thus, in this context, women should be mainly on the hunt for an attractive man (good genes) rather than for a sensitive and supportive mate. In short-term settings, men also should

not be much interested in their mate's suitability as a long-term partner, but, if they have a choice, they should go for the best genes (e.g., the sexiest woman in the bar). However, because the potential investment in subsequent offspring for the woman is vast, compared to the man flitting through town, the woman should be even choosier than the man in this context.

Research has generally affirmed this theorizing. Several studies have found that when men and women are asked about their minimal requirements in a mate for a one-night stand, men typically express more modest requirements than do women on factors associated with warmth, loyalty, intelligence, status, and so forth. Given that men are generally more persuadable than women when it comes to rapid sexual conquests, women can afford to be much choosier than men in such a context. In a famous study, Russell Clark and Elaine Hatfield had (brave) male and female confederates approach members of the opposite gender on the campus at the Florida State University and ask them if they would go to bed with them. Seventy-two percent of the men agreed, whereas none of the women did.

The standards used in evaluating mates are also influenced by local circumstances. James Pennebaker and his colleagues found that, as the hours passed, both men and women perceived potential mates in bars as more attractive. Further research has replicated the finding for both genders, confirmed that the effect is not simply caused by people steadily getting drunk, and shown that the effect only occurs for those who are not involved in an intimate sexual relationship (and who are thus more likely to be monitoring the bar for potential mates).

Overall, however, the standards that are maintained most steadfastly across short-term and long-term relationships are concerned with physical attractiveness, and this is true for both men and women. These findings are consistent with the theory that physical attractiveness and vitality form the primary "good genes" factor: In a short-term relationship all one is getting out of the deal (reproductively speaking) are (potentially) the other person's genes. In a long-term mating scenario, women should be exceptionally picky about the factors that make for a good parent and a supportive mate, that is, warmth/loyalty and status/resources. They should also be interested in good genes (attractiveness and vitality), but they may be prepared to trade such characteristics against the presence of personal warmth and loyalty or money and status. Men should certainly be more interested in the woman's

ability to be a supportive mate and parent than in the short-term mating context, and they should also maintain their search for a woman with good genes; after all, men make substantial investments as a father and partner in long-term relationships.

However, in evolutionary terms, the woman's eggs are more or less all in one basket: The success with which she can pass her genes on is dependent on her husband (and wider family). In contrast, the man has more options. He can continue to spread his genes around while he is married, and he will remain fertile with the ability to father children for many more years than women are able to muster. Thus, evolutionary logic dictates that a high level of investment by the man should be more important to the woman than vice versa (although, in absolute terms, high levels of investment should be important to both genders in long-term relationships).

There is a wealth of research that supports the existence of gender differences in what people want in a partner and relationship. In long-term relationships, men tend to attach more importance to attractiveness and vitality than do women, and women tend to give more weight to loyalty and warmth and to status and resources than do men. These findings have been found in many cultures and have been replicated consistently within Western cultures by research using standard rating scales or by analyzing the contents of personal advertisements. An important caveat is that the size and significance of such gender differences are sensitive to the cultural context. Alice Eagly and Wendy Wood found that as women's empowerment (indexed by their earnings, their representation in legislative government, and their involvement in professional positions) increased relative to men across cultures, women placed increasingly less value on the status and earnings of a mate.

### Love and Commitment

One of the most important generalizations established by social psychologists is that the way in which relationships develop is profoundly linked to what people bring with them into the relationship as mental dispositions, that is, expectations, beliefs, and personality traits. As noted previously, individuals select mates (in part) by the extent to which they meet important standards on dimensions such as warmth, attractiveness, and status. Hence, there exist strong similarities between partners on such factors. However, expectations and standards never sleep. As knowledge of the

other develops, and individuals and perceptions change, people continue to evaluate their partners and relationships by how they meet expectations and standards. The discrepancies between expectations or standards and perceptions of reality are then used to accomplish four pivotal major goals or functions in intimate relationships: evaluation, explanation, prediction, and control.

Take Fiona, who places huge importance on passion and sex in relationships and, thus, places a premium on vitality and attractiveness in evaluating a mate. Fiona was very attracted to Charles initially, mainly because he was athletic and attractive. Two years into the relationship, Charles has gained a lot of weight, and he has lost interest in going to the gym. Fiona's evaluations of Charles are, as a result, on the slide, and she is having doubts about the long-term future of the relationship (the evaluation function). Fiona can use the gap between her ideals and perceptions to help provide her with an explanation of why she is dissatisfied with her relationship: Charles is letting himself go (the explanation function). Fiona can also use the gap between her ideals and perceptions to predict the future of the relationship: Unless Charles takes better care of himself, the relationship is doomed (the prediction function). Finally, on the basis of her evaluation, explanation, and prediction, Fiona may actively attempt to change her partner's behavior, for example, by buying Charles a year's subscription to a health club for his birthday (the control function).

Research evidence suggests that this story about Fiona and Charles accurately reflects the psychological reality of relationships. Provided prior pivotal expectations are reasonably met in close relationships, the conditions are set for love, commitment, and trust to flourish. However, another important determinant of the capacity to trust and to form healthy adult intimate relationships are what are termed *working models*, which are composed of beliefs and expectations concerning the behavior of both self and others in intimate settings. This construct was initially developed by John Bowlby in the 1970s (as a part of what is termed *attachment theory*) as a tool to explain how pivotal interactions that infants have with caregivers continue to influence individuals as they develop into adulthood.

The first application of attachment theory to adult romantic relationships was published by Cindy Hazan and Phillip Shaver in 1987, triggering a massive surge of theorizing and research dealing with adult attachment. Interestingly, there are many similarities between

the love that develops between parents and children and adult romantic love. For example, lovers often use favorite nicknames, slip into singsong cadences, have strong needs to spend a lot of time together, often caress and kiss one another, seem fascinated with each other's physical appearance, and engage in long bouts of prolonged eye contact. Exactly the same is true of parent–infant interactions. The underlying neurophysiological processes are also similar, with the same “love” hormones, such as oxytocin, involved in both adult–infant attachment and adult–adult romantic love.

The similarity between adult–adult and child–parent forms of attachment supports the argument that evolutionary processes have lifted and reworked the ancient mechanisms that promote mother–infant bonding in mammals to promote pair-bonding between humans. Thus, romantic love consists of an exceptionally strong attachment that inspires strong emotional drives toward commitment and caring, along with the passion and excitement that derives from sexual activity.

Moreover, adult attachment working models come in two broad dimensions or styles similar to those found in infant attachment styles: secure versus avoidant, and anxious or ambivalent. Those who possess secure (nonavoidant) attachment working models are comfortable with intimacy and closeness and are happy to rely on others for support and succor. Ambivalent individuals intensely desire closeness and intimacy but are fearful of rejection and are constantly vigilant for signs that their partners may betray them or leave.

Adult attachment working models are relatively stable, but they are also sensitive to experiences in intimate relationships. Having a successful and happy relationship pushes people into secure working models, whereas relationship breakups move people in the opposite direction. For example, Lee Kirkpatrick and Cindy Hazan reported that 50% of a sample of 177 individuals who were originally secure, and who experienced a relationship breakup, switched temporarily to an avoidant style. Moreover, as infants develop into adults, attachment working models become differentiated across domains. Thus, research has found that an individual may have an avoidant working model for romantic relationships but a secure working model for friends or family.

Working models have the same functions in social interaction (as previously described) concerning discrepancies between standards and perceptions of the partner or relationship; namely, they help people to evaluate, explain, predict, and control their relationships.

For example, Nancy Collins has shown that when secure individuals explain negative behaviors from their partners (e.g., failing to comfort them when they were depressed), they are inclined to produce charitable, relationship-positive attributions (e.g., the partner had a bad cold) apparently designed to retain their belief in the essential warmth and trustworthiness of their partner. In contrast, ambivalent individuals tend to adopt a relationship-negative pattern and emphasize their partner's indifference to their needs and lack of commitment.

In a pioneering piece of research, Simpson and colleagues tested Bowlby's hypothesis that attachment systems should kick into action when individuals are under stress. In this research, the female members of dating couples were initially stressed (by being shown some fearsome-looking apparatus they were supposedly about to be hooked up to in an experiment). The chilled women then returned to sit with their partners in a waiting room, during which time the couple's behavior was surreptitiously videotaped. The more stressed the individual women became, the more their attachment styles (assessed prior to the experiment) seemed to influence their behavior; secure women sought support whereas avoidant women avoided seeking support from their partner, to the point of expressing irritation if their partners asked what was wrong or proffered support. Moreover, secure men offered more emotional and physical support the more anxiety their partners displayed, whereas the avoidant men became less helpful and, again, actually expressed irritation.

Finally, people enjoy thinking, analyzing, writing, and talking about their own and others intimate relationships in a thoroughly conscious fashion. However, research carried out by Mario Mikulincer (and many others) has demonstrated that relationship attachment working models, beliefs, and expectations also automatically and unconsciously influence everyday relationship judgments, decisions, and emotions.

## Communication and Relationship Interaction

The belief that good communication produces successful relationships seems close to self-evident. Yet, such unadorned claims are problematic from a scientific perspective, partly because defining and measuring the nature of (good) communication is anything but straightforward. However, there is general agreement that the way in which couples deal with the inevitable conflict or problems that crop up in relationships, and

how they communicate their subsequent thoughts and feelings to one another, is a critical element (many have suggested the critical element) in determining the success of intimate relationships. Almost everyone experiences dark or uncharitable emotions and thoughts in intimate relationships. Two general competing accounts have been advanced specifying how individuals should best deal with such mental events: the good communication model and the good management model.

The good communication model is based around three empirical postulates, describing what couples in successful relationships are supposed to do with their negative thoughts and emotions. First, they frankly express their negative feelings and cognitions (albeit in a diplomatic fashion). Second, they deal openly with conflict—they don't stonewall, withdraw, or go shopping. Third, they honestly attempt to solve their problems. If the problems are not dealt with, then it is believed they will stick around and eat away at the foundations of the relationship over time, or return at a later date possibly in a more corrosive and lethal form.

The good management model is also based around three empirical postulates. First, the regular and open expression of negative thoughts and feelings is posited as corrosive for relationships. Second, it is proposed that exercising good communication skills often involves compromise and accommodation to the partner's behavior (and not shooting from the hip with uncharitable emotions and cognitions). Third, relationships always have problems or issues that cannot be solved. People in successful relationships supposedly recognize them, accept them as insoluble, and put them on the cognitive backburner. They don't get obsessive about them or fruitlessly struggle to solve them.

Both models possess some intuitive plausibility. Moreover, each has a body of research evidence to call upon in support. Buttressing the good communication model, studies by John Gottman and others have found that avoidance of conflict and less frequent expression of negative emotions and thoughts in problem-solving discussions are associated with lower relationship satisfaction and higher rates of dissolution. In support of the good management model of relationship success, research has shown that those in more successful relationships tend to sacrifice their own personal interests and needs, swallow hard, and ignore or respond positively to their partner's irritating or negative behaviors.

This apparent paradox can be solved in several ways. First, extensive research has shown that the way

in which people interpret and explain negative relationship behavior plays an important role. If Bill's partner is short with him, Bill's causal attributions will determine the end result. If Bill attributes insensitivity to his partner and blames her, he may well yell at her. On the other hand, if Bill attributes her remark to a cold she is suffering from, he is more likely to forgive her lapse and show solicitude. Second, it may depend on the compatibility between partners rather than on the style of communication itself. There is evidence that relationships in which one individual is vainly attempting to discuss a problem (most often the woman) while the other partner withdraws and stonewalls (most often the man) are associated with both short-term and long-term unhappiness. Third, a social psychological approach would suggest that the ability of individuals to adjust their expression of negative thoughts and feelings as a function of the situational requirements might also play a decisive role.

The last point cited (i.e., the ability to strategically alter levels of honesty and expression) is nicely illustrated in the research on anger in relationships. The expression of anger (within bounds) seems to be mildly beneficial for relationships when couples are in conflict-resolution mode. In this context, anger communicates to one's partner that (a) I am not a doormat; (b) this is important to me, so listen to what I am saying; (c) I care enough about the relationship to bother exhibiting my concerns; and (d) will you "please" alter your behavior! On the other hand, the expression of even mild anger when the partner needs support and soothing is particularly corrosive for relationships. In this context, the lack of support combined with the expression of mild irritation communicates (a) I don't care for my partner, or (b) I do not love my partner, or (c) I cannot be counted on when the chips are down.

Thus, it may well be the ability to adjust communication strategies and behaviors according to the contextual demands that is critical in maintaining close and successful relationships. Partners who adopt either the good communication or the good management strategy as a consistent default option, across time and across social contexts, will have fewer psychological resources to cope with the inevitable relationship hurdles thrown across their paths. Of course there are two people to consider in intimate relationships, so the way in which couples negotiate and harmonize their individual communicative styles will be an important ingredient in determining relationship success. However, one relationship size does not fit

all. There exist a range of relationship communication styles that all appear to be successful, but which are strikingly different from one another.

Communication style is important in predicting relationship success, but it is clearly not the only important factor. A large body of research has accumulated that documents the best predictors of relationship happiness and longevity. Perhaps surprisingly, the evidence that similarity is an important factor is mixed, with many studies reporting null results, although (reflecting the power of the relationship mind) a well-replicated finding shows that couples who *perceive* themselves as more similar are considerably happier with their relationships. The two most powerful predictors of relationship success are more positive perceptions of relationship quality and more positive interactional behavior when problems are being discussed or one partner needs help or support. Measuring just these two factors enables researchers to successfully predict from 80% to 90% of couples who will stay together in marital or premarital relationships.

### Gender Differences

Well-documented gender differences in intimate relationships can be summarized by four propositions. First, women are more motivated and expert lay psychologists than men in intimate relationships (e.g., women talk and think about relationships more than men do and are more accurate at reading emotions and thoughts in their partners than men are). Second, men adopt a more proprietorial (ownership) attitude toward women's sexuality and reproductive behavior (e.g., men exhibit stronger sexual jealousy at hypothetical or actual sexual infidelities). Third, men possess a stronger and less malleable sex drive and a stronger orientation toward short-term sexual liaisons than do women (e.g., men masturbate more and have more frequent sexual desires than do women). Fourth, women are more focused on the level of investment in intimate relationships than are men (e.g., women rate status and resources in potential mates as more important than do men).

The origin of these gender differences remains a controversial issue. Evolutionary psychologists argue that they are linked to biological adaptations derived from gender differences in investment in children (women invest more), differences in the opportunity to pass on genes (men have greater opportunity), and uncertainty about who is the biological parent of

children (for men but obviously not for women). Some theorists, in contrast, posit that culture is the main driving force behind gender differences. Of course, these are not either-or options, the most sensible conclusion being that both factors are important in explaining gender differences in intimate relationships.

Some caveats are in order. First, there are substantial within-gender differences for all four of these aspects that are typically greater than the between-gender differences. This pattern typically produces massive overlap in the distributions of men and women. For example, Gangestad and Simpson estimated that approximately 30% of men are more opposed to casual sex than are average women (in spite of men overall exhibiting more approval of casual sex than women). Second, men and women are often strikingly similar in their aspirations, beliefs, expectations, and behavior in intimate relationships. And, finally, as previously pointed out, gender differences come and go in magnitude depending on the circumstances.

### Conclusions

The public is sometimes derisive of social psychologists' study of love and research questions like "Does good communication make for successful relationships?" They may believe that common sense already provides what people need to know about love. Either that, or they claim that romantic love is a mystery nobody can explain. These common beliefs are false. It does not pay to be overly confident about maxims learned at one's caregiver's knee or garnered from the latest column one has read about relationships in a magazine. Some popular stereotypes about relationships are true, others are false, and many are half-truths.

On the other hand, lay beliefs or lay theories should not be dispensed with automatically as unscientific rubbish. After all, laypeople share the same set of aims with scientists, namely, to explain, predict, and control their own relationships. Psychological folk theories and aphorisms concerned with love and relationships have developed over thousands of years. Given that humans are still here and prospering, it is unlikely, to say the least, that such lay theories should turn out to be utterly false and therefore useless as tools for people to use for predicting, explaining, and controlling their own relationships. Moreover, even if commonsense theories or maxims are false, this does not mean that they are not worthy of scientific study. False beliefs cause behavior every bit as much as true

beliefs do. Thus, (social) psychologists who wish to explain relationship behavior or cognition are forced to take the existence of commonsense beliefs and theories into account, even if such beliefs are false.

The social psychology of close relationships has a dual role. It increases understanding of intimate relationships while simultaneously contributing to scientific understanding of the basic building blocks of psychology: cognition, affect, and behavior. And this is simply because so much of human cognition, emotion, and behavior is intensely interpersonal in nature.

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*See also* Attachment Styles; Attachment Theory; Attraction; Evolutionary Psychology; Intimacy; Love; Triangular Theory of Love

### Further Readings

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## COGNITIVE CONSISTENCY

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### Definition

1. You have a friend named Jeff who likes to smoke cigarettes regularly. After attending a lecture on the grave cause-effect relationship between smoking and cancer, he quits. Why?
2. This evening, you will be meeting with two people, Chris and Jean. You really like Chris, but you don't like Jean. However, Chris really likes Jean. Over the course of the evening, do you think that your attitude toward Jean will change?
3. About 50 years ago, a small group of people were told by a spaceman that the world was going to end. They were also told that at an appointed date and time (December 21, at midnight), a "visitor" would come and take them to a spaceship to be saved from the

pending cataclysm. The small group prepared for their departure for many weeks. When midnight struck on the December 21, nothing happened. Nobody came, nor did the world come to an end. Do you think these outcomes changed their beliefs?

In these three situations, the concept of *cognitive consistency* may be used to predict and explain the various outcomes. Given the assumption that pleasant psychological states (i.e., balanced states) are preferred over those that are unpleasant,

*cognitive consistency* can be defined as the concept that individuals have a preference for their thoughts, beliefs, knowledges, opinions, attitudes, and intents to be congruent, which is to say that they don't contradict each other. Further, these facets should be congruent with how individuals see themselves and their subsequent behaviors. Incongruity or asymmetry leads to tension and unpleasant psychological states, and individuals will seek change in order to reach congruency, reduce tension, and achieve psychological balance.

Within this definition, the term *cognitive* refers to "thoughts, beliefs, knowledges, opinions, attitudes, and intents." (The word *cognitive* is roughly equivalent to the word *mental*.) Thus, the term is defined rather broadly and encompasses almost anything that humans hold consciously. The term *consistency* refers to consistency across cognitions, meaning that cognitions should be in agreement, symmetrical, balanced, or congruent. Cognitions that are conflicting (asymmetrical) place individuals in an unpleasant psychological state. Since pleasant states are preferred, individuals experience a pressure to have these conflicting cognitions resolved, and they take action to reduce tension and reach psychological balance.

Cognitive consistency is one of the earliest concepts associated with social psychology. Fritz Heider is typically credited with first noting, in 1946, the concept within social psychological theory. However, in the 1950s, a flurry of psychological theory incorporated the term, with various applications and improvisations. Pioneering social psychology figures such as Leon Festinger, Fritz Heider, Theodore Newcomb, and Charles Osgood all produced theories incorporating cognitive consistency and supportive research. It is these theorists and their work which form the core group of *cognitive consistency theories*, including

cognitive dissonance (Festinger), balance or p-o-x theory (Heider), the A-B-X system (Newcomb), and the principle of congruity (Osgood). Beyond this core group, a host of other theorists have continued to incorporate the concept. Over the years, cognitive consistency, especially Festinger's theory of cognitive dissonance, has produced a wide body of research in both laboratory and applied settings, and has been shown to be valid and robust. It is a key concept within all social psychology textbooks, especially regarding attitude change, and continues to be a studied commodity within social psychology and related fields.

To help illustrate the concept, take a look at the examples from the beginning of this section. Scenario 1 is one of the simplest applications of cognitive consistency. Your friend Jeff likes to smoke, and prior to attending the health lecture, this attitude was not in conflict. However, after attending a lecture on the health consequences of smoking, his enjoyment of smoking and knowledge about the negative health effects of smoking are now in conflict. Holding these two contradictory beliefs creates tension, which leads Jeff to want to reduce the tension. To do this, he quits smoking, thereby regaining balance. You may be asking, "Can't Jeff choose to smoke anyway, and ignore the health consequences?" That is indeed an option—to reduce the tension between the conflicting cognitions, Jeff could deny the validity of the health consequences of smoking to reach balance.

Scenario 2 is an application of Heider's *balance theory*. Balance theory suggests that cognitive consistency or balance is expected across the three entities (viewed as a unit): the person (p), another person (o), and an attitude object (x). Within Scenario 2, there is a lack of consistency (i.e., the "unit" is out of balance). You like Chris but dislike Jean. However, Chris likes Jean. This tension must be resolved. You can either (a) decide to dislike Chris, or (b) decide to like Jean. Either choice will lead to balancing the system. Ultimately, if Chris is a good friend, you may decide to take a liking toward Jean at the end of the evening.

Scenario 3 is loosely based on a true story described in the book *When Prophecy Fails* (by Leon Festinger and colleagues). After the visitor fails to arrive at midnight, the group does not abandon their beliefs. Instead, they adopt various reasons for the person not showing, and hence their beliefs stay in tact. From a cognitive consistency standpoint, this makes sense. The reality of the visitor failing to arrive conflicts with what they had vehemently believed. The cognitive

discomfort (called *dissonance*, according to Festinger) resulting from this conflict subsequently led to various explanations being adopted by members of the group to bolster their earlier beliefs. Even days afterward, some members refused to accept the reality that there was never going to be a visitor and that the world was not going to end.

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*See also* Balance Theory; Cognitive Dissonance Theory

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## COGNITIVE DISSONANCE THEORY

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### Definition

Introduced by Leon Festinger in 1957—and since that time debated, refined, and debated again by psychologists—cognitive dissonance is defined as the aversive state of arousal that occurs when a person holds two or more cognitions that are inconsistent with each other. The concept of dissonance was once enormously controversial, but its support through five decades of research has made it one of the most widely accepted concepts in social psychology.

Cognitive dissonance can explain a variety of ordinary and extraordinary events in our social lives. Indeed, for a concept to have as long and active a "shelf life" as dissonance, it must either help us see our social world differently, help us to understand why certain phenomena occur, or allow us to make (and confirm) interesting and nonobvious predictions about human nature. The theory of cognitive dissonance has accomplished all three.

To break the definition into its components, let us consider first what is meant by *inconsistent cognitions*, for it is the simultaneous holding of inconsistent cognitions that gives rise to the experience of dissonance. Festinger thought of a cognition as any piece of knowledge that we have. We can have knowledge about our beliefs, our behavior, our feelings, or about the state of the environment. We may have dozens of cognitions of which we are at least dimly aware at any moment in time and innumerable more of which we can become aware, once our attention or memory is set in motion. Most of the cognitions that we have are not related to each other in any obvious way. For example, my knowledge that I am hungry and my knowledge that the Earth travels around the Sun are two cognitions, but my hunger bears no relationship to the trajectory of the planets. However, some cognitions are directly related. My knowledge that I am hungry is very much related to my behavior at the local restaurant in which I am sitting. If I order a meal, the knowledge of that behavior is related to my knowledge that I'm hungry. In fact, it is quite consistent with my hunger. However, if I decide to forego the meal, or simply order a cup of coffee, my ordering behavior is again related to my hunger, but this time it is *inconsistent*.

Cognitive dissonance is all about the consequences of inconsistency. We prefer consistency to inconsistency and work hard to maintain (or restore) consistency among our cognitions. Failing to order food to allay my hunger at the restaurant, I may convince myself that I was not really that hungry, or that the restaurant's food was bad. In this way, the inconsistency between my knowledge of my hunger and the decision not to purchase food would seem more consistent. In many ways, the need to restore consistency is similar to the familiar concept of rationalization—indeed, rationalization is one way to deal with the dilemma posed by inconsistent cognitions.

Formally, the state of cognitive dissonance occurs when a person holds one cognition that follows from the obverse of another cognition. For example, not ordering food at the restaurant would follow from the obverse or opposite of being hungry. If I were full, I would not be expected to order food. But I was not full, and thus the decision to refrain from eating would follow from the obverse of my knowledge that I was hungry. The condition for dissonance is met.

How does cognitive dissonance feel? Dissonance is experienced as an unpleasant emotion, akin to feeling

uncomfortable, bothered, or tense. In addition, dissonance is motivational. When we experience dissonance, we are motivated to reduce it, much like the way we are motivated to reduce physical drives such as hunger and thirst. The more dissonance we experience, the more we are motivated to find a way to reduce it. This need can lead to the kinds of rationalizing behaviors, such as those encountered in the restaurant scenario. Not ordering food when hungry creates a state of cognitive dissonance. Rationalizing, by convincing ourselves that we were not so hungry after all, reduces the inconsistency and thereby reduces the unpleasant state of dissonance.

## The History of Dissonance Research: Predictions and Findings

### *Choices, Choices*

The occasions that cause us to experience dissonance are ubiquitous. Whenever we make a choice, there is the potential for dissonance. Imagine that you are purchasing an automobile. It is a tough choice with many alternatives from which to choose. Let's say you have narrowed the field to your two favorite options: a slightly used BMW and a brand-new Neon. You consider the pros and cons of each car. The BMW is fast, gorgeous, and attracts positive attention. The Neon is new, so you can get a full selection of colors and a multiyear warranty. On the other hand, the BMW, being old, is more likely to break down, the cost of repairs is high, and you must take it in green. The downside of the Neon, you believe, is that it is slow, less attractive, and handles sluggishly. You choose the BMW, satisfied that, on balance, it provided more of what you were looking for than the Neon.

But wait . . . you have now selected a car that has several negative features. What if it breaks down? What if your friends hate the color green? And what do you do about the features of the Neon that you are giving up? You liked the warranty, and now you don't have it. You liked the price, but you've now spent more money buying the BMW. All of these thoughts are inconsistent with your decision to buy the BMW. According to the theory of cognitive dissonance, you experience an unpleasant tension. Each time you think of a cognition that supported the Neon over the BMW, your tension rises. You are driven to reduce it. What can you do? Here are some possibilities: (a) You can

increase the importance of some of the factors that caused you to like the BMW in the first place. Suddenly, speed seems like the most important dimension you can think of when it comes to buying a car. (b) You can reduce the importance of some of the good features of the Neon. For example, you decide that warranties are often deceptive and the parts of cars that break are usually not covered. (c) You can add cognitions that support your choice that you hadn't considered previously. You may think about how many more people will be friends with you when you drive the BMW or how many people would have thought you were dull if you had picked the Neon. In the end, you may perform any or all of the cognitive changes that help you reduce your dissonance. And there is a measurable consequence to these cognitive changes. When you made your choice, you liked the BMW a bit more than you liked the Neon. By the time you are finished with your rationalizations and distortions that have been at the service of reducing cognitive dissonance, you will like the BMW *much better* than the (now) boring little Neon!

The predictions in the automobile purchasing scenario were confirmed in the first reported laboratory research on cognitive dissonance. In his 1956 study, Jack W. Brehm asked consumers to rate a variety of household items such as blenders and toasters. He told the consumers that they would be able to take home one of two items from the longer list of products. To create a high degree of dissonance, similar to the automobile example, Brehm asked the participants to choose between two highly attractive, closely related products. Brehm predicted that, just like the hypothetical BMW example, the consumers would rate the chosen product much more highly than they had rated it previously, and that they would downgrade the product that they did not choose. This is exactly what happened.

### **Changing Your Attitudes for Less**

Here is another "thought experiment": Imagine that a researcher asks you to write an essay in which you argue that tuition rates at public and private colleges should increase. The researcher tells you that the Dean of your college is trying to understand the arguments in favor of and against tuition increases, and you have been asked to write in favor. You think to yourself that this would be difficult because you do not want to see

tuition rates increase. The researcher tells you that you can decide whether or not to write the essay, but he would really appreciate your doing it. You think it over and then agree. Now, you have a cognitive dissonance dilemma. Writing an essay in favor of a tuition increase is discrepant with your negative attitude about tuition. But you agreed that you would write it. This scenario should arouse dissonance. What can you do? Among the alternatives at your disposal is to decide that you really are not against tuition increases after all. If you actually believe that it is okay to raise tuition rates, then there will not be any cognitive dissonance resulting from your writing the essay. Similarly, it may be that politicians who are cajoled to support issues that they initially do not believe suffer the aversive state of dissonance and reduce it by coming to believe the position that they had just advocated—even though they did not believe it when they agreed to make the speech.

Once again, research in the laboratory demonstrated the truth of this prediction. Just as in the previous scenario, Festinger and his student, J. Merrill Carlsmith, showed that college students who agreed to make a speech with which they initially disagreed came to believe in the position they advocated following the speech. But there was more to this scenario: The students were given a monetary incentive to say what they did not believe. Would the magnitude of the incentive affect attitude change? Would speakers who received a large reward for making such a statement come to believe it more than students who received only a small token? Such a prediction may seem reasonable from what is known about the usual effects of rewards. Pigeons, rodents, and even humans have been shown to learn and act based on the magnitude of reward they receive for their behavior. However, dissonance theory makes a startling and nonobvious prediction—the *lower* the reward, the greater will be the attitude change. The magnitude of cognitive dissonance is increased by the magnitude and importance of the inconsistent cognitions a person holds, but it is *reduced* by the magnitude and importance of the consistent cognitions. Knowing that you made a speech that is contrary to your opinion is a cognition inconsistent with your opinion. On the other hand, receiving a bundle of money as a reward for the speech is a cognition quite consistent with giving the speech. The higher the reward is, the more important consistent cognition becomes. Therefore, making a counterattitudinal

speech for a large reward results in less overall dissonance than making the same speech for a small reward. This is what Festinger and Carlsmith found: The lower the reward was for making the speech, the greater the attitude change was in favor of tuition increase. The notion that people change their attitude following counterattitudinal behavior has become known as the psychology of *induced compliance*. The finding that attitude change increases as the magnitude of the inducement decreases is perhaps the most telling signature that cognitive dissonance has been aroused.

### **To Suffer Is to Love**

Imagine that you have decided to join a sorority or fraternity at your college. You know that you have to undergo some form of pledging ritual to join. The pledging will not be fun and may be uncomfortable and embarrassing, but you decide to do it. Will the pledging affect your view of how attractive the sorority or fraternity is? The theory of cognitive dissonance makes another bold and nonobvious prediction: The greater is the suffering involved in the pledging, the more you will be motivated to like the club you are trying to enter. The knowledge that you chose to endure some degree of discomfort and unpleasantness is discrepant with your typical desire to have pleasant rather than difficult experiences. However, in this scenario, there is a reason that you engaged in a difficult, less-than-pleasant pledging ritual: You wanted to join the group. Wanting to be a member of the group is the cognition that makes your suffering seem to make sense. Any dissonance created by your decision to endure the pledging is explained or justified by how enjoyable it will be to participate in the group. The more uncomfortable the group's pledging procedure is, the more you need to find a reason for enduring it. And the justification can be made very compelling by distorting how good you think the group really is. Therefore, the prediction from cognitive dissonance theory is that the act of pledging will make the group seem attractive—and the more difficult or noxious the pledging is, the more attractive the group will seem. This phenomenon has been called *effort justification*.

Two social psychologists, Elliot Aronson and Judson Mills, tested the logic of effort justification in an experiment in which they had students undergo a screening test to join a group that was discussing the topic of sex. For some students, the screening was made avowedly difficult and embarrassing; for other

students, the screening was less so. Although the group and the group members were precisely the same, those students who had the more embarrassing and difficult screening found the group discussion to be more interesting and the group members to be more attractive. By convincing themselves that the group was wonderful, the students were able to reduce the dissonance that had been aroused by their volunteering to engage in a difficult, embarrassing screening.

Volunteering to engage in difficult, effortful tasks happens frequently in our lives. Courses we choose to take may require a great deal of preparation, reading, and homework. Sports programs may require us to spend considerable amounts of time in training and in enduring the outbursts of demanding coaches. Yet, the very act of agreeing to participate in such effort has a positive consequence: It pushes us to like the activity for which we suffered.

### **Cognitive Dissonance and Social Life**

Cognitive dissonance is ubiquitous. We like to think of ourselves as psychologically consistent human beings—that we act in ways that are consistent with our attitudes and that our attitudes are typically consistent with each other. We like to think that we make good choices and act in our own best interests. However, life often throws us curves that create inconsistency. The choices we make often lead us to dilemmas in which we need to relinquish some aspects of a rejected alternative that we would really like or to accept aspects of our chosen alternative that we would rather not have to accept. Sometimes, we find ourselves engaged in effortful activities that make little sense or find that we have to say or do things that do not quite fit with our private attitudes. These occasions cause us to experience dissonance—that uncomfortable state of tension that Festinger introduced in 1957. We do not live with the tension; rather, we take action to reduce it. And that is what is so interesting about cognitive dissonance. In our effort to reduce dissonance, we come to distort our choices to make them seem better, we come to like what we have suffered to attain, and we change our attitudes to fit our behaviors. Discovering and explaining the processes behind these occasions pervading our social life has been the hallmark of research on the theory of cognitive dissonance.

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*See also* Attitude Change; Attitudes; Cognitive Consistency; Effort Justification

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## COHESIVENESS, GROUP

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### Definition

Cohesiveness refers to the degree of unity or “we-ness” in a group. More formally, cohesiveness denotes the strength of all ties that link individuals to a group. These ties can be social or task oriented in nature. Specifically, a group that is tied together by mutual friendship, caring, or personal liking is displaying *social cohesiveness*. A group that is tied together by shared goals or responsibilities is displaying *task cohesiveness*. Social and task cohesiveness can occur at the same time, but they do not have to. For example, a group of friends may be very cohesive just because they enjoy spending time together, regardless of whether or not they share similar goals. Conversely, a hockey team may be very cohesive, without liking each other personally, because the players strongly pursue a common objective.

### Consequences of Cohesiveness

A high degree of cohesiveness is a double-edged sword. Positive consequences include higher commitment to, and responsibility for, the group. Also, satisfaction with the group is higher within cohesive groups. Furthermore, there is a positive relationship between the degree of cohesiveness and the performance of a group. Although the direction of causality between

performance and cohesiveness is still disputed (in fact, cohesiveness and performance seem to mutually influence one another), cohesive groups are likely to outperform noncohesive ones if the following two preconditions are met: First, the group has to be tied together by task (rather than social) cohesiveness. Second, the norms and standards in the group have to encourage excellence. Indeed, if the norm in a group encourages low performance, increasing cohesiveness will result in lower instead of higher performance. Thus, depending on the norms present in a group, the cohesiveness–performance link can be beneficial or detrimental. Aside from potentially worse performance, negative consequences of cohesiveness entail increased conformity and pressure toward unanimity. Cohesiveness may thus lead to avoidance of disagreement, groupthink, and hence bad decision making. Another negative consequence of particularly social cohesiveness may be maladaptive behavior if the composition of a group is changed. Indeed, in cases in which cohesiveness is high and mainly due to personal liking, changes in the group’s structure may result in disengagement of group members.

### Enhancing Group Cohesiveness

Social cohesiveness can be enhanced by increasing liking and attraction among group members. Liking can be enhanced, for example, by increasing similarity of group members (people like those who are similar to them or share similar experiences). Task cohesiveness can be enhanced by emphasizing similar goals and ensuring that the pursued goals are important to all members. Both social and task cohesiveness can be promoted by encouraging voluntary interaction among group members or by creating a unique and attractive identity of the group, for example, by introducing a common logo or uniform. Finally, cohesiveness is generally larger in small groups.

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*See also* Conformity; Groupthink; Norms, Prescriptive and Descriptive

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## COLLECTIVE SELF

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### Definition

The collective self consists of those aspects of the self that are based on memberships in social groups or categories. It refers to a perception of self as an interchangeable exemplar of some social category rather than a perception of self as a unique person. The collective self is based on impersonal bonds to others that are derived from the shared identification with a social group. Those bonds do not necessarily require close personal relationships between group members. The collective self-concept is composed of attributes that one shares with members of the group to which one belongs (the ingroup). That is, it includes those aspects of the self-concept that differentiate ingroup members from members of relevant outgroups. Commonalities with groups may be based on stable characteristics, such as race or gender, or on achieved states, such as occupation or party membership.

For example, a person may hold a self-definition of being an environmentalist. When this collective self-aspect becomes relevant, similarities with other environmentalists (e.g., a sense of responsibility for the environment) are emphasized, whereas unique characteristics of the person (e.g., being honest) move to the background. It is not essential for self-definition that the individual has close personal relationships with other environmentalists, as collective identity is based on the common identification with the group of environmentalists. The collective self-concept comprises characteristics that the person shares with other environmentalists and that differentiate environmentalists from other people (e.g., relying on public transportation vs. using cars, or voting behavior).

### Background

Marilynn Brewer and Wendi Gardner suggested a theoretical framework that encompasses three levels of self-definition: personal self, relational self, and collective self. The collective self refers to the representation of self at the group level (e.g., “I am a student of

psychology”). It corresponds to the concept of “social identity” as described in social identity theory and self-categorization theory. Recently the term *collective self* has been preferred to the term *social identity*, as all aspects of the self are socially influenced. The collective self can be distinguished from the personal self and the relational self. The *personal self* concerns the definition of self at the individual level (e.g., “I am smart”); it refers to characteristics of the self (e.g., traits or behavior) that one believes to be unique to the self. The *relational self* alludes to the interpersonal level; it is derived from relationships with significant others (e.g., “I am a daughter”). The term *collective self* corresponds to the *interdependent self* as defined by Hazel Markus and Shinobu Kitayama in their analysis of cultural differences between self-concepts in Japan and the United States. The relational self refers to people to whom one feels emotionally attached, such as close friends or family members. In contrast, the collective self may include people whom one has never met but with whom one shares a common attribute, such as occupation or gender.

Richard Ashmore, Kay Deaux, and Tracy McLaughlin-Volpe developed a framework which distinguishes elements of collective identity: self-categorization, evaluation, importance, attachment, social embeddedness, behavioral involvement, and content and meaning. *Self-categorization* refers to identifying the self as a member of a particular social group. It is the basis for the other dimensions of collective identity. *Social categorization* has been assumed to be an automatic process that occurs as soon as people have a basis for grouping individuals into categories. But often there are many categories that may be used in any given situation (e.g., “student,” “woman,” “Democrat”). Relevant goals in a situation are among the factors that determine the type of categorization occurring.

The dimension of evaluation represents the positive or negative attitude that a person has toward a social category. Accordingly, collective self-esteem is the extent to which individuals evaluate their social groups positively. Rija Luhtanen and Jennifer Crocker developed a collective self-esteem scale that comprises four subscales: (1) private collective self-esteem (i.e., the extent to which individuals feel positively about their social groups), (2) public collective self-esteem (i.e., the extent to which individuals believe that others evaluate their social groups positively), (3) membership esteem (i.e., the extent to which individuals believe

they are worthy members of their social groups), and (4) importance to identity (i.e., the extent to which individuals believe their social groups are an important part of their self-concept).

The framework includes further elements that cannot be addressed in detail here, for example, the importance of a particular group membership to a person's overall self-concept, or attachment, defined as a feeling of affective involvement and belonging to a group.

### Importance of Topic

A variety of behaviors and conditions can be predicted from elements of collective identity. The collective self has been linked to individuals' reactions and behaviors toward other people, especially toward members of other groups. It plays an important role in group perception and behavior, for example, prejudice, intergroup stereotyping, and discrimination. According to social identity theory, individuals seek to achieve and maintain a positive social identity (i.e., collective self-esteem) by establishing favorable comparisons between their own groups and outgroups. To achieve this, people discriminate against or derogate outgroup members relative to ingroup members. It has been found that the mere act of categorizing oneself as a group member is sufficient to lead people to evaluate ingroup members more positively than others and to allocate more rewards to them than to members of other groups.

Elements of the collective self also predict outcomes at the individual level. For example, collective self-esteem is related to psychological well-being (e.g., higher satisfaction with life, lower depression, hopelessness, and burnout). Furthermore, there is evidence for relationships between ethnic and more specific, context-relevant identities and achievement.

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*See also* Independent Self-Construals; Interdependent Self-Construals; Self; Self-Categorization Theory; Self-Concept; Self-Esteem; Social Identity Theory

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## COLLECTIVISTIC CULTURES

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### Definition

Social psychology researchers tend to think about cultures as shared meaning systems that provide the knowledge people need to function effectively in their social environment. To see the importance of shared meaning systems, imagine that you were in a different culture where you did not know the language or the customs. It would be quite difficult for you to function in such a culture, at least until you learned these things. It is only when you share knowledge with others that you can communicate and interact with them effectively. Because of this shared knowledge, people in a culture are likely to have some similar ways of thinking about the world, to perceive things in a similar way, to have similar values and attitudes, to want similar things, to have similar ways of interpreting events, and to perform similar behaviors. This does not mean that all people in a culture will be the same, but they are more likely to be similar to each other than to people from other cultures.

Keeping in mind what a culture is, now consider how to define *collectivistic cultures*. Usually, collectivistic cultures are contrasted with individualistic ones, but there is no single definition. Rather, there are several characteristics that people from collectivistic cultures tend to have in common. In general, people in collectivistic cultures tend to think of themselves as interdependent (as strongly valuing harmonious relations) with their groups such as families, coworkers, country, and others. They benefit from their group memberships, and in turn, they have a desire to make sure that they benefit their group members. Consequently, they are likely to give priority to group goals over their personal goals. In general, people in collectivistic cultures are more likely than people who are not in collectivistic cultures to think about their group memberships and to consider them when making decisions. Some examples of collectivistic cultures include

East Asians (e.g., Chinese, Japanese, and others) and Arabs (e.g., Egyptians, Syrians, and others).

Much evidence has accumulated showing that people in collectivistic cultures define their self-concepts (their concepts of who they are) relative to their group memberships. For example, when these people are asked to complete sentences beginning with “I am,” they are more likely than other people to respond with group memberships such as “I am a member of my family,” “I am a Chinese person,” and others. People from collectivistic cultures are also more likely than other people to say that their group memberships play an important role in how they think about themselves.

Because people in collectivistic cultures are interdependent with each other, that is, they have influence over each other and are influenced by each other. In other words, people have power over each other, but others also have power over them. This reinforces the tendency to prioritize group goals over personal goals because failure to do so can result in punishments from the other members of the group, whereas the pursuit of group goals can result in approval. The power issue is clarified when one considers that wealthy people tend to be less collectivistic than other people, even in collectivistic cultures. This is because wealthy people, to a greater extent than those who are not wealthy, can buy what they want, relocate to another area, and pursue other relationships. In short, wealth can provide some (but not complete) protection against social sanctions and thereby reduce the need for collectivism.

There are several factors that can affect the degree of collectivism in a culture. One such factor is the homogeneity (sameness) of the group. The more similar people in a group are to each other, the easier it is for them to agree on the proper norms, and so they will tend toward collectivism.

A second factor is the degree to which people need each other to accomplish the task at hand. Suppose that the task at hand is to feed one’s family. A person in a highly technological society may be able to make a good living as a computer programmer and rarely have to interact with other people. However, a person in an agricultural society—especially one in which the production of food is a group effort—must interact effectively with others. Such cultures will tend toward collectivism.

A third factor is that, in some cultures, people have more access to alternative groups than in other cultures. In a culture where access to alternative groups

is restricted, one’s group has a great deal of ability to reward or punish behavior, thereby increasing the tendency toward collectivism. In contrast, to the extent that there is access to other groups, the ability of any particular group to reward or punish behavior decreases, and so collectivism likewise decreases.

A fourth, and subtler factor, is the ease with which particular self-concepts can be brought into consciousness (this is often called *accessibility*). Much evidence demonstrates that people in a wide variety of cultures have both a private self-concept (where thoughts about their traits and behaviors are stored) and a collective self-concept (where thoughts about group memberships are stored), though these concepts may not be equally likely to be accessed. It is quite easy to perform experiments where one or the other of these self-concepts is made more accessible by an experimental manipulation. For example, the collective self-concept can be made more accessible by asking people to think about how they are similar to their family and friends. The result of making the collective self-concept more accessible is that people behave in a more collectivistic manner. Thus, if people in a culture are exposed to stimuli that increase the accessibility of their collective self-concepts, they will tend toward collectivistic behaviors.

A fifth factor involves personality. Some people tend to value group memberships more than others. If there are many such people in a particular area, the culture will tend toward collectivism. Similarly, some people are more susceptible to social pressure than are others, which again increases the tendency of the culture toward collectivism.

Religion is sixth factor that has been shown to be correlated with collectivism. As people become more religious, they conform more to the practices of their religious group and identify themselves more with that group. In a word, they become more collectivistic. But not all religions are the same in the extent to which they promote conformity to religious prescriptions. Also, some religions are more centralized than others (e.g., Roman Catholics are more centralized than Protestants), and more centralization of authority leads to more collectivism. In religions where people are encouraged to disagree (e.g., Reform Judaism), it is less likely that religion will increase collectivism.

In summary, collectivism is a complicated idea that can be affected by a variety of things and is correlated with many other variables. In addition, there is no single kind of collectivism; although many different

cultures are categorized as collectivistic, they differ from each other in their degree of collectivism as well as in many other ways. Despite these complications, the notion of collectivism has been widely used in social and cross-cultural psychology and is likely to remain so for a long time to come.

*David Trafimow*

*See also* Accessibility; Conformity; Cultural Differences; Culture; Independent Self-Construals; Interdependent Self-Construals

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## COMMONS DILEMMA

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*See* SOCIAL DILEMMAS

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## COMMUNAL RELATIONSHIPS

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### Definition

A communal relationship is one in which an individual assumes responsibility for the welfare of his or her partner. In these relationships, when the partner has a specific need, wants support in striving toward a goal, would enjoy being included in an activity, or simply could use the reassurance of care, the other partner strives to be responsive. Importantly, partners do so with no strings attached. Common examples of communal responsiveness are a mother providing lunch to her child, a person providing encouragement to a friend who is training to run in a marathon, or a person giving his or her romantic partner a compliment. In each case, the benefit enhances or maintains the welfare of the recipient, and the recipient incurs no debt.

Communal relationships vary in strength. In very strong communal relationships, one person assumes a great deal of responsibility for the other person and would do almost anything, unconditionally, to promote his or her welfare. Parents often have very strong communal relationships with their own children, putting their child's welfare above their own welfare and spending years providing emotional and tangible support. In very weak communal relationships, a person assumes just a small amount of responsibility for another's welfare; yet, within the bounds of that small sense of responsibility, the person is unconditionally responsive to the other person. For instance, most people are willing to tell even a stranger the time or give the stranger directions with no expectation of repayment. Most communal relationships, for instance those with friends, fall somewhere in between these extremes of very high and quite low communal strength.

People have implicit hierarchies of communal relationships ordered according to the degree of communal responsibility they feel for others. A person's entire set of hierarchically arranged communal relationships may be shaped like a triangle with a wide base representing the person's many weak communal relationships and a peak representing the person's few very strong ones. At the base are the many strangers and passing acquaintances for whom small courtesies may be provided without expecting a specific, precisely equal repayment. Higher in the hierarchy, and fewer in number, are relationships with colleagues and casual friends, higher yet relationships with closer friends and a variety of relatives. For many people, relationships with best friends, immediate family members, and romantic partners are near or at the top. The needs of those higher in the hierarchy take precedence over the needs of those lower in the hierarchy.

Although some communal relationships (e.g., that with one's own infant) may be universal and even dictated by biology or social dictates, others are voluntary. The exact nature of hierarchies will vary from person to person and, certainly, from culture to culture.

Communal relationships can and often are symmetrical, meaning that each person in the relationship feels the same degree of communal responsibility for the other. Friendships, sibling relationships, and romantic relationships often (but not always) exemplify symmetrical communal relationships. Other communal relationships are asymmetrical, with one member assuming more responsibility for the other than vice versa. Perhaps the clearest example of an

asymmetrical communal relationship is that which exists between a parent and a newborn infant. The parent typically assumes tremendous communal responsibility for the infant; the infant assumes no communal responsibility for the parent. As the child ages, the asymmetry typically diminishes and, in the parent's old age, may reverse.

Although it might seem that a communal relationship is necessarily an unselfish relationship, the basis for communal relationships can be selfish as well. It is the assumption of some degree of unconditional responsibility for the welfare of another person that is the marker of a communal relationship. However, one can assume such responsibility for unselfish or selfish reasons. For example, one may feel empathy for another when needs arise and assume unconditional responsibility for that person to alleviate their distress. This is a seemingly unselfish reason for communal responsiveness. However, one might assume communal responsibility for rather selfish reasons as well. For instance, one may be communally responsive to a grumpy elderly relative because one fears criticism by others if one does not do so. One may be unconditionally responsive to a peer because one hopes (but cannot require) that the peer will desire a symmetrical communal relationships (friendship) and will be similarly responsive to one's own needs if and when such needs arise. Such reasons are more selfish. It appears likely that there is an evolutionary, as well as a cultural, basis for the existence of communal relationships.

Communal relationships can be very short in duration, such as when one gives a stranger directions with no expectation of repayment, or very long term, as in a typical parent's relationship with his or her child. It is, however, undoubtedly the case that the strength of a communal relationship is positively correlated with the length (and expected length) of that relationship.

Establishing and maintaining strong communal relationships can be difficult. There is evidence that people who are high in self-esteem and high in trust of others are best able to sustain relationships that operate primarily on a communal basis.

*Margaret Clark*

*See also* Exchange Relationships; Intimacy

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## COMMUNAL SHARING

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*See* RELATIONAL MODELS THEORY

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## COMPANIONATE LOVE

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### Definition

Companionate love refers to a variety of love that is durable, fairly slow to develop, and characterized by interdependence and feelings of affection, intimacy, and commitment. Companionate love is also known as affectionate love, friendship-based love, or attachment. Because it requires time to develop fully, this kind of love is often seen between very close friends or romantic partners who have been together for a long time.

### Measurement

Researchers typically measure companionate love using self-report methods, which involve asking people to respond to questions about their feelings for a specific other person (e.g., a friend, dating partner, or spouse). People might simply rate their level of companionate love for the other person: “How much warm, caring, affectionate love do you feel for your partner?”

Alternately, people might report how much they experience of the various components of companionate love (affection, intimacy, commitment, etc.); in this case, the researcher would add up their responses and calculate a total love score.

## Research

Research provides evidence that companionate love is primarily a positive experience for both men and women. For example, when people are asked to think about companionate love and identify its important features, they uniformly specify positive feelings like “trust,” “caring,” “respect,” “tolerance,” “loyalty,” and “friendship.” Similarly, research conducted with dating couples reveals that positive emotions are strongly associated with the amount of companionate love that the couples experience. Specifically, the greater the amount of companionate love that partners feel for each other, the more they report liking and trusting one another and the more satisfying they find their relationship.

Scientists also have found evidence that companionate love is strong and durable. Not only do companionate lovers report feeling extremely committed to each other and desirous of maintaining their relationships, but levels of companionate love tend to remain stable over time within dating couples. Companionate love may even grow stronger over time because it is based on intimacy processes (such as caring and attachment) that require time to develop fully. The ability to withstand—and perhaps grow stronger over—the passage of time is one feature that distinguishes companionate love from other, more fragile varieties of love, including passionate or romantic love.

## Current Directions

Researchers have begun to explore the biochemistry of companionate love. Two peptide hormones have come under scrutiny—oxytocin and vasopressin. Because these hormones are associated with caregiving behavior in nonhuman mammals, some scientists have hypothesized that they are involved in the ability to form attachments and experience companionate love. As of yet, this supposition remains speculative.

*Pamela C. Regan*

*See also* Attachment Theory; Love

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## COMPASSION

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### Definition

Compassion is the emotion one experiences when feeling concern for another’s suffering and desiring to enhance that individual’s welfare. It is different from empathy, which refers to the mirroring or understanding of another’s response; from pity, which refers to feelings of concern for someone weaker than the self; and from agape, which refers to the love of humanity.

### Analysis

Across numerous ethical and spiritual traditions, compassion is considered a cardinal virtue. During the age of enlightenment, philosophers argued that some force—compassion—bound people together in cooperative communities. Social psychologists have largely concerned themselves with a few questions concerning compassion. A first occurs within the altruism debate: Does compassion motivate altruistic behavior? A second question finds its relevance within the study of emotion: Is compassion an emotion? A third is within evolutionary theory: Why does compassion exist? How did it evolve? Answers to these three questions paint a fascinating picture of the most social of emotions—compassion.

The study of altruistic behavior has examined the panoply of motives guiding altruistic and charitable action. Several are self-serving, including the desire to reduce personal distress in response to another’s suffering or the goal of receiving social rewards for being helpful. C. Daniel Batson has proposed that altruistic behavior can also be motivated by an other-oriented state called empathic concern, which closely resembles the definition of compassion. Does this state motivate altruistic behavior? Indeed it does.

Over the years, Batson has conducted several studies using the *easy escape paradigm*. In this paradigm, a participant witnesses another participant suffer (e.g., by receiving painful shocks) and is given the opportunity to help. As the experiment unfolds, two motives are pitted against one another: First the participant is led to feel compassion for the suffering individual but is also allowed to pursue the self-interested course of action by simply leaving the study (hence the easy escape name). If altruistic behavior is observed, one can infer that compassion produces altruistic actions. Indeed, several studies indicate that when in these

circumstances, people feeling compassion will forego the self-interested course of action and help, even though they must endure shocks and even when their altruistic acts will not be known by anyone. Compassion is a proximal motive of altruistic action.

What, then, are the properties of the emotion compassion? Guided by studies of emotion, which date back to Darwin (who argued that sympathy, or compassion, is the central moral emotion), researchers have compared compassion with related emotions like sadness, love, or distress. From these studies it is clear that unintended suffering is an elicitor of emotion. Compassion also produces a distinct orientation to others. When feeling compassion, people are more forgiving, they are less likely to punish perpetrators of immoral acts with severe sentences, and they are more likely to perceive similarities between themselves and disparate social groups, in particular those who are vulnerable and in need. In short, compassion amplifies the sense of common humanity.

Does compassion have a distinct expression and physiological signature? Several studies find that when feeling compassion, people show two facial muscle actions that produce the oblique eyebrows, but observers do not readily judge this display as expressive of compassion. Touch is a likely medium of the communication of compassion given its central role in affection, reward, and soothing. In several studies conducted in different countries, it has been found that individuals separated by a barrier and unable to see or hear each other can communicate compassion (and love and gratitude) reliably to one another with 1 to 2 second touches to the forearm.

And what of emotion-related physiology? One promising candidate is the effects of activation of the vagus nerve, which is controlled by the 10th cranial nerve. This nerve complex begins at the top of the spinal cord and influences facial muscle action, the larynx, respiration, heart rate, and activity in the liver, kidneys, and gall bladder. When active, the vagus nerve produces sensations of the chest opening up. Several studies suggest that vagal tone is associated with compassion. Film clips that portray harm elicit vagal tone response and helping behavior. Still slides of harm (e.g., of babies crying or children suffering from famine) and suffering do as well.

Finally, recent studies have compared the neural correlates of compassion with those of love. When people hear stories of others' suffering, they tend to show activation in parts of the frontal lobes that are associated with empathy (e.g., the orbitofrontal cortex). They also

tend to show activation in the right hemisphere, which is a region of the brain involved in negative emotions like sadness. Taken together, these studies suggest that compassion is quite distinct from distress, sadness, and love. It is a fairly distinct emotion that motivates altruistic action. The question, from a broader perspective, then, is why did compassion evolve?

No species is more social than humans. Humans raise offspring; gather, store, and prepare food; sleep; create shelter; and defend themselves, socially. In the thousands of generations that humans evolved in hunter-gatherer groups of 50 to 100 individuals, they did so in relationships, most typically, in profoundly dependent bonds that required long-term commitment and frequent self-sacrifice. Human offspring are born prematurely and require years of devoted care. Studies of hunter-gatherers find that parents cooperate with kith and kin to raise offspring while meeting the other demands of gathering and preparing food. Food-sharing relationships require that in flush times individuals share so that in times of dire need they will be the recipients of others' generosity. Theorists of an evolutionary persuasion have begun to argue that the extraordinary sociality of humans, and humans' interdependence, set the stage for the emergence of compassion.

In more specific terms, evolutionary theorists have made two claims about compassion. The first claim is that compassion reduces the costs of helping and increases the benefits. Compassion overwhelms self-interest and prioritizes the needs of others. The second is that compassion is likely to flourish in relationships between cooperative (rather than competitive) individuals. By implication, compassion, or kindness or trustworthiness more generally, should be readily identified in the nonverbal comportment of others. These two claims help provide theoretical context for the literatures reviewed earlier on the relationship between compassion and helping, and the emotion-like properties of compassion. They also raise interesting questions that await empirical attention.

Dacher Keltner  
Jennifer Goetz

*See also* Altruism; Empathy; Helping Behavior

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## COMPLEMENTARITY, OF RELATIONSHIP PARTNERS

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### Definition

Do birds of a feather flock together? Do opposites attract? These questions have been examined extensively within the domain of attraction, but less emphasis has been placed on the similarity versus complementarity in ongoing relationships. *Complementarity* means that partners are different in ways that enable them to fit or work together well.

Many studies have supported the idea that we are initially attracted to those who are similar to us in personality, looks, and interests. The question then becomes whether this desire for the other to be like us would result in happier, more satisfying relationships in the longer term. The answer to this question appears to be “not always.” While we do appear to prefer those with personality traits similar to ours, complementarity between partners’ needs and roles within the relationship also predict satisfaction in relationships. Complementarity does not refer to opposites per se but characteristics, needs, or roles that partners hold that are different but work together to create a cohesive whole.

Take the issue of roles. If both you and your partner love to cook but refuse to clean (i.e., similarity in roles), your quality of living may be compromised until such time as one of you cannot take it anymore and cleans up. If the same partner is left to deal with the mess each time, this “giving in” may cause resentment to grow. With complementarity, however, you could each specialize in a unique role (e.g., if you enjoy cooking and your partner enjoys housecleaning, you have unique but complementary roles in the household, and everything gets done by the person who enjoys it more), or you could alternate roles over time (e.g., “I’ll cook if you’ll wash the dishes, then tomorrow we’ll switch”). Research has shown that these kinds of complementarity increase satisfaction and lower conflict in both dating and marital relationships.

What evidence do we have that this complementarity actually exists in relationships? Individuals in both

dating and marital relationships report outperforming their partners in areas that are important to their own self-concept (e.g., “Sports are important to me. I play better than my partner”) and underperforming in areas that are not important to the self (e.g., “Sports are not important to me. I do not play as well as my partner”). These individuals also reported outperforming their partner in areas that did not matter to the partner and underperforming in areas that were relevant to the person they were involved with.

This suggests that while similarity appears to play a strong role in initial attraction generally and more specifically in terms of personality traits, complementarity of needs and roles also appear to play a strong role in relationship continuation and success in ongoing relationships.

*Stacey L. Nairn*

*See also* Roles and Role Theory; Similarity-Attraction Effect

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## COMPLIANCE

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### Definition

Compliance refers to an overt, public action performed in accordance with a request from an external source. The request can be from another person(s) or from an object, such as an election billboard or marketing advertisement. Thus, compliance can occur in response to an explicit request, as in the former example, or an implicit request, as in the latter example. Regardless of the source of the request, if a person acts in line with the request, he or she is said to be complying with the request. Compliance does not refer to an inner state of acceptance of the behavior performed nor does it refer to an attitude change; rather, it simply refers to acting in accordance with the request. If a person acts in

accordance with a request that comes from an authority figure, however, the person is demonstrating *obedience*.

### History and Modern Usage

In psychology, compliance is typically studied as a prosocial behavior or as a reaction to social influence. Originally, researchers began studying compliance in reaction to the events of World War II. They wondered how humans could follow orders that led to terrible crimes against humanity. Psychologists have studied both the external factors that influence people's levels of compliance, as well as the internal, psychological processes, that influence people's levels of compliance.

Researchers have sought to demonstrate the situations and circumstances under which people comply with others' requests. For example, we are more likely to comply with a request that comes from a person we are close to rather than a stranger. Researchers have also examined explicit and implicit techniques that increase a person's chances of gaining compliance from someone else. For example, door-to-door salespeople quite often try a technique where they first ask a person for a small favor, after which they will ask for larger favors. If salespeople gain compliance for the small favor, chances are people will comply for the larger, later request. This phenomenon was coined the *foot-in-the-door* technique.

Sometimes people are less likely to comply with explicit requests from other people (especially strangers). This can even lead to adverse effects, especially if it limits people's options or freedom. Infringing on people's choices or freedom can lead to people's engaging in the opposite behavior; this is termed *reactance*.

People will also comply to gain acceptance or approval from a group, especially if that group is similar to the person or one to which they want to belong. Compliance often serves the purpose of allowing people to get along, cooperate, as well as build and maintain relationships. Thus, compliance is generally a behavior for the good of society, but at times our willingness to comply can be misused to have us engage in behaviors that neither for the greater good of society nor in our best interests (such as purchasing things that we do not need).

*Nicole L. Mead*

*See also* Conformity; Door-in-the-Face Technique; Foot-in-the-Door Technique; Influence; Milgram's Obedience to Authority Studies

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## CONFIRMATION BIAS

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### Definition

Confirmation bias refers to processing information by looking for, or interpreting, information that is consistent with one's existing beliefs. This biased approach to decision making is largely unintentional and often results in ignoring inconsistent information. Existing beliefs can include one's expectations in a given situation and predictions about a particular outcome. People are especially likely to process information to support their own beliefs when the issue is highly important or self-relevant.

### Background and History

The confirmation bias is one example of how humans sometimes process information in an illogical, biased manner. Many factors of which people are unaware can influence information processing. Philosophers note that humans have difficulty processing information in a rational, unbiased manner once they have developed an opinion about the issue. Humans are better able to rationally process information, giving equal weight to multiple viewpoints, if they are emotionally distant from the issue.

One explanation for why humans are susceptible to the confirmation bias is that it is an efficient way to process information. Humans are bombarded with information in the social world and cannot possibly take the time to carefully process each piece of information to form an unbiased conclusion. Human decision making and information processing is often biased because people are limited to interpreting information from their own viewpoint. People need to process information quickly to protect themselves from harm. It is adaptive to rely on instinctive, automatic reflexes that keep humans out of harm's way.

Another reason people show the confirmation bias is to protect their self-esteem. People like to feel good about themselves, and discovering that a belief that they highly value is incorrect makes people feel bad about themselves. Therefore, people will seek information

that supports their existing beliefs. Another motive is accuracy. People want to feel that they are intelligent, and information that suggests one holds an inaccurate belief or made a poor decision suggests one is lacking intelligence.

## Evidence

The confirmation bias is strong and widespread, occurring in several contexts. In the context of decision making, once an individual makes a decision, he or she will look for information that supports the decision. Information that conflicts with the decision may cause discomfort and is therefore ignored or given little consideration. People give special treatment to information that supports their personal beliefs. In studies examining the *my-side bias*, people were able to generate and remember more reasons supporting their side of a controversial issue than the opposing side. Only when a researcher directly asked people to generate arguments against their own beliefs were they able to do so. Often when people generate arguments against their beliefs, the arguments may be used selectively or even distorted or misremembered to ultimately support the existing belief. It is not that people are incapable of generating arguments that are counter to their beliefs; rather, people are not motivated to do so.

The confirmation bias also surfaces in people's tendency to look for positive instances. When seeking information to support their hypotheses or expectations, people tend to identify information that demonstrates a hypothesis to be true rather than look for information that the opposite view is false.

The confirmation bias also operates in impression formation. If people are told what to expect from a person they are about to meet, such as the person is warm, friendly, and outgoing, people will look for information that supports their expectations. When interacting with people whom perceivers think have certain personalities, the perceivers will ask questions of those people that are biased toward supporting the perceivers' beliefs. For example, if Maria expects her roommate to be friendly and outgoing, Maria may ask her if she likes to go to parties rather than if she often studies in the library.

## Importance

The confirmation bias is important because it may lead people to hold strongly to false beliefs or to give more

weight to information that supports their beliefs than is warranted by the evidence. People may be overconfident in their beliefs because they have accumulated evidence to support them, when in reality much evidence refuting their beliefs was overlooked or ignored, which, if considered, would lead to less confidence in one's beliefs. These factors may lead to risky decision making and lead people to overlook warning signs and other important information.

## Implications

The confirmation bias has important implications in the real world, including in medicine, law, and interpersonal relationships. Research has shown that medical doctors are just as likely to have confirmation biases as everyone else. Doctors often have a preliminary hunch regarding the diagnosis of a medical condition early in the treatment process. This hunch often interferes with considering information that may indicate an alternative diagnosis is more likely. Another related outcome is how patients react to diagnoses. Patients are more likely to agree with a diagnosis that supports their preferred outcome than a diagnosis that goes against their preferred outcome. Both of these examples demonstrate that the confirmation bias has implications for individuals' health and well-being. In the context of law, judges and jurors often form an opinion about a defendant's guilt or innocence before all of the evidence is known. Once an opinion is formed, new information obtained during a trial is likely to be processed according to the confirmation bias, which may lead to unjust verdicts. In interpersonal relations, the confirmation bias can be problematic because it may lead to forming inaccurate and biased impressions of others. This may result in miscommunication and conflict in intergroup settings. In addition, by treating someone according to expectations, that someone may unintentionally change his or her behavior to conform to the expectations, thereby providing further support for the perceiver's confirmation bias.

*Bettina J. Casad*

*See also* Self-Fulfilling Prophecy; Self-Reference Effect; Self-Serving Bias

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## CONFLICT RESOLUTION

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### Definition

Social conflict emerges when the aspirations, beliefs, or values held by one individual or group are frustrated by another individual or group. It emerges between parents and their children, between friends on a weekend outing, between colleagues at work, between groups from adjacent neighborhoods, or between rivaling teams within an organization. In fact, social conflict is part and parcel of any relationship and any social interaction between individuals or groups around the globe.

Conflict resolution refers to the process geared toward reaching an agreement in a dispute, debate, or any other form of conflict between two or more parties. It can take different forms: Participants may negotiate and attempt to solve their problems to mutual satisfaction, they may withdraw from the situation and avoid interacting with each other, they may fight and try to dominate their counterpart, or they may yield and give in to their adversary's position.

Conflict resolution is important because conflict can be very costly as well as very beneficial. Enduring hostility between parents damages their offspring's development, conflict in the workplace is estimated to absorb valuable time and energy, and ethnic conflict between groups or communities halts economic prosperity and may lead to famine, disease, and environmental disaster. But conflict can have positive consequences also: Adversaries may become more creative, and teams in organizations have been found to be more innovative when they have conflict. In addition, conflict can clear the air, clarify territorial boundaries, and increase mutual understanding. However, these positive outcomes emerge when conflict is relatively mild and managed in a constructive, business-like manner. All too often and all too quickly, conflict escalates to exceedingly intense levels, and negative outcomes dominate—hence the importance of understanding and applying conflict resolution.

### History and Background

The study of conflict and conflict resolution is broad and crosses disciplinary boundaries. Conflict resolution is studied in economics, law, business studies, sociology, psychology, communication sciences, and political sciences. It is part of the curriculum in biology, in history, and in theology. This multidisciplinary aspect makes it somewhat difficult to identify “the history” of conflict studies in social psychology. Nevertheless, three important developments serve as key sources of inspiration.

In 1954, social psychologist Muzafer Sherif and his colleagues published a study that later became known as the Robbers Cave experiment. At a Boys Scout of America camp held in Robbers Cave National Park (Oklahoma, United States), he allocated 22 normal, healthy boys unknown to each other into two subgroups. Over the course of several days, the two subgroups became increasingly hostile and competitive with one another. Apparently, simply dividing people into subgroups, in and of itself, induced competition and conflict. Furthermore, when the two subgroups needed each other—a delivery truck got stuck and only with the force of all the boys together was the truck pulled free—hostility reduced and more cooperative relationships between the two subgroups developed. Apparently, the presence of common goals reduced competitiveness between the two groups and facilitated conflict resolution. This insight formed the basis of ongoing research into intergroup relations and conflict resolution through the development of shared goals and social identity.

A second important source of inspiration formed the (changing) labor relations in the late 1950s and early 1960s of the past century. Employees organized themselves in unions, and unions used their increasing power to negotiate with management for better labor contracts. Among other things, the insight formed that (collective) negotiation helped resolving social conflict in creative ways so that all parties benefited more than they would have in a 50–50 compromise or in a victory-for-one solution. This discovery formed the foundation for contemporary research into *integrative negotiation*.

The third source of inspiration came from microeconomics and decision-making research. During the Cold War both the United States and the former Soviet Union built up an impressive arsenal of (nuclear) missiles, enough to fully destroy each other up to 60 times.

This immensely frightening and unbelievably expensive arms race triggered a host of important questions like “Should you attack before the other does?” “What happens if you unilaterally reduce the number of nuclear missiles?” “What is the most effective way of responding to the adversary’s power-play?” and “How can violated trust be repaired and cooperation be maintained?”

To answer these questions, researchers designed laboratory games that simulated core aspects of the conflict-related choice dilemmas their nations were involved in. A famous example of such a game is the *Prisoner’s Dilemma Game*. Within the hypothetical situation of an arms race issue, the game involves two players, A and B, who individually and independently can decide to make a noncooperate move (buy more nuclear missiles) or a cooperative move (destroy nuclear missiles and use the money to fight famine). If player A decides to buy nuclear missiles when player B decides to destroy missiles, player A gets the upper hand in the conflict and settles on a victory-for-one. If both decide to buy missiles, famine continues to exist and the conflict lingers on—this is better for both A and B than losing the conflict and therefore a relatively attractive outcome. Nevertheless, it is worse than if both decide to destroy missiles, in which case the conflict is resolved and famine effectively banned. Thus, what should one do—buy missiles, or destroy them? The answer depends in part on one’s own values and in part on the (expected) behavior of one’s counterpart. No single right answer is possible, however, and this intriguing dilemma has inspired over 1,000 studies looking at issues of trust, the cooperative history between the players, the number of decision rounds to be played, and so on.

## Psychological Processes in Conflict Resolution

### *Motivation and Thought Processes*

Thomas Schelling, an economist, and Morton Deutsch, a social psychologist, were the first to recognize that most conflict situations are “mixed-motive” interactions, because disputants simultaneously experience the motivation to cooperate and compete with each other. For example, someone may prefer an agreement that satisfies his or her interests over one that favors the adversary’s interests (an incentive to compete), while also preferring any agreement over no

agreement (an incentive to cooperate). Cooperative versus competitive motivation is part of a broader category of *social motives* that also includes fairness considerations and concern preferences for the way outcomes are distributed. In addition to these, disputants have *goals* and *aspirations*—preferences for a particular level of benefit to achieve (e.g., “I hope to get \$10,000 for my used car”) or the amount of losses to avoid. They also have *identity concerns*, seeking a particular image of self or of the group they represent and belong to, and they have *epistemic needs* to understand the conflict situation and their counterpart.

The motives underlying conflict resolution come hand in hand with roughly two cognitive tendencies, that is, ways of processing and searching for information. The first is *ego defensiveness*. Because individuals have a desire to develop and maintain a positive self-view, they quickly come to see themselves as benevolent and constructive and their counterparts as malevolent and competitive. When the positive self-view is threatened, people tend to become hostile and aggressive. Because social conflict inherently involves opposition and threat, disputants’ self-views are threatened continuously, and escalating spirals of increasingly hostile exchange are the rule rather than the exception.

The second cognitive tendency is called *naive realism* and rooted in the fact that conflicts are taxing because information is incomplete and uncertain. A common strategy for people to reduce informational complexities is to act as *naive realists*: They assume that the world is as they perceive it; that other people view the world in that very same way; and that if their counterparts don’t, it must reflect lack of information, lack of intelligence, or ulterior motives on their part.

In the past few years, social psychologists have started to integrate their work on motivation and cognitions. This integration shows that ego-defensiveness is less of an issue when disputants have cooperative motivation. Likewise, disputants with high epistemic motivation, who seek deep and accurate understanding, are less likely to fall prey to naive realism.

### *Moods and Emotions*

Achieving desired goals in conflict elicits all kinds of emotions, like happiness, elation, pride, and satisfaction, but also perhaps negative mood states, like guilt and shame. Likewise, not achieving desired goals

or being blocked in pursuing these goals elicits anger and frustration, disappointment, disgust, and perhaps regret. When parties feel anger, fear, and disgust, they tend to become increasingly hostile and competitive, both in their thinking and in their behavior. When they experience guilt, regret, and shame, however, disputants become evasive and avoid interaction. Experiencing positive emotions like happiness and satisfaction makes disputants more conciliatory and, to some extent, more creative in resolving the conflict.

Emotions not only influence the thoughts and actions of the conflict party having them. Many emotions have a social function and communicate something to one's counterpart, thereby influencing the counterpart's thoughts and actions as well. For example, anger communicates both dissatisfaction with the situation and the desire for change. Although anger sometimes evokes anger ("Who do you think you are!?"), it may also lead one's counterpart to give in and to make concessions ("All right, relax, I see your point"). Or consider guilt and shame, which communicate that one has taken or received more than deserved. Indeed, disputants who see their counterpart to be guilty and ashamed stop making concessions and wait for the other to give in, to repair damage.

### Strategies and Interaction Patterns

How motives, emotions, and cognitive tendencies conspire to influence conflict management has received a great deal of attention. In fact, it seems safe to say that this part of the conflict process is the most widely studied and best understood area in the conflict literature. Whereas an infinite number of conflict tactics and strategies may be conceived of, conflict research and theory tends to converge on the idea that parties to a conflict can (1) ask for *third party intervention* (i.e., ask a judge, an arbitrator, their manager, or fate to make a decision); (2) engage in *unilateral decision making* by trying to impose one's will on the other side (forcing), by accepting and incorporating the other's will (yielding), or by withdrawing from the situation or by remaining inactive (avoiding); or (3) engage in *joint decision making* (i.e., seek a compromise, engage in problem solving, try negotiation, ask a mediator for help). Sometimes, different conflict management strategies are used sequentially, for example, when mediation is followed by arbitration or when a hostile and competitive (forcing) approach is followed by a friendly and soft approach (problem solving, as in a good cop/bad cop strategy).

### Dual Concern Theory

Developed by Dean Pruitt and Jeffrey Rubin, *dual concern theory* focuses on when and why individuals engage in unilateral decision making (forcing, yielding, inaction) or joint decision making (problem solving, negotiation). The basic idea is that parties have high or low aspirations and, independently, a high or low concern for their counterpart's interests. Aspiration motivation is most often high. But it can be low, for example, when getting the desired share of the budget is unlikely given the way it is traditionally distributed. Concern for the other is high when realizing the other's interests is positively valued (e.g., one likes the other), instrumental (e.g., one needs one's counterpart in future interaction, for example at work), and feasible. Thus, concern for the other may be rooted in genuinely prosocial motives or in enlightened self-interest (i.e., by helping the other one serve one's own best interests).

When aspiration motivation is high and the concern for other is low, parties engage in *forcing*, that is, attempting to impose their goals upon the other party. When aspirations are low and concern for other is high, parties engage in *yielding*, giving in to their opponent's demands and desires. When both aspirations and concern for other is low, parties engage in *inaction* and are predicted to remain passive. When both aspirations and concern for other is high, parties collaborate and engage in *negotiation* and *problem solving*. Ample work has revealed that problem solving is associated with more integrative agreements, reduced probability of future conflict, and enhanced interpersonal liking.

### Interaction Patterns

Dual concern theory is fairly static and does not deal with the way disputants respond to each other's behavior. Thus, how does Party B react when Party A remains passive and avoids interaction? Or what does Party A do when Party B suggests they sit down and find a mutually satisfying solution? Social psychologists have uncovered two principal interaction tendencies. The most powerful tendency is to reciprocate one's counterpart's behavior. When one takes a cooperative stance and wants to negotiate a mutually acceptable solution, the counterpart most likely reciprocates with cooperative behavior. This tendency is even stronger when one performs competitive, hostile behavior like forcing. This is because people may be

tempted to exploit the other's cooperation and thus respond to the other's cooperative behavior with competitiveness. However, even when one is not greedy and basically inclined to cooperate, the desire not to be exploited requires one to match the other's competitiveness.

Sometimes disputants perform complementary reactions. Powerful individuals, or those with high status, who engage in forcing trigger yielding rather than forcing in their powerless counterparts. In negotiation, making lots of concessions may lead one's counterpart to stop making concessions and to wait for you to come down even further (a strategy called *mismatching*). Finally, conflict interaction may take a *demand-withdrawal pattern*. This happens when one party desires change, whereas the counterpart desires to maintain the status quo (e.g., a traditional husband who refuses to do household chores facing his liberated wife who wants him to do an equal share). In such situations, Party A (the wife) demands and Party B (the husband) withdraws, so that the A demands with greater persistence and perseverance, whereupon B withdraws even further, and so on. Alternative forms of conflict resolution exist and clearly would serve them well.

### A Note on Generality

Whereas much of the previous discussion applies to interpersonal as well as intergroup conflicts, and applies as much to marital as to workplace conflicts, caution is needed when attempting to generalize across cultures. Growing evidence indicates that important differences exist between individualistic cultures, found in Western societies, and collectivist cultures, found in Latin America and Southeast Asia. For example, disputants rely on forms of mediation and third-party decision making much more in collectivist cultures than in individualist cultures. Also, groups as a psychological unit are more important in collectivist cultures, and this has important consequences for the ways people think about conflicts and for their strategic choices. Understanding cross-cultural differences in conflict resolution and its underlying psychological processes is one of the key challenges for future researchers, as globalization continues and cross-cultural encounters—and conflicts—will become more frequent.

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*See also* Emotion; Prisoner's Dilemma; Robbers Cave Experiment

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## CONFORMITY

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President John F. Kennedy and several of his key advisers met in March 1961 to discuss a Central Intelligence Agency plan for the invasion of Cuba. The consensus of the group was to proceed with the invasion. At least one adviser, Arthur Schlesinger, had serious doubts about the wisdom of the plan, but he did not argue strongly for his position.

In a laboratory experiment, Solomon Asch brought together groups of college students and told them they would be participating in a study on visual perception. Their task was to match the length of a standard line against three comparison lines. This was easy to do, as only one of the comparison lines was the same length as the standard. Each group actually contained only one real participant. The other group members were confederates who had been instructed to give unanimously incorrect responses on most of the trials. The real participant responded next-to-last and hence was exposed to group pressure when the other members chose an incorrect comparison line. Asch also included a control condition in which participants made judgments privately, without any group pressure. He found that participants exposed to group pressure agreed with the erroneous majority approximately 33% of the time, whereas control participants made errors less than 1% of the time.

Both Schlesinger and the participants in Asch's experiment found themselves opposed by a unanimous group of peers. They were placed in a conflict between saying what they really believed and agreeing with the other members of the group. They resolved this conflict by conforming to the group.

### Definition

*Conformity* occurs when a person changes his or her behavior or attitude to make it more similar to the behavior or attitude of a group. It is important to note that conformity can occur without the group desiring to exert influence on, or monitor, the individual, as long as the person knows the group position and wants to agree with it. In fact, it is not even necessary that the group be aware of the individual's existence. (For these reasons, the term *group pressure* is used to mean only that an individual perceives that a group disagrees with his or her position).

### Types of Conformity and Nonconformity

Defining conformity as *change* toward a group is useful, because it implies that group influence has indeed occurred. That is, we would probably feel sure that a person was influenced by a group if he or she initially disagreed with the group and then shifted toward it. This would be particularly true if other people who held the same initial position, but who were not exposed to group pressure, did not move toward the group position. In contrast, if we knew only that an individual currently agrees with a group, we would not be sure that group influence was the reason. The individual might have independently arrived at the group's position without knowing what group members thought or desiring to be similar to them. Clearly, we would not want to define the widespread practice of wearing coats in winter as conformity, if, as seems more likely, people independently decide to wear coats to keep warm.

Although it is generally a good idea to define conformity in terms of change, this criterion can cause problems in certain cases. For example, a person might independently agree with a group position, be tempted to abandon this position, but maintain it because of group pressure. Here, conformity would be manifested by *refusal to change*. The change criterion is also problematical when people show *delayed conformity* (moving toward a group position long after group pressure

occurs). In this case, it is hard to detect the relationship between group pressure and response to this pressure, even though the relationship exists.

Another important issue in defining conformity concerns the distinction between public and private agreement. *Public agreement* (or *compliance*) refers to the individual's behavioral change toward the group position. For example, if the individual initially opposed abortion rights, learned that the group advocated abortion rights, and publicly went along with the group, the person would be showing compliance. *Private agreement* (or *acceptance*) refers to the individual's attitudinal change toward the group's position. For example, if the person's private opinion toward abortion rights became more favorable after learning the group's position, the person would be showing acceptance.

The distinction between public and private agreement is important, because it has implications for how a person will behave if the group is not present to monitor his or her behavior. Consider the case of an individual who conforms to the group at the public level but disagrees with its position at the private level. Because this response pattern is often produced by the desire for group acceptance, we would not expect the person to continue endorsing the group's position if it were not present to monitor his or her behavior. In contrast, consider the case of an individual who conforms at both the public and private levels. This person, who apparently really believes in the position he or she is endorsing, would be expected to continue endorsing this position even if the group were not present.

Just as there are different forms of conformity, so there are different forms of *nonconformity*. Two of the most important are independence and anticonformity. *Independence* occurs when a person perceives group pressure but does not respond to it at either the public or the private level. Thus, an independent person "stands fast" when faced with disagreement, moving neither toward nor away from the group's position. In contrast, *anticonformity* occurs when a person perceives group pressure and responds by moving away from it (at the public level, the private level, or both). Thus, an anticonformer becomes more extreme in his or her initial position when faced with disagreement. In a real sense, then, the anticonformer is just as susceptible to group pressure as is the conformer. The only difference is that the anticonformer moves away from the group, whereas the conformer moves toward it.

## Motives Underlying Conformity

Why do people succumb to group pressure? Two major reasons have been proposed. The first is based on people's desire to hold correct beliefs. Certain beliefs can be verified by comparing them against an objective physical standard. For example, we can verify our belief that water boils at 100 degrees Celsius by placing a thermometer in a pan of water, heating the water, and reading the thermometer when the water begins to boil. In contrast, other beliefs (e.g., the United States should reduce its nuclear stockpile) cannot be verified against objective physical standards. To determine the validity of such beliefs, we must compare our beliefs with those of other people. If others agree with us, we gain confidence in the validity of our beliefs; if others disagree, we lose confidence. Because disagreement frustrates our desire to verify our beliefs, we are motivated to eliminate it whenever it occurs. One way to do so is to change our position toward the others' position, that is, to conform.

This analysis suggests that when people are unsure about the validity of their beliefs and think the group is more likely to be correct than they are, they will conform to reduce uncertainty. In so doing, they will exhibit *informational influence*, which is generally assumed to produce private acceptance as well as public compliance. Informational influence is more common under some conditions than others. For example, people show more conformity when they are working on a difficult or ambiguous task, when they have doubts about their task competence, and when they think other group members are highly competent on the task. In such cases, it is not surprising that people feel dependent on others to validate their beliefs and conform as a result.

A second goal underlying conformity is the desire to be accepted by other group members. When people want to be liked and believe that other members will respond favorably to conformity (and unfavorably to nonconformity), they will conform to win approval. In so doing, they will exhibit *normative influence*, which is generally assumed to produce public compliance but not private acceptance. Consistent with this idea, evidence indicates that people who deviate from group consensus generally anticipate rejection from other group members. And they are often right. Group members do indeed dislike and reject people who refuse to conform. Not all deviates elicit the same amount of hostility, however. The amount of such hostility

depends on several factors, including the extremity and content of the deviate's position, the reasons that presumably underlie the deviate's behavior, the deviate's status, and group norms concerning how deviates should be treated.

Like informational influence, normative influence is more common under some conditions than others. For example, conformity is generally higher when group members are working for a common goal than when they are working for individual goals. This presumably occurs because people working for a common goal fear that deviance on their part will be seen as a threat to the entire group and hence will be severely punished. In contrast, people working for individual goals are less likely to assume that other members will be angered by (and hence punish) their deviance. It should be noted, however, that if members of common goal groups believe that conformity will hurt their group's chances of reaching its goal, they conform very little.

A second factor that increases normative influence is surveillance by other group members. Because others can only deliver rewards and punishments based on one's behavior if they observe this behavior, people ought to be more concerned about others' reactions (and hence more likely to show normative influence) when their behavior is public rather than private. Consistent with this reasoning, people conform more when their responses are known to other group members than when they are not known.

### Reducing Conformity: The Role of Social Support

Asch found that he could dramatically reduce conformity (i.e., increase independence) in his experimental situation with a simple change in procedure—namely, by having a single confederate, who answered before the naive participant, dissent from the erroneous majority by giving correct responses. The presence of this *social supporter* reduced the total number of yielding responses from 33% to 6%. Additional research by Asch indicated that participants were far more independent when they were opposed by an eight-person majority and had a supporter than when they were opposed by a three-person majority and did not have a supporter. Later work by others showed that social support reduces conformity for many different kinds of people, including male and female adults and normal and mentally retarded children. Moreover, a social

supporter's ability to reduce conformity to group pressure continues even after the person leaves the situation, as long as participants judge the same type of stimulus after the supporter leaves and this person does not explicitly repudiate his or her dissenting position.

Why are social supporters so effective in conferring resistance to group pressure? The answer seems to be that they reduce the likelihood of informational and/or normative influence. Regarding informational influence, social supporters can lower participants' dependence on the group for validating their beliefs. Thus, a supporter who is allegedly competent on the group task is more effective in reducing conformity than is a supporter who is allegedly incompetent. This presumably occurs because the competent supporter provides more credible support for the participant's position. Regarding normative influence, social supporters can lower participants' fear that they will be punished for deviance. As noted previously, people who dissent from group consensus alone (i.e., without a supporter) expect to be rejected. This fear is reduced, however, by the presence of a supporter who publicly agrees with their position. Fear of retaliation may decline because participants believe that the supporter will absorb some of the hostility that would otherwise be directed solely at them. A caveat is in order, however. If participants believe that group members are hostile to the supporter (e.g., because they are prejudiced against members of his or her race), they may be reluctant to "accept" his or her support and may continue to conform at a high level. This presumably occurs because participants expect that an alliance with a stigmatized supporter will elicit more, rather than less, punishment from the group.

### **Individual Differences: The Role of Culture**

This discussion so far has implicitly assumed that a given group pressure situation has roughly the same impact on everyone who encounters the situation. That is, it has assumed that people who differ on such dimensions as age, race, sex, and cultural background respond similarly when facing group pressure. In fact, this is not the case, and individual differences can sometimes have powerful effects on the amount and type of conformity that people exhibit. To illustrate these effects, let's consider how people's cultural background affects their responses to group pressure.

People who grow up in different cultures have different socialization experiences, which may influence how they respond to group pressure. Researchers interested in the impact of culture on behavior often distinguish between two types of cultures: those that stress individualism and those that stress collectivism. Individualistic cultures emphasize independence, autonomy, and self-reliance. Collectivistic cultures emphasize interdependence, cooperation, and social harmony. In regard to the impact of culture on conformity, evidence indicates that people in collectivistic cultures conform more on Asch's line judgment task than do people in individualistic cultures. This presumably occurs because people in collectivistic cultures place more emphasis on joint goals and are more concerned and affected by how others view their behavior than are people in individualistic cultures.

### **Conformity: Bad or Good?**

The consequences of conforming to group pressure are worth considering, in light of the common belief that conformity is invariably harmful. In fact, however, conformity can have positive as well as negative consequences for the individual and the group.

From the perspective of the individual, conformity is often a rational and adaptive response. A person who desires to respond accurately to a complex and changing environment may be wise to rely on the judgments of others, particularly when they are more knowledgeable about the issue in question. Similarly, a person who desires to be liked and accepted (surely not an unusual goal for most people) will often find that conformity is a useful tactic for gaining acceptance.

Of course, conformity can have negative consequences for the individual as well. In some circumstances, the individual is more likely to be correct by maintaining his or her position than by going along with the group. Moreover, even though conformers are generally liked better than deviates, conformers may be rejected if they are viewed as slavishly agreeing to gain acceptance, and deviates may be respected for their courage in dissenting from group consensus. Conformity may also be maladaptive if the individual wishes to differentiate him- or herself from others to feel unique. Finally, a person who succumbs to group pressure may come to believe that he or she is weak and spineless, which in turn may reduce the person's self-esteem.

Not only from the individual's but also from the group's standpoint, conformity can have both advantages and disadvantages. All groups develop norms, or rules of proper behavior. Although the content of these norms varies across groups, no group can tolerate routine violation of its norms. Conformity to at least basic norms is essential if group members are to interact in a predictable manner and if the group is to survive and attain its goals. As in the case of the individual, however, conformity is not always advantageous for the group. Sometimes the norms that a group embraces do not change even though the circumstances that originally produced the norms have changed. In such cases, continued conformity can be harmful to the group, reducing its ability to attain its goals and even threatening its existence. In circumstances such as these, the group is better served by deviance directed toward satisfying its real needs than by conformity to outdated norms. Consistent with this reasoning, groups sometimes recognize the utility of deviance and reward "innovators," who seem motivated to help the group and who facilitate the attainment of group goals.

As this discussion suggests, the question of whether conformity is bad or good is complex. The answer depends on knowledge of many specific factors that may vary from situation to situation, as well as value judgments about the relative importance of conflicting and often equally valid goals. Research on conformity is not sufficient by itself to resolve value questions. Nevertheless, such research provides information that helps us to pose these questions in an intelligent manner.

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**See also** Brainwashing; Bystander Effect; Collectivistic Cultures; Compliance; Deindividuation; Group Cohesiveness; Group Decision Making; Groups, Characteristics of; Informational Influence; Intergroup Relations; Leadership; Optimal Distinctiveness Theory; Power; Roles and Role Theory; Social Dominance Orientation

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## CONSCIOUSNESS

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### Definition

Consciousness refers to the subjective experience of oneself and one's environment. This experience includes the awareness of one's feelings and emotions and the awareness of, and perceived control over, one's thoughts and behaviors. Conscious processes stand in contrast to subconscious (or nonconscious) processes, which occur outside of awareness and without intentional control.

### Background and History

Consciousness is the familiar lens through which humans view their day-to-day worlds, yet no concept has proven more difficult for people to explain or understand. How do thoughts arise? How does subjective experience relate to, or come out of, physical processes in the brain? Such questions are often referred to as the hard problem of consciousness. It is these questions that challenged thinkers like René Descartes many centuries ago (he suggested that the mind is of a nonphysical substance separate from the brain), and it is these same issues that continue to puzzle countless scientists and philosophers in the present day. In contrast, psychologists and other academics have been slightly more successful in addressing the so-called easy problem of consciousness, which refers to questions of how cognitive processes influence behavior and how people react to their subjective experiences. With regard to consciousness, these are the questions that social psychologists are most concerned with today.

Early ideas about the easy problem of consciousness were somewhat scattered in the field of psychology as not all psychologists found conscious processes to be an important phenomenon. Sigmund Freud was famous for addressing the easy problem of consciousness by proposing the conscious ego and superego as functioning separately from the unconscious id, which he described as a reservoir of instincts and desires. However, despite the early emphasis by Freud and others like him on the interaction between conscious and unconscious sections of the mind, a full understanding of conscious processes was delayed by scientists like B. F. Skinner, who emphasized the utilization of observable behavior in the study of psychology. For decades, psychology was dominated by a view of the mind as a black box that receives input and exhibits output but whose contents are irrelevant to scientific study.

### Debating the Utility of Consciousness

When social psychologists started to focus more and more on thought processes in the latter decades of the 20th century, many of their surprising findings pointed to a conscious system rife with flaws and inaccuracies. Researchers demonstrated that people are unable through introspection to accurately describe the causation behind their judgments, decisions, and behaviors. In addition, people often misattribute the driving forces behind their current emotions, and in some cases, they mislabel their emotions altogether. Recent research on consciousness has demonstrated that conscious thought can actually be a hindrance to decision-making processes, and furthermore, people have been found to misperceive whether their actions did or did not occur under their conscious control. Together, these results paint consciousness as a poor tool for doing the one thing that everyday experience would suggest it does well, which is provide an individual with the awareness of one's thoughts, feelings, and behaviors. In response to these findings, many psychologists have questioned exactly what function consciousness serves.

Research on automatic behaviors has added to the confusion over the utility of consciousness. Social psychologists continue to accrue evidence that most human behaviors can be explained by automatic, non-conscious processes. Social psychologists have shown that people move, process information, and even engage in complex, goal-driven behaviors in automatic ways independent of conscious thought or conscious awareness. Such findings have caused many of today's thinkers to propose that consciousness may in

fact be a functionless side effect of other processes in the brain.

Despite the flaws inherent to conscious processes, consciousness does play an important role in various lines of research in social psychology. Many researchers study the use of conscious control in overriding automatic thoughts, impulses, and behaviors. This work has led to a better understanding of self-regulatory processes in which impulsive desires can be suppressed in favor of delayed rewards and long-term goals. Similarly, conscious control has also been shown to allow for more desirable interpersonal behaviors as in the case of stereotype suppression. Stereotypes of others have been found to arise quite automatically in the brain when people encounter individuals of particular groups. However, these stereotypes can be consciously overridden in favor of more accurate, more acceptable, and less stereotypic types of responding. In addition, conscious processes are often credited with allowing humans the unique ability to integrate different types of information, think symbolically, and use logical reasoning. Thus, the research supporting the utility of consciousness is considerable, and trends suggest that it will continue to grow. Still, exactly what consciousness is or isn't useful for is a very much debated topic in social psychology today.

### Dual Processes

An understanding of conscious processes has benefited from the commonly held view of the mind as containing two primary components, an idea referred to as the *duplex mind*. This idea holds that one of the mind's components, the automatic system, is marked by fast, efficient, and uncontrolled processing that typically occurs outside of awareness. The second component, the conscious system, is marked by slow, effortful, rule-based processing that typically occupies the contents of awareness. Dual process models of social psychological phenomena take into account how the two components of the duplex mind interact to create thoughts and behavior. These models generally describe the automatic system as doing the bulk of the work, processing large amounts of information, and allowing for quick, automatic, and habitual responding. The conscious system monitors the output of the automatic system, integrates important bits of information, and overrides or changes the output of the automatic system when necessary. The automatic system is what allows a person to drive home while talking on the phone or thinking about other plans; the

conscious system is what kicks in when the driver has to pull over for an ambulance or break for an unexpected pedestrian.

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*See also* Controlled Processes; Dual Process Theories; Ego Depletion; Executive Function of Self

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## CONSENSUS, IN ATTRIBUTION THEORY

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*See* KELLEY'S COVARIATION MODEL

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## CONSISTENCY, IN ATTRIBUTIONS

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*See* KELLEY'S COVARIATION MODEL

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## CONSTRUAL LEVEL THEORY

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*See* TEMPORAL CONSTRUAL THEORY

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## CONSUMER BEHAVIOR

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The general study of factors associated with the acquisition, use, and disposal of goods and services is called *consumer behavior*. Decisions regarding consumption and the social and environmental issues associated with consumption are common aspects of humans' daily lives. Consider the last 48 hours of your life. If

you are a typical U.S. citizen, you will have been exposed to at least 3,000 marketing efforts. You may have visited a wide array of physical retail locations in addition to having visited Internet-based retailers and unique auction and exchange sites. You may have posted information about a movie or a book you recently experienced or sought advice from other consumers about a future purchase.

The formal study of consumer behavior began shortly after World War II when businesses discovered that theories and research methods of the behavioral sciences could be used to develop products and services desired by individuals. The theories and methods are also used to help divide populations of consumers into segments that desire different types of products and prefer different types of media. Although the formal study of consumer behavior is linked to post-WWII changes in the economy, interest in understanding factors that influence the attractiveness of various choice options and ways of communicating information about products and services are perhaps as old as human civilization.

Persons identifying themselves as consumer behavior researchers are employed by corporations, government agencies, and various academic departments in universities. Most have completed significant coursework in social-behavioral sciences such as psychology, sociology, anthropology, and economics. Some researchers focus on predicting trends in purchase behavior in the short and long term, whereas others may be interested in diverse issues, such as the interpersonal aspects of purchase decisions, the role of brands in self-identity and goal attainment, how advertising can serve to create or maintain stereotypes of people, and so forth. One group of researchers may be interested in increasing the effectiveness of marketing communication, whereas another group might focus on ways to educate consumers to resist the influence of commercial communications. Ph.D. degrees are required for the academic positions, and specialized or M.B.A., M.S., or M.A. degrees are typical backgrounds for corporate research positions.

Major outlets for consumer behavior research are the *Journal of Consumer Research* and the *Journal of Consumer Psychology*. Journals in psychology, sociology, communication, marketing, and human ecology also include articles relevant to consumer behavior. Academic courses in consumer behavior are often available in schools of business, departments of human ecology, and colleges of communication.

Major organizations and academic conferences focusing on consumer behavior research issues include

the Society for Consumer Psychology, the Association for Consumer Research, the American Academy of Advertising, the American Marketing Association, and the Society for Personality and Social Psychology.

All social science research methods are employed in the study of consumer behavior, but it is fair to say that laboratory-based experimental research is the most common method in the published academic studies. Overall, the discipline of consumer behavior rests at the interface of basic and applied research issues. Some studies show that basic theoretical propositions from psychology and other disciplines can be used to understand and predict the behavior of individuals in consumption situations in which other studies serve to challenge the boundaries of understanding from extant theories by examining behavior in situations different from those in the basic research.

Just like many areas, consumer behavior research can be viewed as a fundamental topic worthy of study for a variety of reasons. The results and insights from such research efforts can be employed to increase the efficiency of marketing communication and product development efforts. The same insights can also be used to increase the efficiency and effectiveness of communication efforts and programs designed to reduce prejudice, increase the likelihood of healthy lifestyle choices, reduce energy consumption, and protect the environment. Ever-changing political, business, social, and environmental climates will provide the basis for the relevance and excitement of studying the behavior of humans as consumers.

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*See also* Behavioral Economics; Decision Making; Research Methods

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## CONTACT HYPOTHESIS

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### Definition

The contact hypothesis lies at the center of social psychological research on prejudice reduction. The effort to understand if contact between groups would

facilitate intergroup relations was triggered after World War II by the human relations movement. In its simplest form, the contact hypothesis proposes that contact between individuals of different groups will improve relations between them. Over the years since the introduction of the contact hypothesis by Gordon Allport, a long list of optimal conditions to yield improved relations has been forwarded. However, most of the empirical findings from studies focusing on the contact hypothesis suggest that the optimal conditions can be narrowed down to four essential factors.

### Essential Conditions of the Contact Hypothesis

One essential factor in order for contact to facilitate harmonious intergroup relations is that the different groups must be of equal status within the situation. Oftentimes prejudiced beliefs consist of stereotypes that outgroup members are inferior to ingroup members in their ability to perform different tasks. For example, Whites believe that Blacks are less intelligent and thus are unable to perform well on academic tasks. If contact between Whites and Blacks involves an unequal-status situation, with the White person in the dominant role and the Black person in the subordinate role, then the existing prejudiced beliefs are likely to be reinforced. By contrast, if both Whites and Blacks are treated as equals, then individuals are seen outside of their normal status group, allowing for prejudiced beliefs to be disconfirmed. A second essential factor is that the contact must have acquaintance potential, suggesting that the contact should occur frequently and be close enough to permit the development of meaningful relationships between individuals of the different groups. A third essential factor of the contact hypothesis is that there must be active attainment of a common goal that involves intergroup cooperation without competition. That is, individuals of the different groups must have a superordinate goal that cannot be achieved without the full cooperation of both groups. Finally, the fourth essential condition necessary for contact to be successful is that there must be explicit, unambiguous support for intergroup contact from authorities. The support fosters social norms of tolerance and acceptance of cultural diversity.

Thus, according to the contact hypothesis, it is not enough to merely bring people of different groups together. In fact, research shows that such an approach

may actually worsen the tension between the groups. It is contact that involves the essential four conditions (described in the previous paragraph) that will facilitate positive intergroup relations.

### Empirical Evidence

The contact hypothesis has sparked extensive research for over 50 years. Empirical support that contact under optimal conditions reduces prejudice and fosters intergroup harmony has been found using various methodologies, including laboratory studies, field studies, and survey studies. An extensive analysis of studies conducted on the contact hypothesis revealed that 94% of more than 500 studies found that increased intergroup contact predicted decreased prejudice. These studies focused on contact between various social groups, including contact between Whites and racial/ethnic minorities, heterosexual and gays/lesbians, non-mentally ill and mentally ill individuals, and younger adults and elderly individuals.

### Applications of the Contact Hypothesis

Increasing contact between members of different groups has been the basis of many policy decisions advocating racial integration in contexts such as schools, housing, workplaces, and the military. In addition, the contact hypothesis has been used to create programs to improve race relations.

#### **School Integration**

The contact hypothesis influenced the 1954 U.S. Supreme Court's (*Brown v. Board of Education*) decision to desegregate schools. The contact hypothesis was used to show that desegregation would increase the self-esteem of racial minorities and decrease the prejudice of Whites. Unfortunately, studies of the effects of school desegregation have not always produced encouraging findings. Some studies conducted during and immediately following the court's decision showed that desegregation actually increased Whites' prejudice toward Blacks and had little effect on the self-esteem of Black children. Several reasons for these findings is that interracial contact in desegregated schools was not always equal nor was it implemented with full social support, two essential conditions for improving intergroup relations.

In addition to helping integrate American's education system, the contact hypothesis was used in the 2003 U.S. Supreme Court's decision regarding the use of race as a criterion in college admission. The research presented in this case, which was based on the contact hypothesis, suggested that interracial contact on college campuses fosters tolerance and is intellectually stimulating.

#### **Cooperative Learning**

The contact hypothesis has been used in creating cooperative learning programs to improve intergroup relations. The most famous type of cooperative learning program is referred to as the jigsaw classroom method. The jigsaw classroom refers to a technique that creates a classroom atmosphere in which students of different racial and ethnic groups are placed in pursuit of a common goal. Specifically, students are placed in diverse six-person learning groups. The lesson is divided into six segments, and each student is assigned one segment of the lesson. In essence, each student holds, so to speak, one piece of the jigsaw. To complete the entire lesson, the students must rely on the knowledge of the other individuals in their group, thereby facilitating the interdependence that is needed to improve intergroup relations. In the jigsaw classroom, students are working cooperatively toward a common goal in a context where there is implicit institutional support given by the teacher. Students in jigsaw classrooms, compared to those in traditional classrooms, show decreased prejudice and stereotyping, and minority students show an increase in self-esteem. Moreover, students in jigsaw classrooms show a genuine display of integration even outside of the classroom, such as on the playground, by their willingness to interact with members outside of their racial and ethnic group.

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*See also* Confirmation Bias; Jigsaw Classroom; Prejudice

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## CONTENT ANALYSIS

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### Definition

Content analysis involves the systematic coding of information in archival records. It is a research tool used to determine the presence of certain words or concepts within a set of texts. The process of content analysis involves first selecting the texts from which the information will be gathered and then deriving the coding categories that will be used. The coding categories must be objectively defined to ensure reliability and consistency across various texts and different coders. Content analysis is most often used in exploratory and descriptive research.

### Background

Historically, content analysis was a time-consuming process. Analysis was done manually, or slow mainframe computers were used to analyze punch cards containing data punched in by human coders. Single studies could employ thousands of these cards. Human error and time constraints made this method impractical for large texts. Due to technological advances and increased use of the Internet, researchers today are able to analyze large bodies of text, focusing on concepts rather than single words, and on semantic relationships rather than just frequency counts.

### Evidence

There are many types of data suitable for content analysis. It could be used to study the use of negative political messages in television advertisements or to analyze personality characteristics of U.S. presidents based on information provided in biographies. One particularly influential content analysis conducted in the 1970s analyzed popular children's books and showed how different and stereotypical the roles played by boys and girls were. The analysis was useful because it highlighted important trends that had been overlooked.

Content analysis is primarily useful for three types of research problems. First, it is helpful in analyzing large volumes of text. Researchers today can rely on either technological advances, such as Internet searches, or multiple, trained coders to perform the task. Second, it is helpful when a topic must necessarily be studied "at a distance," as is the case in analyzing historical

documents or television broadcasts from a hostile country. Finally, it can reveal evidence and patterns that are difficult to notice through casual observations. The authors or readers of the children's books mentioned above may not have been consciously aware of the themes and biases present in the works, but content analysis research has revealed these trends.

### Implications

What content analysis does, then, is turn verbal information into numerical data. In doing so, it not only describes the information, but it also opens the way for a researcher to perform additional statistical tests on the material. One problem in content analysis is that researchers must be sure that the categories that are chosen are appropriate for the data. Generally, this means researchers need to spend a lot of time examining the data and their research interests to be sure that the categories accurately reflect what they are interested in.

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*See also* Discursive Psychology; Research Methods

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## CONTINGENCIES OF SELF-WORTH

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### Definition

The work of theorists like William James, Charles Cooley, and G. H. Mead suggests that self-esteem, because it is a judgment about the self, must be based on some sort of criteria. These criteria can be called *contingencies of self-worth*. William James suggested that everyone's self-esteem is a result of how competent they feel. Cooley and Mead suggested that everyone's self-esteem is a result of being viewed positively by other people. Contingencies of self-worth theory also emphasizes looking at the bases of self-esteem, but it proposes that people may base judgments about their worth on outcomes in any number of different

areas or domains. Some people may have contingencies of worth in domains like competency or approval, whereas others may base their worth on outcomes, such as being powerful, physically attractive, or virtuous. Good outcomes in contingent domains lead to high self-esteem, and bad outcomes in contingent domains lead to low self-esteem. For example, some people may have self-esteem that is contingent upon getting good grades in school. For such people, getting a bad grade does more than just put them in a bad mood, it also makes them question whether they are worthy human beings. Someone who is not contingent on academic outcomes would certainly be upset by a bad grade, but his or her self-esteem would not be affected by the grade. The theory allows people to hold more than one contingency of worth, and it allows people to hold some contingencies very strongly and others less strongly. The theory also suggests that some contingencies of self-worth are more adaptive than others. In addition, the theory proposes that people's contingencies of worth reveal their areas of vulnerability and guide their actions and motivations.

## Background

Until recently, most researchers only looked at one dimension of self-esteem: whether it was high or low. Many people in the Western Hemisphere (especially America) believe that having high self-esteem should lead to all sorts of positive outcomes. Researchers, thus, anticipated that high self-esteem would play a role in a variety of positive outcomes like good grades, prosocial behavior, popularity, and a generally happy life. Similarly, they predicted that low self-esteem would play a role in a variety of problems, including eating disorders, antisocial behavior, drug abuse, and a generally unhappy life. Consistent with intuition, self-esteem does play a role in how happy or sad Americans and people from other Western cultures feel. And initially, simple comparisons between self-esteem and variables like drug abuse or grades in school did sometimes show a relationship—although it was always unclear whether self-esteem caused the outcome or vice versa. But, as researchers did more sophisticated analyses, they began to find that the relationships weren't as strong as originally thought and that self-esteem and some outcomes weren't causally related to each other at all. For example, they found that self-esteem doesn't have nearly as much of a relationship with a child's grades in school as was

originally thought. Similarly, factors other than self-esteem seemed to be at the root of problems like drug abuse. Counterintuitive research also suggests that feeling an unwarranted sense of *high* self-esteem may underlie some antisocial behavior. When challenged, people with this inflated, fragile, and egotistical sort of high self-esteem may become aggressive or violent. In all, the research findings began to suggest that whether self-esteem is high or low doesn't have much of anything to do with material, tangible life outcomes. In sum, researchers were becoming confused about the importance of level of self-esteem.

Contingencies of self-worth theory propose that self-esteem is important and that we may just need to look at it from a more complex perspective. The theory asserts that simply looking at one dimension of self-esteem (high vs. low) isn't sufficient. In addition to looking at *level* of self-esteem, we also need to consider another dimension: *contingency* of self-esteem. Knowing an individual's contingencies of worth would provide researchers with a more complete picture of how life events are related to self-esteem. Only events that are relevant to an individual's contingencies of worth will be related to self-esteem. For example, a child's grades in school may be very closely related to their self-esteem, if that child holds academics as a contingency of worth. High self-esteem people may, indeed, respond aggressively to challenges—if those challenges are related to their contingencies and if those contingencies involve power or dominance over others.

## Evidence

Researchers determine which contingencies of self-worth a person holds by administering a questionnaire. Participants indicate degrees of agreement or disagreement to statements on the questionnaire. For example, one item that measures the academic contingency states: "My self-esteem is influenced by my academic performance." If we are to rely on participant responses, researchers must provide evidence that the questionnaire is measuring what it claims to measure. Jennifer Crocker and colleagues have done numerous large-scale surveys and smaller studies that have provided just such evidence. For example, how a person scores on the questionnaire has been shown to predict reactions to actual life events. In one study, college seniors were asked to fill out a contingencies of self-esteem scale. Next, they were asked to complete a level of

self-esteem scale every time they got either an acceptance or a rejection letter from a graduate school. Not surprisingly, self-esteem increased relative to a baseline score when they received acceptance letters and decreased when they received rejection letters. However, these fluctuations in self-esteem were predicted by the academic contingency. The students who most strongly based their self-esteem on good academic outcomes had the greatest self-esteem reactions to news from the graduate schools. Additional research has demonstrated that grades in college classes affect the self-esteem of those who base their worth on academics more so than those who do not.

Moving beyond simple validation of the concept, additional research is finding that contingencies of self-worth are related to a number of other psychological and behavioral variables. Researchers have studied the role contingencies may play in areas as diverse as sexual pleasure, alcohol consumption, eating disorders, gender role beliefs, ideas about how rigid or changeable intelligence is, attachment styles, academic problems, and financial difficulties. It is important to note that most of this research is correlational in nature, and most of it was conducted using college students as participants. Thus, much more work remains to be done, particularly outside of college student samples.

### Implications

This theory complements other researchers' ideas about self-esteem. For example, Michael Kernis and his colleagues have suggested that the extent to which a person's self-esteem fluctuates is highly predictive of his or her tendency to be depressed or aggressive. Contingencies of self-worth theory agrees with that perspective and notes that it will probably be harder to achieve consistently positive results in some contingencies (e.g., approval from others) compared to others (e.g., being a virtuous person). Crocker and her colleagues are, indeed, finding evidence that basing one's worth on contingencies that depend on external feedback (e.g., approval from others or physical appearance) is related to negative outcomes, such as stress, eating disorders, drug use, and aggression. These findings are quite consistent with the suggestion from self-determination theory that "contingent" self-esteem, in general, is problematic.

Crocker and her colleagues contend that contingencies of self-worth theory can help advance the study of self-esteem by resolving many contradictions

in the field (e.g., whether self-esteem is a state of being or a stable trait) and by explaining previously puzzling findings (e.g., the self-esteem of stigmatized individuals).

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*See also* Need to Belong; Self-Determination Theory; Self-Esteem; Self-Esteem Stability; Stigma; Threatened Egotism Theory of Aggression

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## CONTINGENCY MODEL OF LEADERSHIP

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### Definition

The contingency model of leadership is a model of leadership effectiveness that predicts group performance will be based on the interplay between leadership style and various situational factors. Because different leadership styles work more effectively in certain situations than in others, the model predicts optimal group performance will result when a leadership style accords with the situational contexts it is best suited to handle.

### Four Elements of the Model

Depending on the situation and their personalities, leaders use different tactics to plan, coordinate, and oversee group activities. Certain personalities will better fit certain contexts than others, and conversely, certain contexts will better accommodate certain personalities. One could imagine the mismatch of a drill sergeant berating a symphony orchestra or an orchestra conductor silently coordinating military operations with a baton. This basic premise of the interplay between

person and situation underlies the logic of the contingency model of leadership.

There are four elements of the model. The first concerns the personality of the leader. Broadly, a leader may be classified as either task-oriented or as relationship-oriented. *Task-oriented leaders* care primarily about the bottom line (i.e., whether the job gets done), whereas *relationship-oriented leaders* care primarily about establishing pleasant interpersonal relationships with coworkers. One commonly used approach for assessing leadership orientation asks the leader to recall and identify the person with whom he or she has had the most trouble working. This person may or may not be the most disliked person, but he or she must be the person with whom it is (or has been) particularly difficult to accomplish various work-related tasks. Next, the leader rates this person on various dimensions, such as pleasant–unpleasant, cooperative–uncooperative, and efficient–inefficient. Some leaders tend to rate this coworker negatively across all possible dimensions, whereas others tend to find in this coworker at least some positive qualities. These tendencies signify different leadership orientations: Across the board, negative evaluations indicate a more task-oriented leadership style, whereas a blend of positive and negative ratings indicates a more relationship-oriented leadership style. This measure, called the *least preferred coworker (LPC) scale*, has inspired a wealth of research but to this day remains controversial.

The other three elements of the model concern a leader's situational control. Broadly, *situational control* refers to the leader's sense of influence and control over the situation. Each element of the model corresponds to a different aspect of situational control and will be dealt with in order of importance. The first element, *leader–member relations*, refers to how cohesive the group is and how much the group supports the leader. Without good leader–member relations, all group energy becomes bound up in controlling the group rather than on work productivity. Furthermore, a respected leader better influences the group than a leader with poor relationships with his or her coworkers. The second element, *task structure*, refers to the clarity of task goals. Leaders usually prefer clearly defined tasks with clearly defined requirements (i.e., structured tasks) because they can then more effectively guide their coworkers. The third element, *position power*, refers to the official authority accorded to the leader by the group or by the leader's supervisor. A leader with high power has the

capacity to reward and punish workers, a desired commodity for most leaders. Overall, good leader–member relations, a highly structured task, and high position power represent the most positive situation for a leader; conversely, poor leader–member relations, a highly unstructured task, and low position power represent the least favorable situation.

### Predictions of the Model

Overall, the contingency model of leadership stipulates that group performance cannot be predicted by either the characteristics of the leader alone or by the characteristics of the situation alone; only their interaction can adequately predict group performance. More specifically, the model makes clear predictions about which leadership styles are most effective under which situations. The model predicts task-oriented leaders are most effective under either highly favorable or highly unfavorable situations; relationship-oriented leaders, on the other hand, are most effective in reasonably favorable situations. Task-oriented leaders succeed under highly unfavorable situations because they are willing to forego congenial relationships with coworkers to accomplish a goal. They also succeed in highly favorable conditions because they are able to relax, assured the team will most likely accomplish the desired goal. Relationship-oriented leaders, however, flourish in conditions of moderate favorability. In situations of moderate favorability, both positive and negative events will likely occur. With positive and negative events essentially balanced, interpersonal problems become the prominent source of reduced productivity. The relationship-oriented leader can soothe these relational problems, allowing team members to refocus on the task at hand. On the extremes of favorability, the relationship-oriented leader struggles. The relationship-oriented leader has difficulty sacrificing interpersonal relationships for a task goal (extremely unfavorable situation), and (interestingly) becomes antsy and overbearing when things are going too well (extremely favorable situation).

### Evidence

The criteria for determining the predictive value of the contingency model of leadership has overwhelmingly focused on work group performance or productivity. Whenever possible, tests of the model have employed

objective outcome measures that can be unambiguously quantified, such as win–loss records for sports teams or tons of steel produced per worker. Outcome measures have always been assessed by individuals unconnected to the work group to avoid bias in measurement. A typical study might manipulate various elements of the model and evaluate the extent to which the data agree with what the model would predict. For example, researchers have created experimental conditions where the task is either structured or unstructured or where the leader has either high power or low power. The researchers can then examine the group's productivity and see which leaders perform better in which situations. Most of these studies come from the 1970s and early 1980s; not much research about the model has been done recently.

Although exceptions exist, data collected by various researchers generally tend to support the contingency model of leadership. A statistical technique known as meta-analysis, which allows researchers to combine results from previous studies, has helped settle some of these debates. However, critics continue to question the model's merit, mostly with respect to how some of the variables are measured and interpreted. The LPC scale has been by far the most heavily scrutinized, perhaps for good reason. At face value, it is not unequivocally clear that the LPC scale in fact measures leadership orientation; it might instead measure something else, such as the extent to which one feels psychological distance toward one's disliked coworkers. Indeed, these measurement issues cannot be taken lightly. Researchers must always be painstakingly clear about what they are measuring in their experiments; otherwise, drawing sound conclusions from their data becomes impossible.

### Implications

The contingency model of leadership was an important breakthrough in predicting group performance. It is theoretically compelling (incorporating both the person and the situation), clearly testable, and widely applicable. (In fact, training programs based on the model have been implemented in business.) Most importantly, in most cases the model appears to work. Although researchers have not published much about the model recently, proponents still argue there are theoretical issues that need to be clarified and resolved. If these gaps in the model are adequately

addressed, the model might still uncover novel, interesting phenomena about group behavior and performance previously unknown.

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*See also* Group Performance and Productivity; Leadership

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## CONTRAST EFFECTS

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### Definition

Most judgments in everyday life are evaluative in nature. People may want to know whether a particular grade is good or bad, whether a person is trustworthy, how well someone performed on a test, or what a person's athletic abilities are like. Rarely can such questions be answered in absolute terms (e.g., running 1 mile in 5 minutes). Rather than absolute, judgments are usually *relative* and result from comparisons. That is, judgments are mostly evaluations of a target with respect to some comparison standard. For example, having a C in a class is considered very differently depending on whether everybody else has an A or whether all others failed. Moreover, the C is evaluated very differently depending on whether an A or a D was expected. Or, consider a temporary headache that feels quite bad—in comparison to a chronic migraine, it probably appears less severe. As these examples demonstrate, judgments may differ significantly depending on the comparison standard they are contrasted to, a phenomenon that social psychologists refer to as *contrast effects*. More formally, a contrast effect reflects a negative relation between the implications of a standard and the resulting evaluation of a target, that is, the more positive (negative) the standard, the more negative (positive) the evaluation of the target.

## Comparison Standards

### ***Standards Are Not Fixed***

Comparison standards are not fixed but rather are highly flexible. They may vary from one situation to another and due to a mere change of the standard, things appear differently although they factually haven't changed at all. For example, in job interviews the interviewer may evaluate the candidates in relation to an ideal perfectly fitting the job. Alternatively, in the course of several interviews, the interviewees could be compared to prior candidates, presumably resulting in very different evaluations. Or, as in the above example, grades can be evaluated referring to the performance of others, one's own expectations, and so forth.

### ***Selection of Standards***

If comparison standards are not fixed, a crucial question pertains to what influences their selection. First, *relative accessibility* of standards determines the likelihood of a comparison standard to be selected. Accessibility means how easily something comes to mind. Imagine you are watching a model contest on television and are suddenly asked to evaluate a partner's or friend's attractiveness. As research has shown, it is likely that your friend would score badly in this situation, just because a particularly high standard (a model) was made accessible through the television show. In most other situations, you would probably rely on more average, less attractive comparison standards (like people on the street or in your class). In more general terms, the likelihood of any piece of information to serve as a comparison standard depends on how easily it comes to mind; that is, how accessible it is in a given situation.

Second, the *applicability* of a comparison standard also determines its likelihood of selection. For example, imagine you evaluate the size of a person, asking yourself whether this person is tall or small. Obviously, you could apply many different comparison standards, for instance, depending on the person's sex. If the person being evaluated is a female, the average height of the general population is not really meaningful; what would be more meaningful is to refer to the average height of females. But what would happen if the person being evaluated is a professional basketball player? These examples demonstrate that to be used as a comparison standard, the respective piece

of information has to be applicable, or meaningful. Interestingly, individuals apply different standards to the social behavior of different groups. As a result, the mildly aggressive behavior of a female is evaluated as more aggressive than the same behavior of a male because, based on existing stereotypes, a higher standard for aggressiveness is applied to men than to women.

Note, however, that in many situations, the selection based upon accessibility and applicability is quite useful. Malleability of evaluative judgments, therefore, is not a bad thing, but rather a highly adaptive feature.

## Social Comparison

Judging something with respect to some comparison standard is a common phenomenon in daily life, regardless of whether situations, objects, or persons are evaluated. Nevertheless, comparisons of yourself to other people (social comparisons) are a special case, because at least one other prominent criterion is available: the similarity between you and the comparison standard. In general, similar people are more likely to be used as comparison standards than are dissimilar people, supposedly because comparisons to similar people convey more valid information. For example, comparing your own running speed to a person 20 years younger or older may be less informative than comparing it to someone of your own age. Importantly, whether the contrast resulting from your comparison will be positive or negative depends on whether you choose a worse or better standard, a phenomenon termed *downward* (standard is worse) or *upward* (standard is better) *social comparison*.

## Practical Implications

Just as evaluations are predominant in people's lives, so too are contrast effects. Apart from their occurring in many judgments people make, contrast effects also are used to influence our judgments. For example, a reduced price looks much cheaper than it actually is only because the cancelled original price tag is still clearly visible. Compared to the original price, the new one is cheaper—regardless of whether it is actually cheap. Or assume you just decided to buy a new suit. Quickly, the smart salesperson offers you a somewhat expensive tie that goes nicely with the suit. In comparison with the price of the suit, the tie does not seem too expensive, but without the comparison standard

elicited by the suit, you may never have considered buying such an expensive tie.

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*See also* Accessibility; Assimilation Processes; Social Comparison

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## CONTROL

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### Definition

The term *control* has a long history in social psychology and has been used in a variety of ways. At the most general level, control can be understood as influence, whether it be over internal states (as in emotional control or self-control) or over external aspects of the environment, including control over outcomes (i.e., being able to attain outcomes you desire) or over other people (i.e., making them do what you want them to do). Psychologists from different perspectives have focused on this basic construct in a multitude of ways. Some have focused on understanding the effects of changing circumstances in the environment to permit different degrees of control to individuals. Research also has focused on the subjective experience of feeling like you have control over outcomes you attain. Others have focused on the antecedents and consequences of feeling like you are being controlled—typically by other people. Still others have used the term *control* (or *controlled*) to help differentiate between those aspects of cognition and behavior that are consciously, as opposed to nonconsciously, determined. Each of these instantiations of the term *control* has its own nuanced meaning and place in the history of social psychology.

### On Being and Feeling in Control

Among the earliest authors to use the term *control* as a central construct was Julian Rotter in the 1950s. Rotter's social learning theory asserted that behavior is a function of one's expectations about future reinforcement. Specifically, Rotter differentiated between two sorts of expectations, which he referred to as *loci of control*. When people expect that they can control the procurement of desired outcomes (i.e., that their behavior will lead to the outcomes), they are said to have an *internal* locus of control. People with an internal locus of control are expected to be more motivated to behave in an attempt to attain the desired reinforcements. By contrast, when people expect that they cannot control the attainment of desired outcomes (i.e., that the outcomes are controlled by fate or chance), they are said to have an *external* locus of control. In other words, the outcomes are controlled by forces external to them. People with an external locus of control are hypothesized to be unmotivated to act, because they believe their actions will not lead to the outcomes they desire.

Subsequently, in the 1970s, Martin Seligman used the concept of having control over outcomes as the centerpiece for his theory of helplessness and depression. Seligman speculated that when people experience lack of control over outcomes in their environments, they tend to develop a chronic condition, referred to as *learned helplessness*, which he suggested was closely related to depression. Having an external locus of control thus bears similarity to being helpless, although the concept of locus of control was viewed as a personality variable (i.e., something that is differentially strong from one person to another), whereas the experience of helplessness was understood as a phenomenon caused by objective lack of control in the environment.

In a series of poignant studies that illustrated the helplessness phenomenon, animals would be placed in a small cage with two compartments. The floor in one was covered with an electrified grid. This half of the cage was separated from the "safe" compartment by a wall, the height of which could be manipulated by the experimenter. Early on, the animals were positioned on the side of the cage with the electrified grid beneath them, and over the course of several trials, they learned that they could escape the unpleasant (though nonlethal) shocks by jumping over the dividing wall. However, when the height of this dividing wall was varied randomly, in such a way that escaping

the shocks became something that the animal could no longer control (i.e., could no longer escape reliably), the animals gradually learned to stop trying. Further, the impact of this experience was chronic and emotionally charged. The animals refused food and water, and their health deteriorated. This illustration is thought to mirror the development of severe depression in people and serves to demonstrate the consequences of lacking objective control over the desired outcomes in one's environment.

The concept of control over outcomes is also central to self-efficacy theory as outlined by Albert Bandura. Bandura maintained that being motivated required people to expect that they can obtain desired outcomes, but he said that there are two key components to expectations of control. The first is the belief that there is a contingency or link between a particular behavior and a desired outcome; the second is the belief that one is competent to do that requisite behavior. Bandura's theory focuses much more on the expectancies about efficacy or competence than about the contingencies, essentially assuming that the contingencies do typically exist.

More recently, the term *perceived control* has been adopted as the most common way of talking about having an internal locus of control or expecting to have control over outcomes. Studies have now shown that perceived control tends to be adaptive and is linked to a number of positive outcomes, including better performance and well-being. For example, those with higher perceived control tend to perform and learn more effectively. They experience crowded spaces as less aversive. In general, they report fewer physical health symptoms (such as headaches), and in the case of institutionalized aged people, studies have linked lower perceived control to an increased rate of mortality.

Researchers have argued that human beings have a strong desire to perceive that they have control over outcomes. A line of research by Ellen Langer and her colleagues helped illustrate this point by demonstrating that this desire is so strong that people tend to perceive that they have more control than they actually do. Langer dubbed this phenomenon the *illusion of control*.

### On Being and Feeling Controlled

A number of researchers have focused on a related, but distinct aspect of control, that is, the experience of being or feeling controlled—particularly by other

people—as opposed to feeling a sense of autonomy or freedom. Among the first researchers to identify this area as important for social psychology was Richard deCharms in the 1960s. DeCharms speculated that many of the positive outcomes that had previously been linked to an internal locus of control were, more precisely, a function of feeling free rather than controlled. In so doing, he was changing the focus from control over outcomes to the control of behavior, essentially asking whether people were controlling their own behavior or whether it was being controlled by others.

Edward Deci and Richard Ryan, in their self-determination theory, identified this experience of freedom as a basic psychological need. They referred to this experience as the need for *autonomy*, which is the opposite of feeling controlled. Stated differently, this perspective suggests that it is important for people's well-being *not* to be controlled by others; they need to feel a sense of regulating their own behavior. The theory therefore characterizes social environments relative to the degree to which they support people's autonomy versus control people's behavior. Considerable research has identified aspects of environments that contribute to their being supportive of autonomy versus controlling. Experiments have shown, for example, that offering people choice about what they do and how they do it, providing people with a meaningful explanation for why they are being asked to do something, and avoiding the use of words and phrases that imply control (e.g., *should*, *must*, *have to*) all contribute to people experiencing a situation as being supportive of autonomy. In contrast, many factors have been identified that tend to leave people feeling controlled. Perhaps the most surprising is that people tend to feel controlled when they are offered a reward for doing something. It seems that tangible rewards are frequently used to get people to do things they would not otherwise do, so people come to associate the rewards with being controlled and they tend to feel controlled when they do something to get a reward. Other factors that are controlling include threats of punishment, surveillance, deadlines, critical evaluations, goal imposition, and pressure to win a competition.

Overall, a great deal of research has shown that when parents, teachers, managers, coaches, and physicians are supportive of autonomy rather than controlling, their children, students, employees, athletes, and patients tend to do better in many ways. They learn

better, perform better, persist longer at various tasks, experience greater job satisfaction, behave in healthier ways, and feel better about themselves.

### **Automatic Versus Controlled Processes**

In a literature that developed quite independently of the research cited earlier in this entry, cognitively oriented social psychologists have drawn an important distinction between what they call automatic and controlled mental processes. *Automatic processes* are characterized as operating without awareness, effort, or intention. Have you ever noticed how you sometimes eat something without even realizing you are doing it? You probably also shift your car automatically without giving it any attention or thought. Such behaviors can be caused by processes that operate out of your conscious experience. In other words, you are not really controlling your own behaviors; some non-conscious process is controlling you. In contrast, *controlled processes* are characterized by the opposite set of features. They require more effort and conscious awareness. You are making the decision to do the behaviors, so you are more in control of yourself and your behaviors. Because such behaviors use people's limited attention, they tend to interfere with doing other controlled behaviors. In other words, if you are engaged in one activity that requires controlled mental processes, your performance on a second concurrent task that requires controlled processing is likely to be impaired.

One of the most interesting features of the research in this area is that, in general, one type of mental processing (i.e., automatic or controlled) does not appear to be more adaptive than the other. Under different circumstances, each has its advantages and disadvantages. For example, in general, when it comes to novel situations that require consideration of a variety of factors, the controlled processing system seems to be significantly more flexible and effective. Careful, deliberate consideration of different courses of action usually results in the most effective behaviors. Often, however, behaving more quickly or with less attention may be advantageous. In such cases, the automatic processing system tends to be preferable. Further, the automatic processing system requires less energy, so there may be circumstances where converting to the automatic system—through habituation or practice—would free up psychic energy to address more complex problems. The drawback that accompanies faster

and less effortful processing, however, is the decreased flexibility.

Many researchers have argued that most of everyday life, much more than we intuitively imagine, is dictated by the automatic processing system. They suggest not only that the processing capacity of the controlled system is limited but also that the frequency with which it can be employed in everyday life is quite limited. For instance, Roy Baumeister and colleagues have speculated that the controlled processing system may play a casual role in our actions as little as 5% of the time, although this point is still debatable.

One interesting phenomenon that has emerged from this literature is that, often, attempting to exert deliberate, conscious control over activities that are typically automatic results not only in decreased efficiency but also in decreased quality of performance. Take, for example, the coordination of movements required for jogging; this complex sequence of actions is normally managed by the automatic processing system, resulting in a series of fluid decisions. If, however, people were asked to consciously and deliberately consider their actions as they jogged, the result would be slower, more awkward, movement. In this case, attempting to use the controlled processing system to manage decisions formerly ascribed to the automatic system is clearly disadvantageous.

Finally, it is important to note that most researchers do not see the distinction between controlled (i.e., conscious) and automatic (i.e., nonconscious) processes as black and white. Although it was originally believed that these two categories were relatively distinct, researchers now believe that the two categories are often blurred. John Bargh, for instance, has argued that most processes of interest to social psychologists are actually best defined by a mix of features traditionally ascribed to the automatic and controlled categories.

### **Summary**

The term *control* has taken on a variety of different meanings in social psychology. Despite the common thread of all the work on control relating to the degree to which people control their own behaviors or outcomes, each use of this term has its own history and corresponding literature. Some work has focused on the degree to which people feel able to control (i.e., attain) the outcomes they receive. Some has focused on whether people's behavior is autonomously regulated

or is controlled by others. And some has focused on how much of people's behavior is regulated automatically, out of their awareness, and how much is controlled by conscious, more deliberative processes.

*Arlen C. Moller  
Edward L. Deci*

**See also** Automatic Processes; Controlled Processes; Control Motivation; Learned Helplessness; Locus of Control; Self-Determination Theory; Self-Efficacy

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## CONTROL CONDITION

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### Definition

The control condition in an experimental design lacks any treatment or manipulation of the independent variable. People assigned to the control group serve as the basis of comparison for the people in the experimental condition. Everything in a control condition is the same as the experimental conditions except that the independent variable is absent or held constant. Assuming that the groups were equivalent prior to the treatment, any differences between the control condition and the experimental condition can be attributed to the effect of the independent variable.

### Evidence and Implications

The control condition is designed to be equivalent to the experimental condition except for the independent

variable, which is absent or held constant under its normal circumstances. Thus, the control condition provides a basis for comparison. The researcher assesses the influence of the independent variable by comparing the outcomes under the experimental and control conditions. For example, if researchers were to design an experimental study to test the effect of loud music on test performance, students who did not listen to loud music would be in the control group. The researchers could compare the test score of the students who did listen to loud music with the students in the control group to determine whether loud music had an impact on test scores.

Not all experimental designs have a control condition. However, it is useful to include a control condition to determine the effect of the procedure outside the effect of the independent variable. Consider the design of an experiment in which researchers are testing the effectiveness of two different types of medicine on headache relief. Participants with headaches would be divided into two groups, with each group getting one type of medicine. After an hour, researcher would ask participants to rate the effectiveness of the headache medicine. From this design, researchers could determine if one of the medicines was more effective than the other. They could not determine, however, if either of these medicines was more effective than no medicine at all. It is possible that simply believing you are taking headache medicine can lessen the pain. If the researchers included a control condition in this experimental design, they could make this comparison. Participants could be divided into three groups, with two groups receiving different headache medicines and one group receiving a placebo. Then, researchers could compare the effectiveness ratings of the two real headache medicines with the ratings from the control group. If the effectiveness ratings provided by participants receiving actual medicine were greater than those provided by participants in the control group, researchers could conclude that taking a headache medicine was more effective than taking no medicine. Thus, including a control condition allows researchers to compare the way things are in the presence of an independent variable with the way things would have been in the absence of an independent variable.

*Charlene Christie*

**See also** Experimental Condition; Placebo Effect; Research Methods

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## CONTROLLED PROCESSES

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### Definition

Recall the last time you drove a car. For most people, driving is fairly automatic. People do not have to think about their driving but can instead allow their minds to ponder other issues, such as what to eat for dinner or what to do later. Controlled processes occur when drivers must pay active attention to the road and their driving, such as when a light suddenly turns red, another car cuts into traffic, or when they must figure out where to go.

Controlled processes are mental operations that are intentional, effortful, inefficient, and flexible. That they are intentional means they are under one's deliberate control. A love-struck student, for example, might intentionally choose to stay focused on his or her course readings rather than daydream about his or her lover. Controlled processes are effortful in the sense that they require a relatively large amount of one's attention, and are tiring and taxing. Playing chess, for example, requires controlled processing for most people because they cannot attend to other events around them (e.g., watch a movie, carry on a complex conversation) while simultaneously thinking about the chess game. Likewise, after playing a chess game, most people probably feel somewhat mentally drained or fatigued. This indicates that the chess game probably required effortful controlled processing and drained the chess player's mental energy as a result.

Controlled processes are inefficient because they are slow and cumbersome. Taking a test of analytical reasoning, for example, requires controlled processing because one must take the time to reason through each problem on the test, step by step, until one derives the correct solution. Like solving a math problem, controlled processing requires multiple steps, and each step must be finished before the next one can begin.

Though controlled processes are costly in the sense that they are effortful and inefficient, controlled processes are highly beneficial because of their flexibility. Instead of doing what a person typically does, for

instance, he or she can change his or her routine. Rather than go to the pizzeria across the street for lunch every day, a hungry student could deliberately choose to stay home and make a sandwich.

One of the most frequent tests used to examine controlled processes is the Stroop task (named for John Riley Stroop). In one version of this task, people are presented with the words *red*, *blue*, and *green*. Each word appears in red, blue, or green colored ink, and the color ink the word appears in is different from the word's meaning. So, for example, the word *red* might be shown in blue ink, or the word *green* might be shown in red ink. For the task, people are asked to state aloud the color that the word appears in and to ignore the meaning of the word. As you can probably imagine, this task is very difficult because it requires a large amount of controlled processing. One must deliberately choose to say the color of the ink and ignore the words' meaning. Among literate individuals, the natural tendency is to read a word immediately upon seeing it (indeed, try to look at a word and not know its meaning immediately), and so it is effortful to refrain from doing so. Performance on the Stroop task is largely inefficient too—people perform the task relatively slowly and cannot perform other tasks (e.g., understand a conversation) while they are doing it. Last, the Stroop task illustrates the flexibility of controlled processing because people can deliberately choose to ignore the meaning of the words. The Stroop task is similar to trying to watch a movie that has subtitles in one's natural language—it oftentimes requires a large amount of controlled effort to ignore the subtitles and pay attention to the movie.

Controlled processing underlies many important abilities of the human psyche. First, controlled processing enables choice and decision making. It allows people to consider multiple options when making a decision, imagine possible outcomes, and choose which path to take. It enables people to weigh the costs and benefits of their decisions, such as the costs and benefits of studying rather than partying. Second, controlled processing allows people to exert self-control and reprogram the self. Self-control is the ability to control one's thoughts, emotions, urges, and behaviors, and this ability relies extensively on controlled processing. A person might have a negative or disturbing thought, for instance, but deliberately and effortfully control his or her thoughts to focus on more positive and pleasant topics. Likewise, a dieter would use controlled processing to decide to eat healthier and then

later pass up a delicious desert after dinner. Controlled processing also allows people to combine and synthesize different sorts of information. For example, a spouse might be told by her husband that he was out with friends one night, only to discover later that he was shopping at the mall. These two pieces of information could be synthesized with the fact that the spouse's birthday is approaching, and she would then realize that her husband was probably buying her a terrific birthday present.

Other capacities that controlled processes underlie include using rules to figure out solutions to problems (e.g., algebra problems), thinking logically (e.g., on the Scholastic Aptitude Test), planning ahead (e.g., "Which college should I attend?"), and being creative. Controlled processes also play a vital role in acquiring new skills. When learning to play tennis, for instance, people must actively and effortfully pay attention to their motor movements so as to hit the tennis ball properly, and they must also consider all of the rules while playing.

In sum, controlled processing is essential to function successfully in the modern world. It allows people to think in complex ways and make important decisions and sets humans apart from other animals that merely react automatically to the surrounding environment.

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*See also* Automatic Processes; Auto-Motive Model; Dual Process Theories; Ego Depletion

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## CONTROL MOTIVATION

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### Definition

Control motivation refers to the motive to exercise at least some control over important events in our lives. The extent to which control motivation is innate or learned remains a point of discussion. But many psychologists argue that virtually all people are motivated to establish a sense of mastery, that is, to see themselves

as capable individuals who can exert some influence over events and outcomes. This motive is also sometimes referred to as *effectance motivation*.

### Positive Aspects of Personal Control

An abundance of research suggests that people generally prefer to control the events in their lives and that exercising control is good for people's well-being. Even in situations in which individuals exercise little control, simply believing that they *could* exert control usually causes people to feel better, cope with adversity better, and work more efficiently. In fact, a case can be made that feeling in control is a critical component of well-being.

Participants typically have adverse reactions when researchers take control away from them or place them in situations in which they have little or no control. Psychologists studying *learned helplessness* often present participants with an unpleasant stimulus, such as loud noise. Whereas some participants find they can turn the noise off by solving simple problems, such as anagrams, others are given problems that are impossible to solve. Participants who learn they can control the noise have little difficulty when later working on unrelated tasks. However, participants exposed to uncontrollable noise do poorly on subsequent tasks, even when they have received the same amount of noise as the other participants. Many psychologists point to similarities between participants in these laboratory studies and people suffering from depression. Studies find that a perceived lack of control over important events often triggers the onset of depression, and that depressed individuals frequently believe they are unable to exercise control over important aspects of their lives.

Developing or maintaining a sense of personal control also is beneficial when attempting to cope with many of the sad, stressful, and tragic events in life. Even when people face circumstances clearly out of their control, focusing on what they *can* control typically helps them cope with their problems and return to a positive state of mind. In one study, women with breast cancer who believed they could control their emotional reactions, aspects of their treatment regimen, and some of their physical symptoms showed better emotional adjustment than women who felt they had little ability to control what was happening to them. Although none of the women could directly control the course of the disease, those who focused on what they could control fared better than those who did not.

## Negative Aspects of Personal Control

There is little doubt that feeling in control goes hand in hand with positive adjustment and well-being. But this does not mean that people want to control everything or that control is always desirable. People sometimes relinquish control because they don't want the responsibility that comes with being in charge. This is particularly true if individuals feel they lack the skills necessary to do the job well. Often the fear of looking foolish in case of a poor performance keeps people from accepting assignments or positions of responsibility. Participants in one study experienced higher levels of anxiety when given the opportunity to choose which of three tasks they were to work on, but only when they thought the experimenter would know how well or poorly they performed. In extreme cases, people engage in *self-handicapping*, in which they take steps to ensure a poor performance, such as not studying for a test, rather than acknowledge that they gave it their best and failed.

Sometimes people simply don't want the extra work that comes with increased control. Thus, in some situations people actually prefer fewer rather than more choices. When shoppers in one study were given the opportunity to sample from six types of jam on display at their local supermarket, they were 10 times more likely to purchase jam than shoppers who were shown 24 flavors they could sample from. Tasting more jams no doubt gave the participants a better chance of choosing just the right one, but the extra effort made the task undesirable.

People often relinquish control to more qualified individuals, thereby increasing the chances of a good outcome for themselves. This is why patients frequently rely on doctors to make medical decisions for them. Although many people prefer to play a role in their health care, when given responsibility for decisions they feel unqualified to make, patients often experience anxiety and depression.

## Individual Differences

Although all people are motivated to control the events in their lives, psychologists also can identify individual differences in this motive. Psychologists can place people along a continuum from those with a high *desire for control* to those who are low on this trait. Knowing a person's desire for control score allows psychologists to predict behavior in a large number of settings. For

example, people high in desire for control are more likely than lows to assume leadership roles, control the flow of a conversation, work harder on challenging tasks, and attempt to influence the people they work with. Consistent with research on learned helplessness, highs also may be more vulnerable to depression, because life is not always arranged to satisfy their high need for control. People high in desire for control tend to react more strongly to stress than do lows, but they also cope better because they typically take steps to do something about the problem.

*Jerry M. Burger*

*See also* Control; Coping; Depression; Learned Helplessness; Self-Determination Theory; Self-Handicapping; Stress and Coping

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# COOPERATION

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The theme of cooperation has been a prominent domain of theory and research within a variety of disciplines, including philosophy, political science, economics, sociology, biology, and psychology. The broad interest in cooperation is not surprising. This theme is intimately linked to the basic views and assumptions regarding human nature and relevant to the functioning of dyads, groups or organizations, and even societies. Although it is often assumed that humankind is rationally self-interested, more recent theorizing and research reveals that human nature is far richer than the concept of selfishness is able to capture.

## Definition

Cooperation is formally defined by the tendency to maximize outcomes for self and others (“doing well

together”). It is often contrasted to *competition*, the tendency to maximize relative advantage over others (“doing better than others”), and to *individualism*, the tendency to maximize own outcomes with no or very little regard for others’ outcomes (“doing well for yourself”).

## Analysis

Cooperation and competition have been examined in several paradigms, although such issues have received most direct attention in so-called experimental games, such as the well-known Prisoner’s Dilemma Game. This is a situation in which people often face two choices—a cooperative choice, which helps others at some cost to self, and a selfish choice, which harms others but serves self-interest. Cooperation has also been studied in the context of other experimental game situations as well as in real-life contexts. In all of this research, the key question is: How can we promote cooperative behavior that benefits outcomes for all individuals involved? Research has indeed indicated several personality variables and situational variables that affect cooperative behavior.

To begin with, people differ in their tendency to cooperate or not. Some people (*prosocials*) are simply more strongly inclined to make a cooperative choice than are others (*individualists* and *competitors*), who may more likely to make a selfish choice. This variable, called *social value orientation*, is also relevant to understanding cooperation in everyday life. For example, prosocials are more likely to engage in self-sacrifices in their close relationships, are more likely to help others, and are more likely to make donations to noble causes, such as helping the ill and the poor. Also, prosocials have a greater number of siblings, especially sisters, than people who are more self-oriented. Older people are more likely than younger people to be prosocial. Another personality variable is *trust*, or differences in the degree to which one believes others are honest and cooperative. People with high trust tend to cooperate more than those with low trust. One reason to do so is because of self-protection. If you do not trust others, you think that you will be the only one to cooperate—which means that the other will indeed take advantage of you. When people with low trust think that they can make a contribution (and know for sure that they will not be exploited or lose their contribution if others do not cooperate), then they tend to be as cooperative as those with high trust.

Clearly, the situation matters a lot too. Generally, people are much more likely to cooperate if the *reward* for cooperation is greater, or if the *costs* for noncooperation are greater. Thus, interventions by which cooperation becomes structurally more attractive (reward) and noncooperation less attractive (punishment) are effective means to promoting cooperation. These are policies that governments often adopt to enhance collectively desired behavior (cooperation)—by rewarding cooperative behavior (e.g., subsidizing the use of public transportation to decrease traffic jams) or punishing noncooperative behavior (e.g., penalizing those who use too much water during a water draught).

Cooperation may also be rooted in powerful *norms* that prescribe rules for dealing with specific interdependence problems and opportunities. Although often implicit, norms tend to exert fairly strong influences, in that they often prescribe choices that protect or enhance group outcomes, which are applicable to a great variety of situations and, when violated, tend to result in disapproval by the observers and guilt in the actor. Also, norms tend to play a somewhat different role in different cultures. For example, in collectivistic cultures one may witness cooperation in response to one another’s needs (e.g., *communal relationships*), whereas in individualistic cultures one is more likely to witness cooperation through the norm of reciprocity (e.g., *exchange relationships*).

Tendencies toward cooperation or competition are often inspired by beliefs or actual observations of others’ behaviors. The general rule is that cooperation tends to evoke some cooperation, whereas competition evokes competition. Beliefs regarding others’ cooperation and competition are strongly interrelated with one’s own inclination to cooperate or compete. In the context of dyadic relationships, there is a *social-evolutionary* basis for the functionality of the so-called tit-for-tat strategy. This strategy, which commences a cooperative choice and subsequently imitates the other person’s previous choice, is one of the most effective means for eliciting stable patterns of mutual cooperation). Indeed, tit-for-tat effectively rewards cooperation by acting cooperatively in turn and punishes noncooperation or competition by acting noncooperatively in turn.

There are important psychological differences between dyadic relationships and larger group relations. To begin with, *anonymity* increases with group size. That is, unlike dyadic relationships, in larger groups one can almost never be sure who was making

a cooperative or competitive choice. Also, with increasing group size, individuals tend to become substantially more pessimistic about the *efficacy* of their efforts to promote collective outcomes. And individuals tend to feel lower levels of *personal responsibility* for collective outcomes with increasing group size. For these reasons, individuals tend to exhibit lower levels of cooperation, as groups are larger in size. If groups involve more than eight or ten people, then group size does not seem to matter so much anymore.

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*See also* Communal Relationships; Prisoner's Dilemma; Prosocial Behavior; Social Value Orientation

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## COPING

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### Definition

Coping refers to the thoughts and behaviors that people use to deal with stressful situations. Although most psychologists limit the concept of coping to conscious and intentional efforts to manage stressful encounters, some theorists have argued that more automatic and unintentional ways of dealing with stressful circumstances should be included within the coping rubric.

### History and Background

The history of coping as a psychological construct mirrors the history of academic psychology since the mid-20th century. Three streams of thought during the 1940s and 1950s converged to herald the study of

coping: the psychoanalytic notion of defense mechanisms, the concept of stress, and experimental psychology's return from its exclusive focus on observable behavior to the study of mental processes.

Freud's concept of defense—the mind's way of keeping out of awareness unpleasant thoughts and feelings—was popularized by his daughter, Anna Freud, who described various defense mechanisms in detail. According to Anna Freud, some defense mechanisms are more effective or adaptive than others, an idea that foreshadowed current thinking regarding the relative effectiveness of various coping strategies. Anna Freud also observed that although there are many defense mechanisms, people tend to have preferred defenses for dealing with threatening situations, an idea that anticipated current thinking about “coping styles.” But the most direct way in which the notion of defense mechanisms influenced the development of the coping field is through its focus on the mind's ability to respond to threatening experiences in an effort to reduce the experienced threat.

At the same time—during and soon after World War II—there was keen interest in how soldiers dealt with the demands of combat and why some soldiers handled combat better than others. Hans Selye had introduced the concept of biological stress, including the body's response to such stress. Selye's 1950 address at the American Psychological Association meeting prompted psychologists to consider whether the psychological stress of combat might be met with mental efforts to reduce the threatening experience.

The third precursor of coping as a focus of study was the “cognitive revolution” in psychology. As George Miller has noted, this was actually a counter-revolution. The original revolution came earlier in the 20th century when an influential group of experimental psychologists, most notably B. F. Skinner, shifted psychology's focus from the science of mind to the science of behavior. In their effort to focus exclusively on observable behavior, these experimental psychologists viewed people's thoughts and feelings as irrelevant to psychological science. Although social and clinical psychology had never abandoned mental constructs, the cognitive revolution of the 1950s and 1960s was psychology's enthusiastic return to the study of how people think about themselves and their world.

The concepts of defense mechanisms and psychological stress—and psychology's renewed efforts to understand mental mechanisms—set the stage for

Richard Lazarus's pioneering studies of coping. In the 1950s and 1960s, Lazarus conducted a series of now classic studies to determine whether people's ways of thinking about a stressor affected their reactions to the stressor. Lazarus and his colleagues showed threatening films to research participants while recording their heart rate and sampling reports of their subjective stress. One film captured a series of subincision operations performed on a young man's genitals. The other film depicted bloody woodshop accidents.

Study participants were exposed to orienting statements designed to influence how they interpreted the film's events. One statement, designed to help participants deny the severity of what they were about to see, asserted that the accidents were staged for effect. Another statement, designed to help participants distance themselves from the action, declared that the study was focused on aboriginal customs. Yet a third orienting statement drew attention to the threat by affirming that several of people depicted in the film suffered severe pain and infection from the rituals. Lazarus found that participants' reports of subjective stress and their heart rate were influenced by the various orienting statements: Individuals who received denial or distancing statements had a lower heart rate and reported less stress than their counterparts who received no orienting statement. People whose orienting statement highlighted the threat had a higher heart rate and reported more stress compared to individuals who received no orienting statement. These studies, demonstrating that the way people think about a stressful encounter affects their emotional and physiological reaction to the encounter, were the experimental precursors of coping research over the past 50 years.

### Importance of Coping

Coping plays a central role in psychological theory, and it has significant implications for public health and health-related interventions. Its relevance to theory is exemplified in the understanding of how people adjust to uncontrollable stress. Several major theories of how people respond to uncontrollable stress have been described in social and experimental psychology, including the learned helplessness model of depression. These theories originally asserted that after exposure to uncontrollable outcomes, people try to regain personal control. If control is beyond their reach, they were portrayed in these theories as feeling hopeless

and giving up. But coping research demonstrated that even when people cannot control an aversive outcome, by using certain cognitive coping strategies (described later in this entry) they can avoid a sense of hopeless despair and perhaps even gain strength from exposure to the stressful encounter. Coping also plays an important role in theories of human vulnerability and resilience: Why does adversity lead some people to become depressed, whereas others seem to weather the same adversity or perhaps even thrive in its aftermath? Although certain biological predispositions may play a role, it has become increasingly clear that coping is related to both psychological vulnerability and resilience.

Coping is also an important aspect of personality, an area of psychology that is closely linked to social psychology. Niall Bolger and others have depicted coping as personality under stress. Finally, coping is intimately related to theories of emotion, particularly how people regulate their emotions. Since one goal of coping efforts is to alleviate negative emotions and promote positive emotions in the face of stress, this aspect of coping can be thought of as emotion regulation in stressful circumstances. Some psychologists have suggested that both coping and emotion regulation are components of the *self-regulation* construct.

The practical importance of coping includes its potential (as yet largely unfulfilled) to foster interventions designed to help people adapt to serious illness, chronic pain, or significant loss. Coping research also holds the promise of guiding public health interventions for people exposed to extreme stress or traumatic events.

### Unresolved Issues in the Study of Coping

Several scholars have lamented that although coping may be the most widely studied topic in psychology, the yield from this vast area of inquiry has been somewhat disappointing. For example, social psychologists still do not really know how coping operates, and for quite a few coping strategies they don't know if or when coping is helpful. And although, in principle coping theory and research should inform interventions for people facing threatening experiences such as serious illness, chronic incapacitating pain, or natural disaster, with few exceptions, coping interventions do not draw on coping theory or research.

In part, the relatively meager yield from coping research reflects the field's excessive reliance on coping questionnaires, which require individuals to recall how they coped with a particular stressor. It is now clear that recalled coping bears only a modest resemblance to coping as it actually occurs. Another problem is that relatively few research investigations have examined coping repeatedly as coping strategies unfold over longer periods of time. And coping as it is now studied involves people's efforts to deal with events that have already occurred or that are now occurring. With few exceptions, the coping literature has been silent regarding people's coping efforts to prevent or anticipate stressors. These so-called proactive coping strategies may explain in part why some people experience fewer stressors than others.

Even if coping research began to remedy each of these problems of measurement and method, the field would still have to deal with several conflicting theoretical approaches. Some psychologists group various coping strategies based on logic. Perhaps the most popular approach, proposed by Susan Folkman and Lazarus, distinguishes two forms of coping. *Problem-focused* coping attempts to alter the problem that produces the experienced stress. Following through on a plan of action to change a threatening situation is an example of problem-focused coping. Folkman and Lazarus's second form of coping is *emotion-focused* coping, which attempts to reduce the negative emotions generated by the stressor by, for example, distracting oneself from the problem. But other psychologists, most notably Rudolf Moos, prefer a three-factor categorization of coping: *active behavioral* coping, which is the same as problem-focused coping; *active cognitive* coping, for example, trying to find some benefit or positive feature of an otherwise negative experience; and *avoidance*, a decidedly emotion-focused category, for example, reducing tension through alcohol use. Still other theoretical models are based on statistical analyses of people's coping scale responses rather than on a logical grouping of coping strategies. These statistically derived models typically yield some variation of four coping categories: *problem-focused*, *emotion-focused* or *avoidance* coping, coping through *social engagement* or support from others, and coping by *creating positive meaning* from the stressful encounter. Several carefully designed studies of individuals facing their own or a loved one's life threatening medical condition or a disaster have demonstrated that coping through *creating positive*

*meaning/active cognitive coping* rather consistently leads to better psychological and health outcomes. These studies, which capture the promise of studying coping during threatening encounters, are described later in this entry.

### The "Fit" Between the Situation and the Coping Strategy

Common sense suggests that dealing with a problem directly by using problem-focused coping should be associated with better psychological and health outcomes, whereas emotion-focused coping should be associated with less favorable outcomes. This intuitively appealing prediction is complicated by two issues. First, some emotion-focused coping strategies, particularly active cognitive coping or creating positive meaning, have been rather consistently linked to favorable outcomes. Second, if the stressful situation one is facing is actually uncontrollable, why should trying to change the situation through problem-focused coping result in better outcomes? In the face of an uncontrollable situation, a more effective strategy might be emotion-focused.

This line of reasoning has led to the idea that certain types of coping are more effective for certain stressors. Specifically, problem-focused coping should be more effective in more controllable situations where the situation can actually be altered, whereas emotion-focused coping should be more effective in situations that cannot be changed. This connection between types of coping and types of situations has been referred to as the *coping-environment fit* or the *goodness-of-fit hypothesis*. Although there is some evidence supporting this hypothesis, the evidence is stronger for the benefits of problem-focused coping in controllable situations than for the benefits of emotion-focused coping in uncontrollable situations. Nonetheless, the goodness-of-fit hypothesis underscores the benefits of coping flexibility, that is, the individual's capacity to modify preferred coping strategies to accommodate to the demands of the situation.

### Stress, Coping, and Positive Emotions

Coping theory and research have focused primarily on coping in relation to negative emotional states. But as psychologists have become increasingly interested in positive emotions, including positive emotional experiences during highly stressful life experiences, they

have found that certain coping strategies may help individuals maintain positive emotions during a prolonged stressful encounter. At first blush it may be difficult to imagine that people undergoing serious illness or loss can experience positive emotions. Yet studies of individuals with debilitating illnesses, people who have recently lost a loved one, and caregivers of chronically ill partners or family members reveal that despite the experience of painful negative emotions, positive emotions actually prevail, and certain coping strategies, such as trying to relax, appear to be more closely related to positive emotions than to negative emotions.

### Creating Positive Meaning as a Way of Coping

Several studies have demonstrated that people who cope with serious illness and other major life challenges by creating positive meaning or by construing benefits from the threatening situation go on to adjust effectively and to have positive health outcomes. In one study, individuals who lost a family member in the previous 6 months and who discovered something positive from the loss—such as personal growth, a new life perspective, or the strengthening family bonds—were less distressed during the next year than people who did not cope by finding benefits. In another study, mothers of acutely ill newborns who found some benefit in the experience of their child's hospitalization experienced brighter mood that persisted over the subsequent 18 months. And the infants of mothers who found benefits achieved higher developmental test scores as toddlers. In a long-term study of men who had a first heart attack, those who found some benefit in the attack 7 weeks after it occurred were in better cardiac health 8 years later and were less likely to suffer a second heart attack. Among individuals who had survived a disaster involving extensive property damage and loss of life, individuals who, soon after the event, derived something positive from the incident, such as personal growth or increased closeness with others, were less likely to evidence post-traumatic stress disorder three years later. Finally, HIV-positive men who had lost a close friend or partner to AIDS and who now discovered positive meaning, such as experiencing life as more precious, showed a lower rate of AIDS-related mortality over the following 4 to 9 years. These studies are important because they link the creation of positive meaning and benefit finding in

adversity with objective health markers. Because coping was measured in these studies long before the objective health outcome, it is reasonable to infer that how people cope with adversity may play a causal role in their subsequent health. It remains for investigators to distinguish positive meaning and benefit finding as a spontaneous response from the more intentional efforts most theorists view as the hallmark of coping.

### Promising Interventions Based on Positive Meaning Coping

Psychologists have just begun to apply findings from the coping literature to create interventions designed to help people deal with threatening life events, particularly serious illness. One recent study demonstrated that certain interventions aimed at reducing stress among women with breast cancer led these women to find more benefits in their illness experience, which in turn led to a reduction in a biological marker of stress level. Another study found that when women with breast cancer who preferred to avoid thinking about their illness participated in a brief intervention in which they wrote about the benefits of their illness, they subsequently had fewer medical appointments for cancer-related health problems compared to women who simply wrote about the facts of their illness. Together, these studies point to the possibility of developing evidence-based psychological interventions that are grounded in coping theory and that can positively affect people's emotional well-being and physical health.

*Howard Tennen*

*See also* Control; Learned Helplessness; Self-Regulation; Stress and Coping

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## CORRECTNESS OF PERSONALITY JUDGMENTS

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*See* PERSONALITY JUDGMENTS, ACCURACY OF

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## CORRESPONDENCE BIAS

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### Definition

The term *correspondence bias* describes perceivers' tendency to infer stable personality characteristics from other people's behavior even when this behavior was caused by situational factors. For example, students may infer a high level of dispositional (trait) anxiety from a fellow student's nervous behavior during a class presentation, even though such nervous behavior may simply be the result of the anxiety-provoking situation. The correspondence bias is an important phenomenon in research on impression formation, as it can lead to systematic errors in first impressions of other individuals.

### History

Research on the correspondence bias has its roots in the works of social psychologists Fritz Heider and Gustav Ichheiser in the 1950s and experienced a rapid increase in the 1970s. However, it wasn't until 1986 that the term *correspondence bias* was proposed by social psychologists Edward E. Jones and Daniel Gilbert. To date, the correspondence bias is considered one of the most robust findings (that means that many researchers have found it in many different experiments and contexts) in social psychological research.

### Causes

One reason why the correspondence bias is such a robust phenomenon is that it has multiple causes. First, perceivers commit the correspondence bias when they do not believe that a given situational factor influences the observed behavior. In the example outlined earlier, some students in the audience may not believe that giving a class presentation is anxiety provoking. As such, they will infer that the presenter must be an anxious person, even though everyone might show the same level of behavioral anxiety in this situation. Many social psychologists assume that this cause is responsible for cultural differences in the correspondence bias, as individuals in East Asian cultures tend to attribute a greater impact to situational factors than do individuals in Western cultures.

Second, perceivers commit the correspondence bias when they do not think about the presence of situational factors. In this case, perceivers may actually

believe that a given situational factor has a strong impact on people's behavior, but they may fail to consider this situational factor when they make inferences from situationally provoked behaviors. Such inferences are particularly likely when people are either not motivated to think about situational influences on other people's behavior or when they are too involved with other activities that keep their attention. For instance, in the earlier example, students may infer that their fellow student is highly anxious either when they are not motivated to think about the presenter's situation or when they are distracted by taking notes or listening to the person sitting next to them.

Third, perceivers often commit the correspondence bias when they apply their beliefs about situational influences in a manner that promotes rather than reduces the correspondence bias. This can be the case when beliefs about situational factors influence the interpretation of the observed behavior. For instance, people may believe that giving a presentation in front of scientists at a conference is more anxiety provoking than giving a lecture in front of students in class. This assumption, in turn, can lead perceivers to "see" more anxiety in the presenter's behavior when the presentation is in front of scientists at a conference than when it is in front of students in class. Importantly, this can be the case even when the presenter's behavior is exactly the same. As higher levels of perceived anxiety in the behavior usually result in higher levels of anxiety attributed to person (i.e., as a stable personality characteristic), such biases in the interpretation of behavior can promote the correspondence bias even when perceivers believe that situational factors have a strong impact on people's behavior and even when they are motivated and able to pay attention these factors.

Fourth, perceivers commit the correspondence bias when they believe that the behavior is highly informative for the actor's personality irrespective of whether or not it was provoked by the situation. Consistent with this notion, several studies have shown that people consider immoral behavior as highly informative for inferring immoral personality characteristics. In contrast, moral behavior is considered much less informative for inferring moral personality characteristics. For example, stealing an old woman's purse may be considered highly informative for inferring an immoral personality. However, helping an old woman across the street does not necessarily imply a moral character. In a similar vein, research has shown that people consider high-level performances as highly informative for

inferring high-ability levels, whereas low-level performances are considered much less informative for inferring low-ability levels. For instance, if a chess player beats the current world champion, people are likely to think of this person as a chess talent. However, if the same person loses a game against some other player, perceivers may think that this person simply had a bad day. Applied to the correspondence bias, such differences in the perceived informative value of other people's behavior can lead perceivers to deliberately reject situational factors as viable explanations for this behavior. Thus, they will infer stable personality characteristics from this behavior even when it was provoked by situational factors (e.g., that a person who stole an old woman's purse has an immoral personality, even when this person did not have anything to eat for several days).

*Bertram Gawronski*

*See also* Attributions; Attribution Theory; Correspondent Inference Theory; Fundamental Attribution Error

### Further Readings

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## CORRESPONDENT INFERENCE THEORY

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### Definition

A correspondent inference, sometimes also called a correspondent trait inference, is a judgment that a person's personality matches or corresponds to his or her behavior. For example, if we notice that Taliyah is behaving in a friendly manner and we infer that she has a friendly personality, we have made, or drawn, a correspondent inference. Or, if we notice that Carl is behaving in an aggressive manner and we conclude that he is an aggressive sort of person, we have drawn a correspondent inference. Sometimes it is reasonable to infer that people's personalities correspond to their behavior and sometimes it is not reasonable. *Correspondent inference theory* outlines when it is

appropriate to infer that a person's personality corresponds to his or her behavior.

### Background

Correspondent inference theory was developed by E. E. Jones (often called Ned Jones) and his colleagues. It falls into the domain of social psychology known as *attribution theory*, which is the study of judgments that people draw from behavior. Correspondent inference theory has been revised over the years, but the original formulation of the theory was published by Jones and Keith Davis in 1965. The 1960s through most of the 1970s was a period of time in social psychology when logic and rationality were emphasized. As such, it is not surprising that correspondent inference theory has a very logical flavor. Jones and Daniel McGillis later said that the theory described a rational model for how correspondent inferences could be drawn but did not necessarily describe how people actually draw correspondent inferences.

### Explanation of the Theory

According to correspondent inference theory, two factors are important to consider in determining when it is appropriate to infer that a person's personality corresponds to his or her behavior. One, if the person's behavior is what most people would be expected to do in that situation, then it is not reasonable to infer that the person's personality corresponds to his or her behavior. This is the same as Harold Kelley's discounting principle, which suggests that we should not consider a person's behavior to be informative about personality when the situation would cause most people to behave that way. For example, suppose you turn on the television and a game show is on. The contestant answers a question and wins a new BMW Mini Cooper. She smiles, jumps up and down, and looks very happy. Would you infer that because she looks really happy she must have a happy personality? Obviously not. Most people, whether they have happy personalities or not, would behave in a happy manner after winning a new car. So, when people behave just how we would expect most people to behave in that situation, correspondent inference theory suggests that we should not infer that personality corresponds to behavior.

Two, if it is not clear what trait the behavior suggests, then it is also not reasonable to draw a correspondent inference. For example, suppose the

contestant goes on to win a \$650 mountain bike, a laptop computer, \$25,000 in cash, and a Caribbean cruise. Mysteriously, the contestant tells the host that she will not go on the cruise. That is probably not how most people would behave, so it would be reasonable to infer something. But, it is not clear what trait to infer. Is the contestant afraid of the ocean? Does the contestant not like hot weather? Could there be some medical reason? Family? School? Work? So, even if the person's behavior is not expected in that situation, correspondent inference theory suggests that it is not reasonable to draw a correspondent inference if we do not know what trait to infer. However, when people do not behave as most people would in a certain situation, and when it is clear what inference to draw, correspondent inference theory suggests that we should infer that personality corresponds to behavior. For example, suppose at a party you see a person named Stan. You notice that Stan easily meets new people, tells jokes, seems very comfortable in interpersonal situations, and generally behaves in an outgoing manner. Not everyone behaves this way, and it is clear what trait to infer. Therefore, correspondent inference theory suggests that we should infer that Stan's personality corresponds to his behavior. Stan probably has an outgoing, sociable, extraverted personality.

### Evidence

There is some evidence consistent with correspondent inference theory. However, what has captured the attention of social psychologists is the fact that people often deviate from the theory. For example, although people recognize to some degree that when a situation tends to make people behave a certain way, that behavior is not very informative about personality, people still tend to infer that personality corresponds somewhat to behavior. So, if people see a contestant behave in a happy manner after winning a car, they might conclude that the contestant has a somewhat happy personality, even though they know that winning a car tends to make people happy. This tendency to infer that personality corresponds to behavior even when the situation seems to explain the behavior is called the *correspondence bias*. A good example of the correspondence bias is the tendency to infer that the personalities of actors and actresses correspond to the roles they play. Even though we know that Arnold Schwarzenegger is playing a role that calls for him to behave aggressively, we still might infer that he is a somewhat aggressive person.

### Importance and Implications

Correspondent inference theory helped to launch the study of how people draw inferences from behavior. We often draw inferences about other people, such as students, professors, coworkers, neighbors, salespeople, politicians, and friends, based on their behavior. The inferences we draw can affect our safety, our future friendships, whom we might date or marry, whether we choose to help someone, whether we might choose a particular college or a particular job, and many other important decisions.

*Doug Krull*

*See also* Attributions; Attribution Theory; Correspondence Bias; Discounting, in Attribution

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## COUNTERFACTUAL THINKING

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### Definition

Counterfactual thoughts focus on how the past might have been, or the present could be, different. These thoughts are usually triggered by negative events that block one's goals and desires. Counterfactual thoughts have a variety of effects on emotions, beliefs, and behavior, with regret being the most common resulting emotion.

*Counterfactual* means, literally, contrary to the facts. Sometimes counterfactuals revolve around how the present could be different ("I could be at the movies instead of studying for this exam"). More frequent, however, are counterfactual thoughts of what might have been, of what could have happened had some detail, or action, or outcome been different in the past. Whenever we say "if only" or "almost," or use words like "could," "would," or "should," we may be expressing a counterfactual thought (If only I were taller; I almost won that hand, etc.). Sometimes counterfactuals are used as an argument in a speech ("If Kennedy had decided to attack Cuba during the Cuban missile crisis, it would have ended in nuclear war") or to speculate or evaluate ("What if the 9/11 terrorists had been stopped by security guards at the airport?").

## Background and History

Philosophers throughout the 20th century have been fascinated by counterfactuals because of what they say about logic and the nature, origin, and limits of human knowledge. Psychological research on counterfactuals began in the early 1980s with the realization that such thoughts are crucial to how people understand the past, predict the future, and come to understand the flow of events in their lives. Sometimes counterfactual thoughts are painful and even debilitating, such as when a person thinks, after a tragic accident, about how he or she should have told his or her best friend to wear a seat belt. In such cases, the counterfactual invites self-blame, which can make the anguish of a bad situation even worse. For this reason, researchers have been particularly interested in how counterfactual thinking is related to coping, depression, and anxiety.

Researchers distinguish between two main types of counterfactuals. *Upward counterfactuals* are thoughts as to how a situation might have turned out better. For example, a driver who causes a minor car accident might think: "If only I had swerved sooner, I could have avoided the accident." In contrast, *downward counterfactuals* spell out the way a situation might have turned out worse; that is, the same driver could think: "If I had been driving faster, I might now be dead." Upward counterfactuals seem to be the most common in everyday life.

## Characteristics of Counterfactual Thinking

Three types of circumstances make counterfactual thinking likely. First, the most common trigger for counterfactual thoughts is negative emotion or a problematic situation. When people feel bad about a negative outcome, they often ruminate about how that outcome could have been avoided; thus, counterfactual thoughts are more common after defeats than victories, failures than successes, and penalties than rewards. Second, counterfactual thoughts are more likely after a "near miss" or an event that almost occurred, because when something almost happens, it seems to invite speculation about alternatives. For example, missing a plane by 2 minutes is likely to spark more thoughts on how one might have caught the plane as compared to missing a plane by a full two hours. Third, people also think in "If only . . ." terms when they are surprised by an outcome, as when an unexpected result goes against what the person had assumed would

happen, thereby drawing attention and causing reflection as to why the outcome occurred.

There are good reasons why negative feelings, near misses, and unexpected outcomes trigger counterfactuals, because in these situations, counterfactuals can be useful for guiding future behavior. When people feel bad about something, this often tells them the situation needs attention. If counterfactuals include information that makes it easier for people to tackle a problem, they might be better prepared in the future. For example, thinking "If only I had studied harder . . ." after a failed exam helps a person concentrate on studying so as to perform better on future exams. Similarly, focusing on near misses rather than far misses is likely to lead to success in the future because only a small change in behavior should be effective. Finally, by definition, unexpected outcomes indicate a person did not make an accurate prediction about a situation.

Counterfactual thinking appears in children at a very young age, almost as soon as they begin to speak. Developmental psychologists believe that because counterfactual thinking is so closely related to goals, children start to think about alternative courses of action as they become aware of their own wants and desires. Counterfactual thinking also seems to transcend culture. A controversy in the early 1980s centered on whether native Chinese speakers are able to reason counterfactually, given that their language lacks the specific word phrases that indicate "if only." After some false conclusions were clarified with new research, psychologists had, by the late 1980s, concluded that the ability to imagine alternatives to the past is common to all people, regardless of language or upbringing.

## Psychological Consequences

Counterfactual thoughts spell out what people think caused an outcome. For example, the thought "If I had not eaten so many potato chips, I wouldn't feel ill right now" implies eating too many potato chips caused the person to feel sick. Of course, these counterfactuals may be inaccurate (flu might be the real cause), yet counterfactuals that spring spontaneously to mind have the characteristic of feeling "right." Many of the consequences of counterfactual thinking that have been studied—for example, a bias toward blaming victims for their own misfortune—can be traced to the inferences regarding causation that spring from counterfactuals.

Counterfactual thoughts may also change how positive or negative an obtained outcome feels. This is

because people automatically compare what happened with what might have happened and note the discrepancy between the two. Whereas upward counterfactuals make actual outcomes feel worse (by contrast), downward counterfactuals tend to make outcomes seem more favorable. For example, after receiving a “B” on an exam, thoughts of how one might instead have gotten an “A” (i.e., an upward counterfactual) makes the “B” seem less satisfying. On the other hand, thoughts about how one might have gotten a “C” instead of the “B” (downward counterfactual) make the “B” seem a bit more satisfying. Regret is the specific emotional experience that results from an upward counterfactual that focuses on one’s own personal actions or decisions, and a fair amount of research has examined how regret is implicated in biased decision making. This work is part of an increasing awareness on the part of economists that emotional factors are essential to understanding consumer behavior.

Counterfactual thoughts can also increase how much control people think they have over events. When people believe an outcome would have been possible if only they had acted a certain way, events seem more under their personal control. A variety of research has pointed out how the feeling of being in control over life’s events brings health benefits, and so the effect of counterfactuals on perceived control can be counted as another positive aspect of these types of thoughts.

Because counterfactual thoughts influence emotions, storytellers often use counterfactuals to evoke certain feelings in their audience. “If only he had thought to grab the gold before he jumped!” The cinematic “close-call” is effective because it evokes counterfactual thinking and its emotional offshoots, such as relief or regret. As plot unfolds, forks in the road, surprising twists, and the overall recognition of multiple possibilities breathe life into the story. Plot devices that reveal palpable downward alternatives that nearly happened (nearly fell into a pit of snakes, almost was eaten by a shark) create dramatic tension and then relief. A burgeoning genre of popular fiction is called “alternate history,” and novels in this tradition tell an entire story inside a world that might have been (e.g., *If the South had won the Civil War*; *If Nazi Germany had won World War II*). Such stories reveal underappreciated aspects of reality that become more obvious through the juxtaposition with a vivid alternative to reality.

Counterfactual thinking is an essential component of effective social functioning. Geared mainly toward regulation of ongoing behavior, they also make us

think more, inspiring further creative supposition. The capacity of counterfactual thinking to launch us into further reveries of thought is one of several reasons why counterfactual stories are so enchanting—they encourage our minds to roam where they otherwise would not have gone.

Florian Fessel  
Neal J. Roese

See also Mental Control; Regret

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## COUNTERREGULATION OF EATING

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### Definition

Counterregulation of eating refers to a situation in which an individual eats more after having eaten something previously than after having eaten nothing at all. This pattern of intake runs contrary to the regulation (or compensatory, reduced eating) that we would normally expect and thus is referred to as counterregulation.

### History and Background

As with many living systems, our food consumption is regulated, in that when we take in too few calories, we experience hunger, which tends to make us eat to restore the caloric deficiency; and when we ingest too many calories, we tend to feel full and cut back on our food intake. Sometimes it seems that eating is not very well regulated, because overindulgence does not always lead to compensatory undereating. Still, the debate is usually about exactly how well regulated eating is, with some researchers emphasizing the power of regulatory mechanisms and others emphasizing their weakness.

Stanley Schachter suggested, decades ago, that eating was more strongly regulated for normal-weight people than for overweight people. He found that if people were given a certain amount to eat, and then allowed to continue eating, normal weight people would continue eating in inverse proportion to how much they initially ate (normal regulation), whereas overweight people would eat the same amount regardless of how much they initially ate (lack of regulation). This lack of regulation, Schachter argued, helped to explain how overweight people had become overweight.

Studies on dieters (or restrained eaters) and nondieters found that nondieters tended to show normal regulation. When preloaded with (i.e., forced to consume) either zero, one, or two milk shakes, and then given free access to ice cream, nondieters ate ice cream in inverse proportion to the size of the preload. That is, they ate the least after having a two-milk shake preload and they ate the most after having a zero-milk shake preload. Dieters, on the other hand, did not display normal regulation; in fact, they did not even display an absence of regulation. Rather, they displayed counterregulation, eating more ice cream after a milk shake preload than after no preload (zero milk shakes).

### Interpretations and Complexities of Counterregulation

The counterregulation effect was interpreted as follows: Dieters are concerned not so much about maintaining an appropriate (or regulated) caloric intake as they are about maintaining their diets, which often involve significant undereating relative to physiological requirements. When they receive no (zero) preload, their diet remains intact; they can achieve their diet goals by continuing to eat sparingly, and so they eat only a minimal amount of freely available ice cream. If, however, the dieter is forced to consume a rich milk shake, then the diet is “blown,” and the dieter concludes that there is no point in further restriction. If the diet cannot be maintained, one might as well indulge oneself in the normally forbidden ice cream. This has been called “the what-the-hell effect.”

There are several elements of this effect worth noting. First, what exactly does it take to blow a diet? Is it the number of calories in the milk shake that exceeds a certain quota? The fact that diets are often organized according to a daily caloric quota means that a single rich milk shake may well be enough to exceed the quota, making further dieting seem useless. Of course,

it is quite irrational to think this way. If you eat a rich milk shake and are serious about your diet, it doesn't make sense to wait until tomorrow to begin eating sensibly; you should start right away and minimize the damage. Dieters, however, do not seem to think particularly rationally about calories. Another possibility is that instead of the milk shakes' excessive calories blowing the diet, it is the fact that milk shakes in any quantity represent a forbidden food, and eating a forbidden food blows the diet, leading to disinhibited eating. In the study mentioned in the previous section, the effect of a one-milk shake preload was just about as strong as was the effect of a two-milk shake preload. It might be that the number of calories in even one milk shake was excessive, but it also might be that any amount of milk shake could have blown the diet. In fact, a preload of 600 calories of a permitted food (e.g., salad) will not blow a diet, whereas 600 calories of a forbidden food will blow a diet.

A preload does not actually have to be rich, forbidden, or highly caloric to trigger counterregulatory overindulgence; if dieters are misled into believing that the preload is sufficiently rich to blow the diet, then counterregulation may result. It all depends on how the dieter thinks about the preload and its effect on the diet. By the same token, if the dieter is convinced that he or she will be forced to consume a rich preload later in the day, so that the diet will be blown, then the dieter may overeat (counterregulate) in anticipation of this rich preload (actually, a postload).

Most speculation about the psychological dynamics of counterregulation focus on the dieter's interpretation of whether the preload will blow the diet and make further dieting (for that day) hopeless. Another interpretation is that a rich preload operates to produce overeating in dieters by upsetting them emotionally. As it is known that distress makes dieters eat more (and nondieters eat less), it is possible that the preload operates through this emotional channel.

### Importance

The discovery of counterregulation of eating has changed the way that researchers think about dieters and dieting. The fact that dieters will eat more after a rich preload than after no preload highlights the fact that dieters are normally under self-imposed pressure to suppress their eating but that this pressure may be released under certain circumstances, resulting in occasional eating binges. The discovery of counterregulation has solidified the understanding of the dieter as

someone who alternates between restraint and indulgence. If dieters are to avoid damaging binges, they must take care to avoid consuming anything that threatens the integrity of their diet or learn to regard supposedly forbidden foods as less threatening.

*C. Peter Herman*

*See also* Binge Eating; Self-Regulation

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## CREATIVITY

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### Definition

Creativity can be defined three major ways. First, creativity can be viewed as a concrete *product* that satisfies two specifications: (1) originality or novelty, and (2) utility usefulness or adaptiveness. The first requirement excludes routine work that may be adaptive but habitual. The second separates creativity from the ideas of a psychotic; such ideas can be highly original but clearly maladaptive. The product may take many forms, such as a discovery, invention, painting, poem, song, design, or recipe. Second, creativity can be defined with respect to the *cognitive process* that generates creative products. This process may include intuition, imagination, incubation, free association, insight, heuristic search, and the like. Third, the concept can be defined relative to the *creative person* who has the capacity and the willingness to apply the process that yields the products. This personal disposition toward creativity may entail a set of cognitive abilities, motives, interests, values, and personality traits.

### Social Psychology of Creativity

Whether creativity is viewed as product, process, or person, it is evident that there is nothing inherently social about creativity. It is most often viewed as an utterly individual phenomenon. As a consequence, for

a considerable time social psychologists did not consider creativity to be a mainstream research area. Instead, most of the publications on the subject were conceived by investigators in cognitive, personality, educational, and applied psychology. This peripheral status notwithstanding, many aspects of creativity do feature a conspicuous social dimension. The social nature of creativity was first recognized by sociologists and cultural anthropologists, some of whom went so far as to argue that creativity was entirely a social event, thereby rendering individual psychology irrelevant. For example, the phenomenon of multiple discovery—where two or more scientists independently and sometimes simultaneously arrive at the same idea—was often cited as positive proof of this extreme position. Such episodes were said to reflect the causal impact of the sociocultural milieu, or *zeitgeist*. In any case, it is ironic that most of the early research on creativity was conducted either by non-social psychologists or by non-psychological social scientists. The middle, and potentially integrating perspective, was missing.

This entry illustrates the sociopsychological aspects of creativity by looking briefly at the following phenomena: the sociocultural milieu, group dynamics, social influence, interpersonal relationships, and personality.

### Sociocultural Milieu

As noted earlier, many sociologists and cultural anthropologists have tended to view creativity as a sociocultural rather than individual phenomenon. This sociological reductionism is clearly invalid. After all, creativity almost invariably emerges out of individual minds. Nevertheless, it remains true that creativity often depends on the *zeitgeist*. That *zeitgeist* has two kinds of effects. First, it influences the amount of creativity that appears in a particular time and place. For example, certain sociocultural conditions favor tremendous spurts of creative activity, as those seen in the Golden Age of Greece or in Renaissance Italy. Second, the *zeitgeist* can affect the qualitative nature of that creativity—the type of creativity that is most favored. For instance, creativity takes a different form depending on whether the culture is individualistic or collectivistic in basic orientation. In an individualistic *zeitgeist*, originality or novelty tends to have greater weight than does utility or adaptiveness, whereas the reverse is true in a collectivistic *zeitgeist*. The effects

of individualistic versus collectivistic conditions tend to be long lasting. Such cultural values do not come and go very quickly. Yet other sociocultural effects are much more volatile or transient. That is, creativity can be influenced by momentary fluctuations in political, economic, social, or cultural events. For instance, scientific creativity is adversely affected by assassinations, coups d'état, military mutinies, and other forms of political anarchy. Of even greater interest are events that enhance the cultural heterogeneity or diversity of a society. These events include nationalistic revolts as well as the influx of alien ideas through immigration or foreign travel. Although these findings were based on analyses of archival data, the positive relation between cultural diversity and creativity has also been found in laboratory experiments on group creativity.

Another issue that falls under this heading concerns the relation between creativity and a person's socio-cultural status, especially standing with respect to gender and ethnicity. For example, investigators have examined how opportunities for creative achievement among women and specific minorities are shaped by social norms and cultural values. These investigations provide the counterargument to those who may advocate biological explanations for group differences in creative behavior.

### Group Dynamics

Popular culture often projects the image of the "lone genius," working away in isolation, whether in lab or studio, on some great scientific discovery or artistic creation. Yet this image is very misleading. A great deal of creativity, on the contrary, involves collaborations. This is most apparent in the sciences, where contributions are made by research teams within and among laboratories. Yet even in the arts, collaborations are not uncommon, especially in cinematic creativity. As a result, it is essential to understand how creativity operates in group settings. Social psychologists have investigated this problem three major ways. First, and most commonly, investigators have examined problem solving in experimental groups. A prime instance is the extensive literature on brainstorming. Second, some investigators have taken advantage of archival data to determine the factors that enhance or hinder group creativity. An example is research on social loafing that determines whether individuals working together are less creative than the same individuals working alone. Third, and least common, are field

studies of actual group creativity in which the investigator analyzes member interactions. For instance, researchers have scrutinized the patterns of communications that characterize laboratories that generate high-impact findings.

### Social Influence

Even when a creator is working as an individual rather than collaborating with other creators in a group, the person will often still be operating in a social context. That social environment can then influence the extent of creativity manifested by the individual. For example, a considerable amount of research has been conducted on the repercussions of rewards, evaluations, surveillance, and other circumstances. Much of this work has focused on the impact of intrinsic and extrinsic incentives for performing a task. Creativity usually seems to be more nurtured when a task is motivated by inherent enjoyment rather by some external motivation that has nothing to do with the specific task. Nonetheless, under certain conditions, extrinsic motivation can contribute to the enhancement of individual creativity. This benefit is particularly likely when the extrinsic incentives function as informational feedback rather than as the imposition of some external control.

In addition to affecting the amount of creativity a person displays, the social setting also can sway how much creativity is attributed to a particular product or person. After all, the attribution of creativity, like other kinds of attributions, represents a subjective judgment that is subject to various cues. Hence, some social psychologists have studied the information that determines whether a given individual or act is judged as being creative—information that may have only a very peripheral relation to creativity itself.

### Interpersonal Relationships

Another social aspect involves the way the creative product, process, or person is contingent on identifiable patterns of interpersonal relationships. Most typically, creativity is promoted when a creator interacts with other creators. For instance, most creative scientists and artists belong to rich social networks with other scientists or artists. These networks may include collaborators, associates, correspondents, rivals, competitors, and even friends. The richer and more diverse the network is, the higher the creative productivity and longevity tend to be. In addition, the development of

creative potential very much depends on establishing a long-term relationship with a mentor, master, or role model. Just as models can serve to amplify a person's aggressive tendencies, so too can models help an individual fully realize his or her capacity for creativity. It is no accident that recipients of the Nobel Prize have a high probability of having studied under previous Nobel laureates.

Even though creative individuals are very involved in such professional relationships, their involvement in personal relationships is often much less pronounced. As a consequence, their rates of divorce are often somewhat higher than in the general population. This negative effect is especially conspicuous for creators in the arts, humanities, and social sciences.

### Personality

Although not the main thrust of most sociopsychological research, some social psychologists are interested in how individual-difference variables amplify, moderate, or diminish the impact of social variables on personal behavior. Examples include individual differences regarding the Big Five personality traits (especially Extraversion); the achievement, affiliation, and power motives, authoritarianism, Machiavellianism, narcissism; the need for cognition; self-esteem; shyness; social anxiety; and Type A personality. Cross-sectional variation in creativity is no less important as a socially significant variable. In the first place, personal creativity exhibits positive or negative correlations with several variables of acknowledged consequence in social psychology (e.g., authoritarianism, extraversion, and Type A personality). Even more importantly, a creative disposition also directly modifies the influence of social context on individual thought, emotion, and action. For example, experimental research has shown that highly creative individuals are more resistant to conformity pressures. Creators thus display more independence than is typical of most participants in sociopsychological research. This autonomy is probably essential to innovative behavior.

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*See also* Brainstorming; Collectivistic Cultures; Group Dynamics; Intrinsic Motivation; Modeling of Behavior; Social Loafing

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## CRITICAL SOCIAL PSYCHOLOGY

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### Definition

A central concern of critical social psychology is inequality and injustice in society. Research from this approach typically is politically motivated and aims to highlight and help end the oppression of minority or marginalized social groups. Critical social psychology also examines psychology for any ways it contributes to an unjust and undesirable social order. Another aspect of critical social psychology is it develops and endorses the use of qualitative methods in psychology. Qualitative methods use linguistic rather than statistical forms of analysis. The term *critical* has implications of negativity but in critical social psychology it refers to work that assesses common assumptions about psychology, to make positive changes.

### Key Themes

Critical psychology draws attention to social factors impacting on people that are sometimes ignored in other approaches. That is, it emphasizes contextual influences shaping a person's experiences and behavior. Consider, for example, the case of work-related stress. A traditional psychologist might study individual differences in feelings of stress. A test can be developed to identify workers most prone to stress so they can undergo some kind of stress-management

training. Note that explaining a problem in terms of individuals leads to solutions that are focused on individuals. However, a critical social psychologist would take a different approach and consider the characteristics of the job, or of work in general, that lead to stress. If noise levels, for instance, are identified as a cause of stress, then employers can be urged to provide quieter working conditions.

Power is an important theme in critical social psychology. An aim of research is to identify and challenge ideas and practices that support discrimination against people on the basis of their ethnic background, age, gender, sexuality, disability, and so on. Feminism is an important influence on critical social psychology because it highlights that power relations in society are related to ways of thinking and behaving. Feminist psychologists, for example, have noted that in the 1970s masculine stereotypical traits (e.g., independent, active) were associated with adult mental health but feminine ones were not (e.g., dependent, passive). Important findings from feminist critical social psychology are that sex differences (e.g., in confidence) are typically interpreted as female deficits (i.e., low self-esteem) and that women's general lack of social status is typically explained by individual factors (e.g., a fear of success) rather than social ones (i.e., sex bias in employment practices).

The importance of language for shaping the ways people make sense and act in the world is a key idea. Language is understood as a primary basis for social life because it is largely through talk-in-interaction and writing that people conduct their lives. The ways language constructs different versions of the world is emphasized. Consider that a woman without children can be called *child-less* or *child-free*; how does the label used influence understanding about the woman? Why and who might use the term *terrorist* compared to the word *freedom fighter*? Note how different words refer to the same person but evaluate them in different ways.

### Critique of Mainstream Psychology

Mainstream psychology typically assumes that researchers can be objective or completely independent of the subject they are studying. In contrast critical social psychology suggests research is never completely neutral. An individual researcher cannot be separated from the society they live in, so their

research is influenced by social beliefs and values. There is considerable evidence of bias in what has been taken for granted about human psychology. For instance, in the case of intelligence tests, lower scores from other societies have been interpreted as indicating genetic inferiority rather than evidence of the cultural specificity of the tests. Another example is that up until the 1970s, psychological theories defined homosexuality largely as a mental disorder, whereas nowadays psychology offers theoretical and practical responses to prejudice and discrimination against lesbians and gay men.

A theoretical idea about people widespread in mainstream social psychology is that individuals are information processors. Stereotypes, including prejudiced ones, are understood as a natural consequence of all the information the human mind has to process and its limited cognitive capacities. Critical social psychology points out that an information processing model of prejudice is very individualistic in orientation and fails to explain why certain groups and not others have been victims of racist thinking. Another critique is that by suggesting prejudice is a natural and inevitable result of thought processes, a mainstream view fails to promote social change that will challenge racism, sexism, and so on.

The research methods favored by mainstream social psychology tend to be surveys and experiments where people's thoughts and behaviors are represented quantitatively by numerical scores. The problems associated with conventional quantitative methods have been criticized on several grounds. For example, the measures and categories of mainstream research overly simplify the complexity of human psychology and ignore important personal influences on responses. People behave differently at different times and places, yet mainstream research assumes a person's response in a survey or experiment is stable and lasting. In the case of experiments, participants are often deceived about the real purpose of the study, which is dishonest and disrespectful.

In contrast, critical social psychology promotes qualitative methods, such as observational and interview studies. A wide range of language-based data sources are used, including audio and video recordings of interactions, newspaper articles, or political speeches. Action research, in which the goal is social change for a particular group or community, is a characteristic approach. Aspects of critical work that

differentiate it from mainstream psychology is that it usually aims to emphasize the variation and complexity of human experience rather than discover simple rules of behavior; consider research participants within their social contexts instead of examining them in more controlled experimental settings, and challenge aspects of inequalities in society instead of producing scientific facts about thought and behavior.

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*See also* Discursive Psychology; Power; Stereotypes and Stereotyping; System Justification

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## CROSS-LAGGED PANEL CORRELATION

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### Definition

A cross-lagged panel correlation refers to a study in which two variables are measured once and then again at a later time. By comparing the strength of the relationship between each variable at the first point in time with the other variable at the second point in time, the researcher can determine which variable is the cause and which the effect. A cross-lagged panel correlation provides a way of drawing tentative causal conclusions from a study in which none of the variables is manipulated.

### Example

Researchers have used cross-lagged panel correlations to determine whether watching televised violence causes aggression or aggression causes people to prefer viewing television violence. To do so, the researchers measured both the preferred amount of violent television viewed and aggressive behavior of third graders. Ten years later, they again measured the preferred amount of violent television viewed and the aggression of those same people.

### Interpreting a Cross-Lagged Panel Correlation

The key to interpreting the results of a cross-lagged panel correlation is to remember that the cause has to come before the effect in time. The researcher can determine which variable influences the other because the variables are measured at each of two different points in time. If both variables are measured simultaneously and only once, causal conclusions cannot be drawn. In the case of a researcher studying television violence and aggression, the researcher cannot be sure whether television violence causes children to become more aggressive, aggressive kids choose to watch more violent shows, or some other factor is causing both aggressive behavior and the viewing of television violence.

To interpret the results of a cross-lagged panel correlation, compare the strength of the relationship between variable A at time 1 and variable B at time 2 with the strength of the relationship between variable B at time 1 and variable A at time 2. In the television violence and aggression example, this means comparing the strength of the relationship between third graders' aggressiveness and their television viewing preferences 10 years later with the strength of the relationship between third graders' television viewing preferences and their aggressiveness 10 years later.

If aggressiveness at the first point in time (when the participants were third graders) is related to the amount of violent television viewed at the second point in time (10 years later), but the viewing of violent television in third graders is unrelated to aggressiveness 10 years later, then aggressiveness causes people to prefer watching television violence. If instead television viewing at the first point in time is related to aggressiveness at the second point in time and aggressiveness in third graders is unrelated to their viewing habits 10 years later, then television violence causes aggression.

This particular study was conducted by Leonard D. Eron and his colleagues and published in 1972. They concluded that watching television violence causes aggression; aggression does not cause people to watch more violent television.

*Sal Meyers*

*See also* Experimentation; Research Methods

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## CROWDING

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### Definition

Environmental psychologists study how human behavior and the physical environment interrelate. Decision making and behavior make an impact on environmental quality—did you walk, bike, drive, or use public transit to get to school today? The physical environment also affects behavior. Crowding illustrates how the physical environment can affect human behavior.

Psychologists distinguish between *crowding*, a psychological construct wherein the amount of space available is less than desired, and purely physical indices of physical space such as *density*. Density is typically indexed as people per room or people per square foot. More external density measures like people per acre are less relevant for human well-being. The more immediate experience of the close presence of others, particularly in living and working spaces, matters most. The distinction between psychological and physical perspectives on crowding explains why a high-density social event (e.g., party) is fun, whereas a high-density living or work space can be negative. When you need more space and can't have it, you experience crowding.

The most common reaction to crowding is stress, particularly over time and in an important space like home. For example when it is crowded, people typically have negative feelings such as anxiety and frustration about restricted behavioral options. Our choices of what, where, and when we do things are constrained. If these restrictions are experienced repeatedly, crowding can also lead to feelings of helplessness wherein we start to question our own ability to effectively manage the environment. Studies in India and in the United States have found that children and adolescents who live in more crowded homes, independent of socioeconomic status, are less likely to persist on challenging puzzles, giving up sooner than those living under uncrowded conditions.

When people experience crowding, their social interactions change. Two results are common: They withdraw from others, creating more psychological space when physical space is limited, and they become more irritable and potentially aggressive. The natural tendency to cope with crowding by social withdrawal may become a characteristic way of interacting with others. For example, one study of college roommates found that when they initially moved in together, the number of people per room in their apartment was unrelated to how much social support they perceived from their housemates. But after 6 months of living together, more crowded undergraduates felt more withdrawn and less social support from their roommates. When these college students were brought into a laboratory to interact with a stranger, they exhibited this same more socially withdrawn style. Furthermore, when the stranger (who was really a confederate working with the experimenter) offered them some emotional support during a stressful experience, the higher the density of the apartment the student lived in, the less likely they were to accept the stranger's offer of support. Thus, even when in an uncrowded situation, students who had adapted to living under more crowded conditions were more withdrawn and less receptive to offers of social support. Parents in more crowded homes are also less responsive to their children.

One of the ways researchers mark whether a situation is stressful or not is to use physiological measures like blood pressure or stress hormones (e.g., cortisol, epinephrine). If crowding is a stressor, then it should affect these physiological measures. Both laboratory research, usually with college students, and community studies provide evidence that crowding can cause physiological stress. If you carefully observe yourself or others who are in a crowded situation, you can also see nonverbal indicators of stress. For example when it's crowded, people will fidget; adjust their clothes, hair, jewelry, and so on; and often avoid eye contact. Next time you are in a very crowded setting (e.g., elevator, train), see if you notice a link between how crowded the setting is and how much these behaviors occur.

Will crowding make you seriously disturbed or damage your health? Will it ruin your grades and undermine your college experience because you are in a dorm room that isn't big enough? No, but it will probably lead to more distress and more social

withdrawal, especially from your roommates. If you have an exam to study for or a difficult, challenging task, crowding could have some negative effects. Laboratory experiments show that crowding impairs complex, but not simple, task performance. If the task is demanding, requiring a lot of effort and attention to multiple components, it is likely to suffer under crowded conditions.

What about individual differences in sensitivity to crowding—does everyone respond the same way to a crowded situation? If you are studying and your friend is talking with his friends, crowding is likely to have drastically different effects on each of you. Men may react more physiologically to crowding, their blood pressure and stress hormones elevating more, whereas women (at least initially) try to get along with those around them when it's crowded. However, over time, if these attempts are unsuccessful, women may actually react more negatively because their attempts at affiliation prove futile. One study of tripled college dorm rooms designed for two people found more psychological distress in women than in men, but it took more time for this to occur in the females. The tripled-up men, but not the women, evidenced elevated stress hormones. How about culture or ethnicity? Some groups of people (e.g., Asian, Latin Americans) do indeed perceive high-density situations as less crowded than do others (e.g., White and Black North Americans). But their negative reactions to crowding are similar across cultures. The threshold to experience crowding may be different, but once it happens, their reactions are parallel to one another.

One final topic worth brief mention is the potential role of architecture and design in crowding. Space is not simply area or volume. For example, in a study of elementary school children, the impacts of residential density were related to the type of housing. Children living in larger, multifamily residences, independently of social class, reacted more negatively to higher-density living spaces than did children living in single-family homes. There is also evidence that having some space in your home where you can at least temporarily be alone (refuge) can offset some of the negative impacts of crowding. Crowding is but one example of the many ways in which human behavior and the physical environment can influence one another.

Gary W. Evans

*See also* Control; Personal Space; Stress and Coping

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## CULTURAL ANIMAL

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### Definition

*Cultural animal* is a term used to refer to human beings. The core idea is that human beings differ from other animals in the extent to which they create, sustain, and participate in culture.

There are hundreds of definitions of culture. However, there are several main themes in understanding what culture is. Culture refers to learned behavior rather than innate predispositions. Culture is not created or owned by a specific person but rather requires a group, usually a large group. (You cannot have culture by yourself.) Crucially, a culture must reproduce itself, so it includes some means by which it is passed down from one generation to another. Culture consists of shared ideas and shared ways of doing things. Thus, American culture includes shared values such as freedom and democracy, and it also includes ways of doing things, such as how to get a job, get food, vote, and pay taxes. Cultures generally include organized frameworks that allow people to live together. For that to happen, cultures must find ways to satisfy basic human needs, such as for food, water, shelter, and safety.

Thus, to call humans *cultural animals* is to say that human beings almost always prefer to live in groups that have these properties. They are organized. They collect and share information, including passing on what they have learned to the next generation. They rely on the group to help them get what they need to live. Through this cooperation and learning, members of the group come to hold common beliefs and values and to do things in similar ways.

## Context and Importance

Social psychology has developed over the decades by studying one slice of behavior at a time. Periodically, its thinkers wonder how to put all these little bits of information together to construct a broad, coherent understanding of human nature, which is to say, what kind of creatures human beings are. This sort of question lurks in the background of nearly all the work that seeks to understand people: Are they good or evil? Are they products of their environment? Do they have free will? What do they mainly want? How does the human mind work, and how did it get to be that way?

Social psychologists have long responded to questions about human nature by saying that humans are social animals. The “social animal” phrase was coined by Aristotle and has been preserved in an often-updated book by Eliot Aronson. Its central idea is that people are, by nature, motivated to be with other people, including forming relationships with them, working with them, and playing with them.

The cultural animal view takes a large step beyond the social animal view. It agrees that humans are social animals, but in that respect they are not all that different from a great many other social animals—from ants and birds to wolves and zebras. Hence, if we want to understand what is special about human beings, indeed understand what makes us human, we must go beyond the social animal idea, correct though it is.

Culture is a better way of being social. It has made possible the great achievements and progress that humankind has seen across its history. Social animals may work together toward common goals and copy each other’s successful behaviors, but without a culture to store information and transmit it to others, every generation starts over from the beginning. Without culture, each new generation of human beings would have to start over too, such as figuring out how to find food and make fire. Culture allows each new generation to inherit what its parents knew and then, perhaps, to add to that stock of knowledge. Cooking, medical technology, automobile travel, electrical appliances, and indoor plumbing all reflect the accumulation of knowledge across generations and hence the benefits of culture.

## Evidence

The theory that humans are cultural animals is not something that can be easily proven or disproved. It is

not a conclusion from a laboratory study. Rather, it is a broad theory that can be used to explain many aspects of human behavior. The usefulness of such grand theories is found not in whether they can be tested experimentally but rather in how many different ideas and observations they can make sense of together and how few seem to contradict them. The facts that people everywhere live in groups, use language, socialize their children, and share information are consistent with the view of humans as cultural animals. Those observations fit but do not prove that humans are cultural animals. Still, if the opposite patterns were true (e.g., if people generally refused to share information or cooperate, learned language only reluctantly and under pressure, and left their children to fend for themselves), then it would be implausible to say people are cultural animals.

## Implications

Researchers who study animals say that many of them have the beginnings of culture, such as if they learn how to get food in a certain way and then their children copy them. However, these are tiny bits and beginnings, whereas humans rely on culture in almost everything they do. For example, most animals get their own food directly from nature and make or find their own nests or other shelters, whereas most likely you have hardly ever hunted your own food, sewn your own clothes, or built your home with your own hands.

The cultural animal view holds that what makes people unique, and what makes us human, can be found in the special traits that make culture possible. These start with the capacity to use language. They include the complex ways people think and make decisions and the way people understand each other’s emotions and goals.

A long tradition in Western thought has focused on the conflict between the individual and society, sometimes viewing the individual as a victim of powerful, impersonal social forces and proposing that people would be better off if they could escape from society. The cultural animal view, in contrast, holds that humans are designed, by nature, precisely to live and work in a cultural society. Although cultures are far from perfect and can be quite oppressive, the option of living alone in the forest is not to be taken seriously for the bulk of humanity, because human nature is far better suited to cultural life. We must strive to make society better rather than to escape from it. Despite its shortcomings and

problems, culture has been a remarkable success when judged in biological terms: Unlike the other great apes, humans have multiplied, spread out to live in a wide assortment of lands and climates, and accumulated the knowledge of how to enable individuals to live two or three times as long as their ancestors.

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*See also* Culture; Evolutionary Psychology; Social Learning

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in more subtle, yet important ways, such as how they explain why someone behaved the way they did, what they notice and remember from social interactions, or whether they try to “fit in” versus “stand out” in their peer group. For example, in the United States and Australia, individuals tend to define themselves in terms of their unique personality characteristics and individual attributes (e.g., outgoing, optimistic, ambitious), whereas in Korea and Mexico, individuals are more likely to define themselves in terms of their connection to others or membership in social groups (e.g., sister, friend, student). In Chinese cultures, building deep personal relationships is considered more effective than contracts as a way to establish trust in a business relationship. Yet, in the United States, contracts are valued more than personal assurances. Psychological research on cultural differences focuses on such subtle differences and unexpected similarities in beliefs and behavior.

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## CULTURAL DIFFERENCES

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### Definition

Cultural groups can differ widely in their beliefs about what is true, good, and efficient. The study of cultural differences combines perspectives in psychology and anthropology to understand a society’s signature pattern of beliefs, behavior, and social institutions and how these patterns compare and contrast to those of other cultural groups.

Cultural differences appear both between and within societies, for example, between Canadians and Japanese, and within the United States between Anglos and Latinos. Descriptions of cultural differences are made in context to the many similarities shared across human groups. Although a variety of attributes differ between cultures, there are also many similarities that exist across human societies. Moreover, even where there are differences between cultural groups, individual differences mean that not every person within a particular culture will have beliefs or exhibit behaviors that resemble predominant patterns in their society.

### Context and Focus

Cultures can contrast in many ways, some more obvious and observable than others. For example, cultures differ in language, dress (kilt, kimono, or three-piece suit), and social greetings (kiss, bow, handshake). From a psychological perspective, cultures also differ

### Background and History

Humans have long been interested in cultural differences. The first written accounts of cultural diversity appear as far back as the 4th century B.C.E. in Herodotus’ description of the unique beliefs and customs among the different cultural groups that traded along the shores of the Black Sea. However, it was not until around the 19th century C.E. that scholars began to conduct systematic studies of unique cultural beliefs and practices, such as Alexis de Tocqueville’s writings about the unique aspects of early American culture and Max Weber’s analysis of how religious ideologies developed in Northern Europe created cultural differences in beliefs about the meaning of work. About 100 years later, the field of cultural anthropology emerged with an exclusive focus on understanding the nature of cultural differences around the world. Today, psychological research has brought new understanding about the nature of cultural differences and similarities by combining an anthropological focus on culture with sophisticated experimental methods developed in social and cognitive psychology. This area of research within social psychology is referred to as *cultural psychology*.

Before psychologists began to study culture, it was often assumed that knowledge gained from psychological research conducted within one culture applied to all humans. This assumption about the universality of human psychology was challenged when researchers then tried to replicate studies in other cultures and found very different results for a number of important

phenomena. For example, psychological experiments showing that people tend to exert less effort when working in a group versus alone showed an opposite pattern in East Asian societies. There, people tend to exert less effort when working alone compared to when working in a group. Further, studies conducted in India, and later in Japan, showed an opposite pattern to earlier research conducted in the United States—that people tend to overestimate the influence of personality and underestimate the influence of situational factors on behavior.

### Evidence

Three broad types of evidence have been used to demonstrate cultural differences. First, in-depth studies of single cultures have found a variety of culturally unique ways people think about and engage in interpersonal relations. For example, within Mexico, interpersonal relations are characterized by a sincere emphasis on proactively creating interpersonal harmony (i.e., *simpatía*) even with strangers. In Japan and Korea, people also exhibit a heightened focus on interpersonal harmony. However, unlike Mexicans, the concern for harmony among the Japanese is more focused on relationships with one's ingroup (e.g., friends, family), and it is sustained through a more passive, "don't rock the boat" strategy. In the United States, the concern for interpersonal harmony differs for casual, social relationships versus work relationships. While it is common in the United States for individuals to create a pleasant and positive social dynamic across most settings, they show a tendency to attend less to interpersonal relations and overall level of harmony while in work settings. To provide evidence of these different relational styles across cultures, researchers have examined, for example, how members of these cultures convey information that could be embarrassing or disappointing to others. When talking with friends or social acquaintances, Americans and Koreans use indirect, subtle cues to avoid embarrassing others when conveying such bad news. However, when talking with someone in a work setting, Americans believe it is more appropriate to be direct even if the message contains bad news for the listener. In contrast, Koreans believe that at work it is even more important to use subtle communication that will convey the message but also save face for the listener. Thus, cultural differences in attention to interpersonal concerns can be more pronounced in some settings (e.g., work) than in other settings (e.g., party).

A second type of evidence comes from multinational surveys that have measured people's values in every major continent, across hundreds of societies. In these survey studies, people are asked to rate how much they agree with statements like "It is important to be free to make one's own decisions" and "People are defined by their connection to their social group." This type of research shows that cultural groups fluctuate significantly in how much they value individual autonomy versus obligations to follow traditions; equality versus respect for differences in status; competition versus cooperation; and distinctions between ingroups and outgroups.

A third and compelling type of evidence for cultural differences is provided by cross-cultural experiments on the way people perceive and react to their social environment. When experimental studies present individuals from different cultures with the exact same situation, for example, a video of two people talking with each other during a workgroup meeting, very different interpretations and responses can emerge. In many Latin American cultures, people notice and remember how hard the individuals in the video are working and how well or poorly they are getting along interpersonally. In North American cultures, people tend to also notice how hard people are working but notice much less information about the level of interpersonal rapport.

There is evidence that cultural differences are the result of people's experience living and participating in different sociocultural environments. Bicultural groups, for example, Chinese Canadians or Mexican Americans, often exhibit psychological patterns that are somewhere in between those found in their mother country (e.g., China or Mexico) and those in their new adopted culture (e.g., Canada or the United States). Experimental evidence also shows (in certain domains) significant cultural differences between different regions within a society, for example, between individuals from the northern versus southern United States. In relative terms, an insult to one's honor is a fleeting annoyance for northerners, but a more serious affront to southerners, and although violence is generally no more tolerated among southerners than northerners, it is more likely to be considered justified when honor is at stake.

### Implications

Cultural differences have implications for virtually all areas of psychology. For example, cultural differences have been found in child-rearing practices

(developmental psychology), the range of personality traits in a society (personality psychology), how people process information (cognitive psychology), effective treatments for mental disorders (clinical psychology), teacher–student interactions (educational psychology), motivational incentives important to workers (organizational psychology), and interpersonal styles (social psychology). Research in each of these areas provides knowledge about how cultures can differ and when they are likely to be more similar than different.

The existence of cultural differences has significant implications for people’s daily lives, whether at school, work, or any other setting in which people from diverse cultural backgrounds interact. It is important to recognize that diversity can mean much more than differences in ethnicity, race, or nationality; cultural diversity also includes sometimes subtle, yet important basic differences in the assumptions, beliefs, perceptions, and behavior that people from different cultures use to navigate their social world.

*Jeffrey Sanchez-Burks*

*See also* Collectivistic Cultures; Culture; Culture of Honor; Individual Differences

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worldviews or of our ways of living. Cultural worldviews affect a range of psychological processes, including perceptual, cognitive, personality, and social processes, but are thought to most strongly influence social psychological processes.

## Background and History

For much of the 20th century, there was scant research and publishing on the subject of culture and behavior in the general psychological literature. Some of the more notable exceptions are seen in the work of Wilhelm Wundt, Lev Vygotsky, and Frederic Bartlett. One influential finding on cultural effects was made by Marshall Segall in the 1960s, who, along with his colleagues, found that Africans and Westerners varied in their susceptibility to certain visual illusions, theoretically because of their differential exposure to built environments and wide vistas. Apart from such isolated cases of research, however, much of the early academic study of the behavioral effects of culture can be drawn from the work of social anthropologists.

Since 1970, social psychologists have paid significant attention to the effects of culture on behavior. This growth was due, in part, to the increased level of intercultural interaction and its associated challenges that occurred with the rapid expansion in global communication, economies, and migration in the intervening period. Advances in social psychological theory and research methodology also facilitated more interest in the study of culture. As a result, knowledge about culture and behavior increased significantly in the latter half of the 20th century, principally through the work of social psychologists like Harry Triandis, Geert Hofstede, Hazel Markus and Shinobu Kitayama, Shalom Schwartz, and Richard Nisbett, among others.

## Current Approaches and Knowledge

Many contemporary social psychologists who investigate the effects of culture do so by comparing national cultures to determine universal and culture-specific patterns of behavior. Cross-cultural research is conducted primarily from the sociocognitive perspective and focuses on the cultural values, beliefs, and attitudes or cultural knowledge that distinguishes the behavior of people with different national backgrounds.

One prominent tool employed by cross-cultural researchers is to classify nations by their relative support for individualism or collectivism. Individualism

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## CULTURE

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### Definition

Culture can be generally defined as an interrelated set of values, tools, and practices that is shared among a group of people who possess a common social identity. More simply, culture is the sum total of our

is a set of values, beliefs, and attitudes that emphasize the importance of people pursuing their individual goals and behavior. Collectivism is manifest in values, beliefs, and attitudes that emphasize the importance of people following group goals and group norms for behavior. Research has shown North American, Western European, and Australian cultures to be relatively individualistic, while Japanese and Chinese cultures are comparatively collectivistic.

Individualistic and collectivistic cultures encourage people to adopt a certain set of interrelated values, beliefs, and perceptions of the self and the group. A person exposed to an individualistic culture is more likely to value personal autonomy, freedom of expression, and self-enhancement than is a person from a collectivistic culture, who would contrastingly be more likely to value obedience, tradition, and group enhancement. In addition, individualistic cultures encourage people to adopt an independent self-view or distinguish the self from others, whereas people in collectivistic cultures view themselves as more interdependent or connected to others. As a consequence, the individual and the group are perceived as the more prominent agent in behavior in individualistic and collectivistic cultures, respectively.

The distinction made between individualistic and collectivistic cultures helps explain a range of behaviors. Research has shown that North Americans attribute behavior to individual volition or internal dispositions. Chinese, on the other hand, attribute behavior to the influence of a person's primary reference groups or other factors external to the individual, such as situational influences. It has also been shown that the preference for maintaining harmonious interpersonal and intragroup communication patterns is much stronger in collectivistic than individualistic cultures. Individualism and collectivism are even manifested in language practices with Westerners more prone to use first person pronouns (e.g., *I, me*) than are people from collectivistic cultures.

While the classification of nations according to broad constructs such as individualism and collectivism is a powerful tool in cross-cultural psychology, our understanding of cultural knowledge is not limited to this extent. Nations have been shown to vary on other distinct systems of cultural values, such as the level of universalism, security, or power they promote. Moreover, groups within nations (e.g., states, regions, organizations) and groups that transcend national boundaries (youth, arts, religious groups) exhibit their own distinct cultural knowledge.

Cultural knowledge is thought to have evolved to meet a range of significant social and basic emotional needs. On one level, cultural values and practices give order and structure to the social world, be it to nations, societies, or groups. At another level, culture fulfills the individual emotional need for belonging, and the need for purpose and meaning to existence. Recent work by Jeff Greenberg and his colleagues also highlights that cultural worldviews fulfill the need for self-esteem: Self-esteem is derived from being seen to have successfully performed culturally valued behaviors.

The range of social and emotional needs that cultural worldviews meet helps explain why people are prone to show strong allegiance to their culture and their cultural group. Indeed, research has shown that raising existential anxiety among people leads them to strongly endorse their cultural values and beliefs and derogate, or distance themselves from, culturally different values or others.

## Implications

Knowledge about culture and behavior from the view of social psychology has been successfully applied in various settings to solve a range of problems. These problems have included those that arise with intercultural communication and negotiation, the acculturation experience of immigrants, the contrasting ways people label and treat health concerns and psychological disorders, and the management of multinational organizations. More generally, intercultural understanding has been shown to reduce prejudice and intergroup conflict and promote harmonious relations and exchange between social groups.

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*See also* Cultural Animal; Cultural Differences; Collectivistic Cultures; Interdependence Theory; Self-Enhancement

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## CULTURE OF HONOR

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### Definition

A culture of honor is a culture in which a person (usually a man) feels obliged to protect his or her reputation by answering insults, affronts, and threats, oftentimes through the use of violence. Cultures of honor have been independently invented many times across the world. Three well-known examples of cultures of honor include cultures of honor in parts of the Middle East, the southern United States, and inner-city neighborhoods (of the United States and elsewhere) that are controlled by gangs.

Cultures of honor can vary in many ways. Some stress female chastity to an extreme degree, whereas others do not. Some have strong norms for hospitality and politeness toward strangers, whereas others actively encourage aggression against outsiders. What all cultures of honor share, however, is the central importance placed on insult and threat and the necessity of responding to them with violence or the threat of violence.

Insults and threats take on great meaning in cultures of honor, because of the environments in which cultures of honor develop. Such cultures develop in lawless environments where there is no central authority (such as the state) that can offer effective protection to its citizens. In such a situation, a person has to let it be known that he will protect himself, his family, and his property. Insults and affronts are important because they act as probes, establishing who can do what to whom. A person who responds with violence over “small” matters (e.g., an insult or an argument over a small amount of money) can effectively establish himself as one who is not to be messed with on larger matters. Thus, an effective response to an insult can deter future attacks, when the stakes may be much higher.

Many violent incidents in cultures of honor center on what might be considered a trivial incident to outsiders. Such matters are not trivial to the people in the argument, however, because people are defending

(or establishing) their reputations. What is really at stake is something of far greater importance than a one-dollar debt owed or a record on the jukebox.

In cultures of honor, reputation is highly tied up with masculinity. A telling anecdote from Hodding Carter’s book *Southern Legacy* (1950) concerned a 1930s Louisiana court case, in which Carter served as a juror. The facts of the matter were clear. The defendant lived near a gas station and had been pestered for some time by workers there. One day, the man had had enough and opened fire on the workers, killing one person and wounding two others. As Carter tells it, the case seemed open and shut, and so Carter began discussions in the jury room by offering up the obvious (to him) verdict of guilty. The other 11 jurors had very different ideas about the obvious verdict, however, and they strongly and unanimously favored acquittal. Fellow jurors explained to Carter that the man couldn’t be guilty—what kind of man *wouldn’t* have shot the others? An elder juror later told Carter that a man can’t be jailed for standing up for his rights. In cultures of honor everywhere, traditional masculinity is a virtue that has to be defended.

Various ethnographies have described cultures of honor in great detail. Sociologist Elijah Anderson, for example, has written about the culture of honor in inner cities of the United States. Anthropologists Julian Pitt-Rivers and J. G. Peristiany have written about honor in the Mediterranean region, and an important collection of papers can be found in Peristiany’s 1966 book *Honour and Shame: The Values of Mediterranean Society*. Notably, the book includes chapters by Pitt-Rivers, Peristiany, and Pierre Bourdieu, who has written about honor and the importance of female chastity among the Kabyle of Algeria. As in many Mediterranean cultures, the sanctity of the family name among the Kabyle depends a great deal on the purity of its women and how well the men guard and protect it. In such cultures, females who disgrace the family may be killed by their male relatives in an attempt to cleanse the family name.

Within experimental social psychology, Richard Nisbett and Dov Cohen’s 1996 book *Culture of Honor* lays out the case that there is a culture of honor among Whites in the contemporary South of the United States. Among other evidence, they show that the homicide rate is higher among Whites in the U.S. South, but only for killings that involve quarrels, lovers’ triangles, and other arguments (i.e., those killings where honor is most likely to be at stake). They also show in opinion

surveys that White southerners are more likely to endorse violence than are northerners when the violence is used in response to insult or in response to some threat to home, family, or property.

In laboratory studies, they showed that southern U.S. college students were more likely than northern college students to respond in an aggressive manner when they were insulted. The insult involved an experimental confederate who bumped into the experimental participant as he was walking down the hallway and then called the participant an expletive. Southern students were more than twice as likely as northern students to become visibly angry at the insult (85% vs. 35%). They were more cognitively primed for aggression, completing scenarios with more violent endings. And they showed surges in their levels of testosterone (a hormone associated with aggression, competition, and dominance) and cortisol (a hormone associated with stress and arousal) after the bump. Additionally, southerners also became more aggressive as they subsequently walked down the hallway and encountered another experimental confederate (who was 6 feet 3 inches tall and weighed 250 pounds).

Finally, the researchers also showed that the laws and social policies of the South were more lenient toward violence than those of the North. This is important, because social policies may be one way the culture of honor is carried forward, even after the originating conditions (the lawless environment of the frontier South) have largely disappeared.

*Dov Cohen*

*See also* Aggression; Culture; Masculinity/Femininity; Threatened Egotism Theory of Aggression

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## CURIOSITY

### Definition

Curiosity is a pleasant motivational state involving the tendency to recognize and seek out novel and challenging information and experiences. Curiosity differs from other positive emotions by the strong desire to explore and persist in the activity that initially stimulated an individual's interest. Although curiosity and enjoyment tend to go in tandem, sometimes there is a conflict between curiosity and other positive emotions because curiosity can lead to the pursuit of new, uncertain, and complex activities that are aversive. With curiosity, the rewards appear to come from the process of integrating varied and complex information and experiences rather than simply the positive affect associated with it.

### Individual Differences in Curiosity

All human beings have moments of curiosity, as it is a universal characteristic that begins to emerge during infancy. Yet, individuals differ in the preference for novel and challenging activities; the tendency to find themselves in, or actively search for, these activities; the breadth of activities that stimulate their interest; the threshold to experience curiosity; and the intensity, frequency, and chronicity of curiosity. Individuals also differ in their willingness to take physical, social, financial, and legal risks to satisfy their need for varied, uncertain, and complex experiences and avoid the pain of boredom. This is a variant of curiosity called *sensation seeking*. Sensation seeking not only includes more socially desirable activity, such as taking a walk in a cold breeze, using aromatherapy, and trying exotic foods, but also less socially desirable activity, such as gambling, cliff diving, ingesting consciousness-expanding drugs, or having a fascination with death and violence.

The degree to which people become curious or interested appears to be a function of recognizing the potential novelty, complexity, uncertainty, and conflict in the object of one's attention. Some of the primary qualities that induce curiosity include (a) novelty—newness relative to prior experiences and expectations, (b) complexity—the more variety or less integration of components within the scope of attention, (c) uncertainty—the presence of multiple outcomes and

possibilities with little knowledge of which will occur, and (d) conflict—the presence of competing response tendencies such as being motivated to approach or avoid the same activity. Each of these qualities can point to a gap in one's preexisting knowledge and capabilities, or representation of the self, world, or future. Strong feelings of curiosity can be expected when individuals are aware of discrepancies between what is known and not known and when they find it desirable to make the unknown known. An individual's curiosity is not only affected by evaluations of how novel and challenging an activity is, but also by personal abilities to cope and feel a sense of control. These appraisals (of novelty and coping potential) have an inverted-U function on curiosity and exploratory behavior. For example, high levels of novelty, complexity, uncertainty, and conflict can lead to undesirable feelings of anxiety and confusion, whereas moderate levels appear to be ideal for creating and sustaining curiosity and interest.

Despite these general factors that affect whether a person will be curious, the specific information and experiences that interest one individual can be boring or anxiety-provoking to another. That is, when you begin to examine interests and judgments, individuals with the same tendency to be curious may be interested in vastly different information, knowledge, and direct sensory experiences. For example, one highly curious person may be extremely interested in playing chess and solving complex, mathematical formulas while another highly curious person may find puzzles to be boring and be primarily interested in gossip and meeting new people. Among other psychological processes, the experience of curiosity in a given activity helps explain why individuals develop longstanding interests in one thing and not another.

### **Context and Importance**

Curiosity is relevant to nearly all human activity ranging from leisure, creativity, decision making, and social relations to education, sports, work, and clinical therapy. By being fully engaging in varied and novel activities, a curious individual is guaranteed of stretching or expanding his or her knowledge, skills, and competence. Upon investing time, effort, and energy in activities that are intrinsically valued, curiosity facilitates personal growth and learning. In addition to these personal resources, feelings of curiosity can build

social bonds by promoting behaviors such as engagement, responsiveness, and flexibility to others' varied experiences and perspectives. These behaviors are desirable in interpersonal transactions and the formative stages of relationship development. On average, people enjoy spending time and developing friendships with people who are interested in them and what they say and do.

Another value of curiosity is its role in motivating and sustaining interest in important, but boring or tedious, activities. If an activity induces curiosity, an individual is likely to persist and the process is likely to be as enjoyable as (or even more so than) other goal-related outcomes. If an activity does not induce curiosity but there is a good reason to continue (such as having to take calculus to graduate high school), individuals can transform activities by making them more interesting (such as completing projects with someone else or with good music in the background or trying to make a game out of it). Attempts to self-generate curiosity in mundane activities leads to sustained motivation and increased effort and performance.

What makes an individual curious and interested is a large determinant of the career choices they make and, on a smaller scale, activities chosen when options and time are available. Individuals who are generally more curious tend to achieve and perform better in academics, work, and sports (even after accounting for how intelligent or athletic they are). They also adjust better to school and job-related changes and are generally more satisfied and have better relationships with others in school, work, and other settings.

Curiosity is associated with a wide range of desirable psychosocial outcomes. This includes greater well-being, intelligence, creativity, critical thinking and problem-solving skills, goal effort and progress, preference for challenge in work and play, perceived control, and less perceived stress, negative emotions, and reliance on stereotypes and dogmatic thinking. A few provocative studies have even shown that more curious older adults live longer than their less curious peers even after accounting for the usual suspects such as age, gender, and physical health.

*Todd B. Kashdan  
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*See also* Intrinsic Motivation; Sensation Seeking

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## DATE RAPE

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### Definition

Date rape refers to forced sexual intercourse without consent that is perpetrated by someone familiar to the victim, usually an acquaintance or date. Although date rape can be perpetrated by women, the typical date rape occurs when a man uses physical or psychological intimidation to force a woman to have intercourse against her will. Date rape also occurs when men have sex with women who have been incapacitated with alcohol or drugs and thus unable to consent to sex. Many social psychological factors influence how date rape is defined, perceived, and experienced by victims and perpetrators. These factors include stereotypes, scripts, gender roles, and elements of the sexual situation.

Stereotypes of rape lead many people to believe that rape occurs when a woman is attacked by a stranger in a dark, secluded street. In fact, the vast majority of rapes are committed against women by men they know, including former lovers, current boyfriends or spouses, friends, and acquaintances. The typical date rape occurs after a man and woman have had several dates. The couple has previously engaged in some level of consensual activity like heavy petting or oral sex. The man wants to continue, but the woman refuses. Most men stop at this point, but date rape occurs when the man forces the woman into sex despite her rejection.

### Why Does Date Rape Occur?

Theories to explain rape have focused on whether rape is sexually motivated or motivated by the male goals

to exert power over women. Early views emphasizing sex often blamed rape victims for tempting men with their style of dress or behaviors. Rapists could not control their sexual desire in the face of such temptation. This view was challenged in the 1970s by feminist theories. Feminists proposed that most or all men are socialized by culture to rape, and that all men support and encourage rape because rape functions to instill fear in women. According to feminist theory, rape is one way that men can keep women in less powerful positions in society. The feminist view of rape can be credited for helping to dispel the victim-blaming of earlier theories, though it does not have much supporting evidence itself. Today, many psychologists believe that date rape results from a combination of personality and situational factors. These factors consider the background and personality of rapists as well as social-psychological factors related to the situation.

### Factors Related to Rapists

Date rapists tend to explain their motives in terms of sex rather than power. They report having more sexual partners and sexual activity than other men. Date rapists prefer not to use force to get sex, but they will use force or intimidation if necessary. Risk factors for rapists include backgrounds with violent home life, delinquency, and macho peer groups that encourage sexual promiscuity and conquest. Date rapists also identify with exaggerated masculine gender roles. For example, they may endorse views that equate masculinity with hostility toward women and femininity, sexual conquest, and acting macho. Date rapists are egocentric and lack empathy toward their victims. They may justify their

actions by blaming their victims for being a tease or wasting their time and money on the date. Many date rapists do not interpret their actions as rape. The common belief that their victim actually enjoyed the rape is a sign of the rapist's distorted perceptions and lack of empathy for their victims.

### **Factors Related to the Situation**

Research on date rape has examined how gender roles and sexual scripts may set the stage for sexual miscommunication between men and women. People use *scripts* or mental frameworks for organizing and guiding behaviors. Cultural standards of masculinity and femininity influence the scripts that men and women have for negotiating sexual activity. Many people possess a sexual script that "no" really means "yes." A man may believe that a woman's refusal is just a token so that she will not appear too permissive. The script suggests that if the man persists in his advances, the woman will eventually submit willingly, which is what she wanted to begin with. This script contributes to sexual miscommunication between men and women, and it may distort individuals' perceptions of other's sexual motives.

Individuals also have scripts and stereotypes that rape only occurs in the stranger scenario. This script may influence the way that individuals label their sexual experiences. Many women who have experienced nonconsensual sexual intercourse do not label or acknowledge their experience as rape. This is likely due to the fact that their experience does not fit into the stereotypical script for rape. Their rape script focuses on the stranger rape rather than date rape.

A new theory of date rape combines personality factors of the rapist with situational factors. This theory suggests that date rapists are narcissists who are insulted when women refuse their sexual advances. Narcissists feel a sense of personal entitlement. A narcissist may feel that a woman owes him sex after he has spent effort and money on a date. Narcissists are especially sensitive to rejection and may be easily offended when their sexual advances are refused. Narcissists are prime candidates to experience what psychologists refer to as *reactance* in this situation. Psychological reactance occurs when an individual feels that his or her freedom has been limited. In this case, the rapist feels that his right to have sex with his date has been denied. Reactance theory predicts that a forbidden fruit, once forbidden, becomes more

valuable. People will react and reassert their freedom by trying to take that which has been forbidden and aggressing against the person who limits their freedom. In other words, a narcissistic man will be insulted when his date does not submit to his desires. The sexual conquest will then become more valuable to the narcissist, and he will use force or intimidation to reassert his freedom and take that which he desires. Because most men do not rape, this theory is useful in predicting the type of man who will rape when his advances are refused.

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*See also* Narcissism; Narcissistic Reactance Theory of Sexual Coercion; Reactance

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## **DEBIASING**

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### **Definition**

Debiasing refers to the wide variety of techniques, methods, and interventions that are designed to eliminate or lessen potential errors, distortions, or other mistakes in people's thinking, judgment, or decision making. Specific debiasing techniques can be placed into three general categories: (1) cognitive, involving things like changes in the ways in which decision makers conceptualize a problem; (2) motivational, involving things like changes in the ways in which incentives or punishments are allocated to decision makers; or (3) technological, involving things like changes in the ways in which computers and other technological advances can be employed to assist in problem solving.

Because people are imperfect and fallible decision makers, no matter which techniques are ultimately implemented, the term *debiasing* is normally used to refer to something that occurs to a relative degree rather than something that occurs completely.

## Background and Importance

When there are problems, people quite naturally look for possible solutions. People are certainly skilled enough in their decision making to get through life perfectly fine most of the time, but they are also often unskilled enough to make predictable mistakes in their judgments. For the human decision maker, the glass is thus both half full and half empty.

Although debiasing research occasionally appears to be overshadowed somewhat by research demonstrating various biases—it may seem more noteworthy to show that something is broken rather than to show how to fix it—both debiasing and biasing are equally important to fully understanding decision making. Just as the study of biases can supply a roadmap predicting the conditions under which judgmental mistakes are likely to occur, the study of debiasing can supply a roadmap describing what might be done about these mistakes.

## Evidence for Techniques

Evidence supporting the three general categories of debiasing techniques is fairly extensive and comes from diverse sources. This is illustrated with some specific examples.

### **Cognitive**

Perhaps one of the best-researched cognitive debiasing techniques requires people to consider the opposite of their initial impressions before making a final decision. The strategy essentially entails asking, “Are there reasons why my initial judgment may be wrong?” For example, with the hindsight bias, people are most apt to come up with reasons supporting known outcomes, and thus those outcomes seem inevitable. Thinking about the opposite can work as a debiasing intervention by directing people’s attention to alternative outcomes that might not have otherwise received adequate consideration. This debiasing technique seems to work especially well when people can easily think of opposing alternatives.

Other cognitive debiasing techniques involve education and training. People who know the correct rule to calculate the area of a parallelogram simply make fewer errors than those who do not. Similar to mathematics, one presumption is that other judgmental rules might likewise be taught. For example, once people learn that large samples represent a population better than small samples, this can lead to more accurate decision making. Educational training seems to be most effective when decision rules are concrete and directly applicable.

### **Motivational**

Motivations can similarly influence debiasing. For example, people have a general propensity to simplify the world by categorizing things. An object with a flat platform, straight back, and four legs, may be characterized as a chair. However, one particularly negative consequence of this tendency is stereotyping. People may similarly characterize others just because they think the person belongs to a particular group. Although debate exists regarding the extent to which stereotyping is automatic, incentives such as considering future interactions with a person can sometimes lead to less reliance on stereotypes and more reliance on personalized information. Punishments, such as considering retribution for acting in prejudiced ways, may also lead people to put greater effort into decisions, resulting in less bias.

Accountability motives can also be used to debias. For example, if people expect they will have to explain their reasoning to others, they are more likely to put greater effort into a decision. When preparing to justify decisions to others, people seem better able to anticipate possible flaws in their own reasoning. Incentives or punishments can be social or monetary.

### **Technological**

Technological advances, notably the widespread dispersion of computers, have further increased the potential for debiasing. In fact, many decision-making tasks are simply too complex and time consuming to carry out without the assistance of technology; for example, consider the complexities of launching the Space Shuttle. Complex decision tasks are known to be more susceptible to biases and errors. It thus seems logical, at least superficially, that computers can aid complex calculations and help lead to more accurate judgments.

Technological advances in the form of various algorithms to arrive at particular decision outcomes relatedly can result in greater debiasing. Complex equations can now be accurately solved in nanoseconds. Of course, the weak link in technology still may be the human decision makers running the computers and writing the programs.

### General Implications

People have many highly useful and often adaptive decision-making strategies, but sometimes these strategies are susceptible to errors, distortions, or other mistakes. Debiasing techniques have been devised as attempts to eliminate or at least minimize these. However, successful debiasing requires at least four things. Decision makers must (1) be aware of the potential bias, (2) be motivated to correct the bias, (3) recognize the direction and magnitude of the bias, and (4) be able to adequately control or adjust for the bias. Together, these things may not always be achievable. The extent to which people's biases can be effectively debiased thus has very profound implications for virtually all thinking, judgment, and decision making.

*Lawrence J. Sanna*

*See also* Accountability; Decision Making; Hindsight Bias; Stereotypes and Stereotyping

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actual beliefs, knowledge, feelings, characteristics, or experiences. The term *lying* is commonly used to describe explicit verbal deception (e.g., telling your boss that you were late for work because of traffic, when in reality you overslept). However, deception is more than intentionally providing others with false verbal statements; it also includes verbal omissions or the withholding of information (e.g., not telling your spouse about an affair). Deception can also be, and perhaps is most commonly, behavioral (e.g., concealing sadness by smiling, getting cosmetic surgery to appear younger). Lying and purposefully misleading others are generally viewed as socially unacceptable, although some forms of deception are socially accepted and expected (e.g., impression management), and social psychologists have found that individuals commonly mislead themselves in certain ways (self-deception).

### Research on the Prevalence and Purposes of Deception

Only in recent years has systematic research been conducted to understand how often and why individuals deceive others. This work has led to an important conclusion: Everyone lies. The most direct evidence of this has been conducted by Bella DePaulo and her colleagues. Using survey and diary research methods, they have found that the overwhelming majority of people (approximately 99.5%) report lying daily, willingly describing in detail an average of approximately 1 to 2 explicit verbal lies per day. The most commonly reported lies involve the misrepresentation of one's feeling and opinions (e.g., telling your grandmother that you like the out-of-style sweater she gave you) and providing false information about one's actions, plans, and whereabouts (e.g., reporting that you were at the library studying when actually at the pub). Less frequent but still common lies concern misleading others about one's knowledge or achievements (e.g., lying about one's academic record), providing fictitious reasons or explanations for actions taken (e.g., blaming computer trouble for late work actually resulting from procrastination), and lies about facts and possessions (e.g., claiming to not have the money to loan to a friend). Commonly reported reasons for lying include to avoid embarrassment, to make a favorable impression on others, to conceal real feelings or reactions, to avoid punishment or aversive situations, and to not hurt others feelings (often called *altruistic lies*).

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## DECEPTION (LYING)

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### Definition

Deception is most commonly defined as intentional attempts to mislead others through words or behaviors. Deception can involve misrepresenting one's

## Research on Deception Detection

A long-standing interest among social psychologists and others concerns whether deception can be detected. The two approaches to deception detection have been at the interpersonal level and at the technological level.

In general, research indicates that people cannot detect deception during normal social interactions as much as they think they can. Typically, people can detect when others are being deceptive toward them at only a little above the level of chance guessing (i.e., a little more than 50% of the time). Noteworthy research by Paul Ekman and his colleagues has found that judges, police officers, psychiatrists, polygraph experts, business people, lawyers, and students are all not much better than chance at detecting lies. But interestingly, subsequent research indicates that some individuals who have had extensive and direct experience with detecting deception for their profession (e.g., secret service agents, sheriffs, and clinical psychologists with experience with criminal defendants) can do so at levels significantly better than chance. Potentially explaining why some individuals are better at detection than others, it has been found that deception is associated with some subtle behaviors. For example microexpressions, very quick facial expressions that last only a few tenths of a second and are difficult to suppress, have been found to be associated with lying (e.g., a frown quickly followed by a smile). Also found to be related is eye contact, with deceptive individuals often blinking more, having more dilated pupils, and engaging in either very little or an unusually high level of eye contact. Other potential indicators are a raised voice pitch, long response delays, the use of different words than normal, and the presence of inconsistencies among nonverbal cues (e.g., the deceptive person may seem to have normal facial expressions but awkward eye contact or interpersonal distance). Importantly, although indicators of deception have been found, it is clear that no single indicator is a highly reliable cue for lying in all situations. Furthermore, it has been found to be difficult to train people to be more accurate at detecting lies.

The polygraph machine, commonly referred to as the “lie detector machine,” is a device that measures physiological responses such as heart rate, blood pressure, breathing rate, and skin conductance (to measure sweating). These physiological measures are all associated with the autonomic nervous system, the activation of which occurs naturally in situations of threat, stress,

and anxiety. The basic assumption underlying the polygraph is that physiological indicators of autonomic nervous system activation will occur when a person is attempting to lie or deceive. The common polygraph technique involves comparing an individual’s responses to control questions (e.g., “What is your name?”) with the individual’s responses to critical questions (e.g., “Did you steal the money?”). If an individual shows more physiological response when responding to critical questions, then deception is “detected” by the logic that only a guilty or deceiving individual would become anxious when responding. While under ideal circumstances, research shows that polygraph machines can detect deception at above-chance levels, they do so well below perfection. As a result, the scientific consensus is that they are far from infallible, and most researchers seriously question the validity of using the polygraph for important legal, security, or employment decisions. What is especially troublesome is that there is no widely agreed-upon method for administering or scoring polygraph examinations. As a result, operators have been found to disagree on the results. Furthermore, it is known that errors are common—both false negatives (declaring deceitful responses as truthful) and false positives (judging truthful responses as lies). There is also evidence that countermeasures—attempts to “beat” the polygraph by controlling physiological responses—can be effective. Lastly, in recent years newer and more sophisticated technologies such as “brain fingerprinting,” in which brain activation patterns are analyzed, have been offered as potentially more accurate methods for lie detection. However, like the polygraph, at this time the scientific evidence supporting the use of such techniques is weak.

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*See also* Bogus Pipeline; Facial Expression of Emotion; Forensic Psychology; Impression Management; Self-Deception

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## DECEPTION (METHODOLOGICAL TECHNIQUE)

### Definition

Deception is a methodological technique whereby a participant is not made fully aware of the specific purposes of the study or is misinformed as part of the study. Two main forms of deception may occur in research.

1. The researcher intentionally misinforms the participant about some aspect of the study. For example, a researcher wanting to study how people respond to negative health feedback may deceive participants by telling them a saliva test they took indicates that they may have a disease, when in fact the test was only a manipulation used to create an emotional response.

2. The researcher omits some information, such as not telling participants that a study of “relationship formation with a stranger” actually deals with the specifics of interracial interactions. This type of deception is based on the notion that certain psychological processes may be biased if the participant were aware of the exact nature of the study.

A common form of deception is not fully disclosing the true nature of the study until it is over. Here knowledge of the purposes of the study may cause participants to act in less than spontaneous ways and may bias the results. Additionally, the “stranger” in the study may not be another participant at all but rather a trained member of the research team, called a *confederate*, whose job it is to guide the interaction based on a script and evaluate the actual participant. In this form of deception, the participants are not misinformed, but they are not made fully aware of the specific purposes of the study. The use of a confederate is another form of deception. In this example, it is true that the participant was interacting with another person. The deception occurred because the other person was not another participant but rather a member of the research team, and the interaction was predetermined by an experimental script. In this and other cases, deception can often be seen in the “cover story” for the study, which provides the participant with a justification for the procedures and measures used. The ultimate goal of using deception in research is to ensure that the behaviors or reactions observed in a controlled laboratory setting are as close as possible to

those behaviors and reactions that occur outside of the laboratory setting.

### Deception and Ethics

Since it is an ethical responsibility of researchers to gain informed consent from participants, deception can be seen as a threat to the “informed” nature of consent. For this reason, deception can only be used in certain circumstances. The conditions for those circumstances are that (a) no other nondeceptive method exists to study the phenomenon of interest, (2) the study possesses significant contributions, and (3) the deception is not expected to cause significant harm or severe emotional distress. Whenever deception is used, it is the responsibility of the experimenter to fully debrief the participants at the end of the study by explaining the deception, including the reasons it was necessary and ensuring that participants are not emotionally harmed. In certain cases, debriefing participants can actually increase the harm of deception by making participants feel tricked by pointing out perceived flaws. However, a thorough debriefing that alleviates distress and explains the deception is usually sufficient. Human subjects committees or Institutional Review Boards, which include researchers and lawyers that review and approve research at an institution, must approve the use of deception to certify that it is both necessary and that a plan exists to debrief participants to remove and residual effects of the deception.

### History in Social Psychology

The use of deception can be tied to the earliest experiments in social psychology, but it began in earnest after World War II when social psychology began to prosper. In the 1960s and 1970s, many of the most famous and most important social psychology studies involved deception. One famous example is Stanley Milgram’s studies of obedience in which the participants were told that they were to deliver strong electrical shocks to a participant sitting in the next room. The shocks were never administered, although the other person, who was a confederate, reacted as if they were. As a result of critiques of these types of studies, both the type and amount of deception used in current social psychology studies tend to be less extreme.

*See also* Bogus Pipeline; Milgram's Obedience to Authority Studies; Research Methods

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## DECISION AND COMMITMENT IN LOVE

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### Definition

Commitment represents the motivation to stay in a relationship and to work at it. It is not surprising that we stay in relationships while they are highly satisfying, but why stay in a relationship that has not been satisfying lately? People may choose to persevere when things get difficult because they have invested a great deal, they have poor alternatives, or they wish to stay true to their personal values ("I made a pledge to stick with this"). Furthermore, a relationship can, over time, become a big part of "who I am," and therefore it is not something that is easily discarded.

The decision to commit and work through short-term periods of boredom or distress will allow people to potentially reap the benefits of a loving, long-term relationship. Commitment promotes relationship longevity by motivating people to see, think, and act in ways that help sustain a relationship. For example, romantic partners sometimes can behave undesirably, ranging from annoying little habits to major transgressions. Highly committed people are less likely to notice the bad behavior and are more likely to excuse the behavior if it is noticed ("It's because she had a bad day at work"). Finally, if explaining away the behavior is not sufficient, committed individuals are more likely than others to accommodate the bad behavior in ways that help keep the relationship going (talk through the problem, loyally keep quiet and move on), and they are less likely to respond in ways

that undermine the relationship (scream, throw objects and leave, or neglect the partner). Of course, the darker side of this is that committed individuals may try to accommodate their partners even when the partner is abusive.

In general, commitment motivates people to sacrifice their self-interest and short-term rewards, and to inhibit immediate negative impulses, on behalf of the relationship. How far a person is willing to go depends upon the level of commitment and the level of costs. For example, research has found that students committed to heterosexual dating relationships judged an attractive opposite-sex person as ordinary-looking, whereas those less committed judged the person as highly attractive. However, when they were led to believe that the other person was attracted to them, committed daters no longer defended the relationship by "devaluing" the attractiveness of the person. The researchers concluded that the daters were not sufficiently committed to withstand the stronger threat. In contrast, married people high in commitment dismissed the highly threatening attractive person as unappealing.

Finally, when predicting the future prospects for the relationship, one's frame of mind matters. When people are deliberating about the pros and cons of a relationship goal ("Should we go on a vacation together?") or even a personal goal ("Should I major in psychology?"), they make more accurate predictions about their relationships than when they are thinking about how to implement a goal to which they have already committed to pursuing ("How am I going to get an A in this course?"). For example, after thinking of whether to major in psychology, a person should more accurately forecast relationship longevity than after thinking about how to get an A in a course this term. Deliberation makes people more realistic in their assessments of their relationship prospects. Commitment may help sustain a relationship, but mindset may help one gauge commitment.

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*See also* Attributions; Love; Triangular Theory of Love

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## DECISION MAKING

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### Definition

Decision making refers to the act of evaluating (i.e., forming opinions of) several alternatives and choosing the one most likely to achieve one or more goals. Common examples include deciding for whom to vote, what to eat or buy, and which college to attend. Decision making plays a key role in many professions, such as public policy, medicine, and management. The related concept of judgment refers to the use of information, often from a variety of sources, to form an evaluation or expectation. One might imagine that people's judgment determines their choices, though it is not always the case.

### Background

Theories of decision making were originally developed by philosophers, mathematicians, and economists, who focused on how people make choices to achieve often conflicting goals. Following the work of early theorists such as John von Neumann and Oskar Morgenstern and Leonard Savage, a theory called *subjective expected utility theory* has become particularly influential. This theory distinguishes between the decision maker's values (otherwise called his or her *utilities*) and expectations or beliefs. The key assumption is that people select the option that is associated with the highest overall expected utility. In plain terms, you pick the best option, and so decision making is about figuring out what is the best choice.

Expected utility theory and decision theory have focused on normative aspects (i.e., what people should do), whereas *behavioral decision theory* and the general field of behavioral decision making have

focused on descriptive aspects of decision making (i.e., what people actually do to form judgments and make choices). It is noteworthy that, although expected utility theory was derived from economic principles of rational behavior rather than based on studies of human behavior, economists and researchers in many other fields have assumed that the theory also describes actual behavior and that departures from rational choice would eventually correct themselves based on learning and external forces.

This assumption, in turn, led to a great deal of behavioral decision research, which has documented a wide range of violations of utility maximization, that is, cases in which people pick something other than what is objectively the best option. Thus, research findings have often been seen as interesting to the extent that they appeared surprising and inconsistent with expected utility theory. Such research has shown that expected utility theory is often inadequate. Furthermore, the theory does not address many of the key aspects of judgment and decision making, such as the selection of information and options to be considered, the manner in which a decision maker might trade off the considered attributes of the options, and the impact of affective and social factors. Moreover, expected utility theory does not address the process of judgment and decision making.

A cognitive scientist named Herbert Simon introduced the concept of bounded rationality, which is an idea that takes into account the fact that people only have a limited cognitive ability to process information. Because of limited processing ability, instead of maximizing utility (i.e., picking the objectively best option), people may *satisfice*; that is, they may choose an option that is good enough, even though it may often not be the overall best. Limited cognitive capacity also implies that people will tend to rely on shortcuts or simplifying strategies, referred to as *heuristics*, which typically produce satisfactory decisions, though in some cases they may produce errors.

Despite the initial emphasis on demonstrating violations of rationality and expected utility theory, behavioral decision theory research has become more psychological and process oriented. Thus, following research in social and cognitive psychology, researchers have started employing various process measures (e.g., verbal protocols) and manipulations that were designed to provide a better understanding of the processes underlying judgment and choice.

## Constraints on Effective Judgment and Decision Making and Insights Into How Judgments and Decisions Are Made

Behavioral research on judgment and decision making has documented numerous violations of normative models that were previously relied upon. The following discussion briefly reviews a few important examples.

### **Judgment Heuristics and Biases**

The theory of rational choice has assumed that people are generally capable of computing and making unbiased judgments. However, a great deal of research has demonstrated that people's assessments of probabilities and values are often inconsistent with basic laws of probability. Going beyond the notion of bounded rationality, psychologists Amos Tversky and Daniel Kahneman advanced three heuristics that play a key role in intuitive judgments of probabilities, magnitudes, and frequencies: representativeness, availability, and anchoring. According to the *representativeness heuristic*, people judge the likelihood that X is a Y based on their assessment of the degree to which X resembles Y. For example, when assessing the likelihood that a student specializes in poetry, people assess the similarity between that student and the prototypical poet.

The *availability heuristic* indicates that people assess the frequency and probability of an event or a characteristic based on the ease with which examples come to mind. For example, in one demonstration, a group of respondents estimated the number of seven-letter words (in a few book pages) that end with *ing*, whereas a second group estimated the number of seven-letter words with *n* in the sixth position. Consistent with the availability heuristic, the former estimate was much higher than the latter (even though any seven-letter word that ends with *ing* necessarily has *n* in the sixth position).

*Anchoring* refers to a process of assessing values whereby people who start from an anchor tend to end up with a value that is close to the initial anchor. For example, people estimated that Gandhi lived until the age of 67 after being asked if he died before or after the age of 140, whereas those asked if he had died before or after the age of 9 estimated that he had died at the age of 50. Similar anchoring effects have been

observed even when the anchor was clearly arbitrary, such as when people make an estimate by deciding whether the true value is above or below the last two digits of their own social security number.

### **Prospect Theory**

Kahneman and Tversky's *prospect theory* represents an influential, comprehensive attempt to revise and address key violations of the standard expected utility model. That is, those two researchers tried to formulate a general explanation of the reasons people fail to make the best choice. Options are evaluated as gains or losses relative to a reference point, which is to say that it is not the absolute effect that matters but whether the event has positive or negative implications for one's current standing. This has often been applied to money: The data show that it's not the same to gain \$10,000 for a poor person as it is for a rich person, because the gain is much greater for the person whose current wealth is very little.

In general, most people tend to be risk averse for gains and risk seeking for losses. Risk aversion can be thought of like this: A person facing two options, one of which is a surer bet but has a smaller payout compared to the other, which is more uncertain to be obtained but with a larger payout, would be predicted to choose the option that will bring a surer but smaller payout. Risk seeking (or risk tolerance it is also called) is the opposite. Imagine a person facing a choice between two options, one of which is more certain to happen. Prospect theory and many experiments that have tested it have shown that people prefer the larger (riskier) loss that has less certainty to happen.

Another important point from prospect theory is *loss aversion*—losses have a greater impact psychologically than similar gains. In other words, losing \$500 hurts a lot more, psychologically, than finding \$500 brings pleasure. The property of loss aversion is related to *endowment effect* and the *status quo bias*.

### **The Construction of Preferences**

A great deal of decision-making research since around 1975 has led to a growing consensus that preferences for options are often constructed when decisions need to be made, rather than when they are retrieved from a master list of preferences stored in memory. This means that people tend to make decisions

because of “on-the-spot” feelings or ideas rather than some deep, ingrained beliefs that they constantly use to make choices. This means that choices are sensitive to the framing of the options, the choice context, and the preference elicitation task.

With respect to framing, it has been shown, for example, that (a) framing options as losses rather than as gains leads to more risk-seeking preferences, and (b) framing (cooked) ground beef in terms of how lean it is (e.g., 80% lean) rather than how much fat it contains (20% fat, even though that conveys the same message about the meat as 80% lean) produces more positive evaluations of the beef’s taste. Regarding the impact of the choice context (or choice set configuration), it has been shown that adding an asymmetrically dominated option (e.g., adding an unattractive pen to a choice set consisting of an attractive pen and \$6 in cash) increases the share of the dominating option (the attractive pen).

It has also been shown that an option often is chosen more often, relative to how often other options are chosen, when there is a “compromise” (a middle) option in the set. With respect to the preference elicitation task, studies have shown, for example, that performing what is called a *matching task* (i.e., the person is asked to enter a value that makes two options equally attractive) leads to different preferences than when people simply perform a choice task—despite the fact that the options that are presented are the same, and the only difference is the method used by the person to evaluate the options. Similarly, ratings or evaluations of individual options tend to produce systematically different preferences than choices or other tasks involving joint evaluation of options.

### Current Directions in Decision Research

As the question of whether expected utility model adequately describes decision making has been largely resolved, decision researchers have tried to gain a better understanding of how decisions are actually made, often using various process measures and task manipulations. Furthermore, researchers have examined a wider range of judgment and decision-making dimensions and have addressed topics that were previously regarded as the domain of other fields, such as social and cognitive psychology and business administration.

### Process Measures

Whereas earlier decision research was focused on the outcomes of decisions, it has become clear that decision processes can provide important insights into decision making, because they are influenced by task and option variations that may often not influence decision outcomes. It was initially assumed that decision makers apply particular decision rules, such as forming an evaluation of an option by adding the positive aspects of that option and subtracting the negative aspects (e.g., weighted additive [compensatory] model), or by choosing important aspects of the decision and then choosing based on whether options do or do not reach a certain cutoff in that domain (e.g., conjunctive rule, or lexicographic decision rules). However, consistent with the notion of constructed preferences, subsequent research has shown that decision makers typically combine fragments of decision rules, such as starting by eliminating options that do not meet certain standards and then using the adding positives/subtracting negatives compensatory rules to evaluate the remaining options.

Early process-oriented decision research relied largely on process measures, such as response latencies, the percentage of intradimensional versus interdimensional comparisons, and verbal protocols. Such measures can provide rich data, though concerns might arise whether the behavior and responses that are captured accurately represent naturally occurring decision processes. A complementary research approach, similar to many studies in psychology, is to rely on task conditions (e.g., cognitive load, time pressure), stimulus manipulations, and individual differences from which one could infer the underlying decision processes and moderators of the observed decision outcomes.

### The Role of Affect in Decision Making

Most decision research has focused on what might be seen as objective evaluation of options based on attributes such as the probability of winning and the payoff. However, there is a growing recognition that decisions are often influenced by the affective reactions to options. Affect refers to the emotional reaction to the “goodness” (or attractiveness) of options, which is often triggered automatically without much (or any) thought. It has been suggested that such automatic, affective reactions are often the main drivers of

judgments and decisions, with conscious, deliberate arguments merely serving to explain those decisions. Researchers have used a wide range of methodologies to examine the role, primacy, and speed of affective reactions to decision stimuli, such as subliminal priming, the observation of patients whose affective processing ability was damaged, and the impact of putting respondents in a positive or negative mood.

### ***The Two-System View of Judgment and Decision Making***

Evaluations based on automatic, affective reactions belong to a broader class of judgments and decisions that tend to be done intuitively and automatically, without any deliberate evaluation. It is now believed that such processes may characterize many, perhaps most, judgments and decisions, whereas more deliberate, slow, reason-based processes are activated as needed, sometimes correcting or overriding the automatically produced responses. Although intuitive, automatic responses have been shown to influence both judgments and choices, deliberate evaluations of options and their attributes tend to play a greater role in choice. Indeed, viewing choice as driven by the balance of reasons for and against options has been shown to account for choice anomalies (e.g., the asymmetric dominance and compromise effects discussed earlier), which are more difficult to explain based on value maximization or based solely on the notion that decisions are made automatically, with little consideration of attributes or the relations among options.

### ***Social and Cultural Aspects of Decision Making***

In addition to considering the implications of task and stimuli characteristics for decision processes and outcomes, decision researchers have studied the role of social and cultural factors and individual differences in decision making. Some social aspects, such as conformity, have received relatively little emphasis, despite their clearly important role in decision making, in part because they appear straightforward and not surprising. However, researchers have examined, for example, the ability of social conditions, such as accountability and having to justify to others, to moderate and possibly diminish people's susceptibility to various judgment and decision errors. By and large,

similar to other types of incentives such as giving monetary compensation for good performance, research has shown that social incentives have limited beneficial impact on decision performance, though they could diminish some errors that are due to limited effort. There also has been a growing interest in the role of cross-cultural differences in decision performance. Initially, researchers focused on the differences between "individualistic" (e.g., people in the United States and Western Europe) and "collectivist" (e.g., Asian) societies, for example, showing that Chinese tend to be more susceptible than Westerners to the overconfidence bias. More recent research suggests that cross-cultural differences in judgment and decision making are less robust than previously thought and are sensitive to various situational factors.

### ***The Growing Influence of Behavioral Judgment Decision Making Research in Applied Fields***

Most behavioral decision researchers now reside in business schools rather than in psychology departments. This shift reflects, in part, the growing influence of decision research on applied fields, such as marketing, organizational behavior, and behavioral economics. For example, a great deal of behavioral decision research over the past 30 years or so has examined topics related to consumer decision making, bargaining, fairness, and behavioral game theory. Furthermore, there is a growing recognition in the economics field, which dominated early views of decision making, that violations of rationality are often systematic, predictable, and are not corrected by learning or market forces. Accordingly, the still evolving subfield of behavioral economics has increasingly incorporated descriptive aspects of decision making, derived from studies conducted by behavioral decision researchers, into economic models, addressing issues such as choice, valuation of goods, and discrimination.

*Itamar Simonson*

*See also* Heuristic Processing; Loss Aversion; Mere Ownership Effect; Overconfidence

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## DECISION MODEL OF HELPING

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### Definition

The decision model of helping, introduced in *The Unresponsive Bystander* by Bibb Latané and John Darley, outlines a process of five steps that will determine whether a bystander will act or not in a helping situation. This model is also intended to offer a counterargument to the proposition that people do not help in emergencies simply because they become apathetic. As Latané and Darley suggest, an individual's interpretation of the emergency may be more influential than the individual's general motivation when it comes to his or her actions in an emergency. The decision model of helping outlines the five steps to helping behavior. First, the bystander must recognize a problem. If perceived as a problem, the second step requires the interpretation of the problem as an emergency. If perceived as an emergency, the third step requires the bystander to feel a personal obligation to act. If the bystander feels responsible to help, the fourth step requires that bystander to decide how to act (form of assistance). And finally, the bystander must decide how to implement the form of assistance. Thus, the decision model of helping explains the helping behavior process from the perception of a problem to the actual act of helping.

### Fives Steps to Helping Behavior

There are five distinct and consecutive steps in this model. First, one must recognize a problem. Second, there must be an interpretation of the problem as an emergency. Third, the bystander must feel a personal obligation to act. Fourth, the bystander must decide how to act (form of assistance). And finally, the bystander must decide how to implement the assistance.

### Step 1: Recognizing the Problem

Bystanders must first recognize that whatever is occurring is not normal, usual, or common; it is a problem. A famous experiment conducted by Darley and Latané exemplifies this first step. Experimental participants were completing a questionnaire in a waiting room before an interview when smoke suddenly appears out of an air vent. These participants were either in the waiting room alone or with two other participants who were actually confederates pretending to be waiting for their interview. Results showed that the 75% of the participants who were in the waiting room alone reported the smoke to the experimenter, whereas only 10% of the participants did so when in the waiting room with two other confederates. Darley and Latané used this experiment to illustrate how people must first recognize a problem. Participants who are alone think something is wrong when they see smoke emanate from a vent. Because this does not usually happen, participants recognize that this could be a problem and hence report it to the experimenter. However, in the other condition, the participants see that smoke is escaping an air vent but then look to the calm expressions of the confederates, who continue filling out the questionnaire, and make the inference that the smoke may not be a problem. After all, if it were a problem, the confederates would have appeared to be alarmed. Hence, the implication is that the same event, a smoky vent, can be interpreted as a problem when the participant is alone but not when the participant is in the presence of calm peers.

### Step 2: Interpreting the Problem as an Emergency

If bystanders conclude that there is a problem in Step 1, then Step 2 follows—interpreting the problem as an emergency. Latané and Darley foresee considerable material and physical costs of both intervention and nonintervention, noting additionally that the rewards associated with helping are usually not high or profitable. Consequently, perceiving the problem as an emergency is subject to rationalizations such as discounting the extent to which the problem is really an emergency. The tendency for bystanders to avoid perceiving a problem as an emergency is illustrated in an experiment involving a fight between children. Participants were placed in a room adjacent to another in which (tape-recorded) children were purported playing when the sounds of fighting or play-fighting occurs.

Participants were previously told that the children were either “supervised” or “unsupervised.” Results showed that 88% of the participants who were told the children were supervised (no personal responsibility) thought that the fight was real, compared to only 25% of those participants who were told that the children were unsupervised (personal responsibility). In other words, participants who had more personal responsibility for the children were more likely to rationalize the fighting as playing than those who had no responsibility. Hence, the implication is that the same problem can be perceived as an emergency in one case but not another. One’s decision whether or not to help is rooted in the interpretation of the problem as an emergency.

### **Step 3: Deciding Whether One Has a Responsibility to Act**

If people recognize a problem (Step 1) and interpret it as an emergency (Step 2), then a bystander is forced to decide whether one has a responsibility to act. A bystander who is alone has all the responsibility during an emergency. However, the level of personal responsibility that one feels can become diffused to the extent that other bystanders are also present and aware that help is needed. For example, consider the famous case of Kitty Genovese, who was murdered in New York City despite her pleas for help. It turns out that many people in the neighborhood fully understood that help was needed but no one felt personally responsible to help, as they assumed that others in the neighborhood had already taken action (i.e., calling the police). A bystander, however, has a greater sense of responsibility to act when placed in situations with greater personal involvement or a psychological connection to the victim or fellow bystanders. For example, when experimental participants were accompanied by friends, there was not only a significant increase in the percentage of participants completing Steps 1 and 2 of the decision model but also Step 3—determining a responsibility to act. In fact, the rates at which participants took the responsibility to act when accompanied by a friend were similar to the rates at which participants did so when alone with a victim.

### **Steps 4 and 5: Deciding How to Assist and How to Act**

Assuming that Steps 1, 2, and 3 are met, Steps 4 and 5 follow. Step 4 of Latané and Darley’s model

involves deciding what form of assistance to provide. This step has many variables in it, including the competency and confidence of the bystander in a specific context (e.g., a bystander familiar with CPR might hesitate before giving CPR compared to a bystander who is a physician). This step is closely followed by the actual act of helping—Step 5. Latané and Darley discuss Steps 4 and 5 together and note that once an individual reaches Step 4, it is highly likely that he or she will continue with the Step 5. Thus, once an individual decides how to help, he or she will very likely implement that way to help. To explain these final two steps and their interconnection, experiments on the willingness to help someone purportedly experiencing a seizure varied the composition of participants and confederates. The participants were either female or male with female or male confederates, who were either medical experts or not. Regardless of the characteristics, Latané and Darley concluded that, for Step 4, the form of intervention is crucial, and it can be *direct* such as stepping in to break up a fight or *reportorial* in which the need for help is reported to another person. Thus, in deciding what kind of assistance to provide and how to provide it, subjects must make delineations between direct and reportorial action.

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*See also* Altruism; Arousal; Bystander Effect; Diffusion of Responsibility; Terror Management Theory

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## **DEFENSIVE ATTRIBUTION**

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### **Definition**

Defensive attributions are explanations of behaviors that serve to defend an individual’s preferred beliefs about self, others, and the world.

## Background

Sigmund Freud, at the beginning of the 20th century, first popularized the idea that people's desires can bias their explanations of events. Freud proposed a variety of defense mechanisms people use to avoid threatening interpretations of their own and other people's behavior. For example, rationalization involves constructing false explanations for one's own actions that avoid negative interpretations of them.

The term *defensive attribution* combines the Freudian notion of psychological defense with the attribution theory of Fritz Heider. Attribution theory posits that people understand their social worlds as comprising causes and effects. The individual typically decides an action was caused either by an attribute of the individual (internal attribution) or by an aspect of the situation (external attribution). Like Freud, Heider proposed that because the cause of a behavior can never be known for certain, individuals' desires can easily influence their attributions.

## Types of Defensive Attribution

A variety of causal attributions serve a defensive function. When researchers began studying causal attributions in the 1960s, they found that people generally attribute their successes internally to their own abilities, but failures to external factors such as bad luck. This pattern of attributions, known as *self-serving attributions*, serves to defend or bolster individuals' positive view of themselves (their self-esteem). People even sometimes set up an impediment to success prior to difficult evaluative situations so that they can have a ready defensive attribution should they subsequently fail. If they fail, they can then blame the impediment. For example, a student can go out drinking the night before an important exam, or procrastinate and only begin studying the night before the exam. Should the student then do poorly, he or she can defend against the self-esteem threatening possibility that he or she lacks the ability to do well by blaming a hangover or lack of preparation. This well-documented phenomenon, known as *self-handicapping*, demonstrates that people are often motivated to engage in defensive attribution to protect their self-esteem.

Similar defensive attributions are made for other people whom individuals like, such as friends, relatives and members of their own groups. For example, if a well-liked male friend treats his girlfriend badly,

one is likely to be biased toward believing the girlfriend must have provoked the poor treatment. In contrast, people also generate defensive attributions to maintain negative views of people they don't like and members of rival groups. A success by a member of a disliked group will tend to be attributed to luck or perhaps cheating.

Defensive attributions have also been shown to protect an individual's beliefs about the world. Many people live with difficult circumstances such as poverty, disease, and physical handicaps. Yet, as Melvin Lerner's just-world theory has proposed, individuals want to believe that the world is a just place and that they will not be victims of such circumstances. Research shows that to preserve such beliefs, people often blame others who experience misfortunes for their own fate. By defensively attributing negative outcomes to the person's immorality, stupidity, or laziness, people can maintain the belief that the world is just and they themselves will be spared such a fate; this can lead to overly harsh judgments of others who are living in poverty or who have been victimized by diseases, accidents, or violent crimes such as rape.

Similarly, defensive attributions can be used to maintain faith in virtually any belief. They can help sustain faith in one's religion, the righteousness of one's nation, and the validity of one's own theories. By using defensive attributions, people can tenaciously cling to their preferred beliefs even in the face of what would seem to be clear discrediting evidence. In the mid-1950s, Leon Festinger and colleagues documented this by studying a doomsday cult that predicted the world was going to end on a certain day. When that day arrived without incident, the members of the group explained that their own prayers and faith had saved the world.

## The Importance of Defensive Attributions

As these examples suggest, defensive attributions often lead people toward biased and inaccurate views of themselves, other people, and the world around them. These views are often psychologically comforting; it feels good to have positive views of oneself and those one likes and relieves guilt and makes one feel safe to believe that the world is just and that people suffering misfortune are responsible for their problems. Indeed, some theory and research suggest that

defensive attributions can help people function successfully in the world. For example, self-serving attributions seem to be prevalent in well-functioning people and lacking in depressed people.

However these attributions also contribute to failures, unjust treatment of others, prejudice, and interpersonal and intergroup conflict. They lead people to overlook aspects of themselves they need to improve, and to pursue career paths for which they are not suited. Minority groups within nations are almost always lower in socioeconomic status, and so defensive attributions to support belief in a just world are likely to contribute to negative stereotypes and prejudice against such groups.

In the interpersonal realm, defensive attributions often contribute to “finger pointing” or reciprocal blaming, leading to dissension within organizations and conflict within relationships. For example, in a failing marriage, a man may blame his dissatisfaction on his wife’s constant nagging, whereas the wife may blame her dissatisfaction on his neglect of her and the relationship. The truth may be that both need to change, but the defensive attributions lead to such divergent, unrealistic views of the problems that a positive resolution is unlikely.

Finally, defensive attributions can also contribute to political and international conflicts. For example, many Americans attributed the 2003 invasion of Iraq to a moral effort to remove a dangerous dictator and spread democracy. In contrast, many in the Middle East attributed the invasion to American immorality, arrogance, and greed. This is only one of many historical examples in which defensive attributions have had global consequences.

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*See also* Attribution Theory; Just-World Hypothesis; Self-Serving Bias

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## DEFENSIVE PESSIMISM

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### Definition

Defensive pessimism is a strategy people can use to manage their anxiety. Those who use the strategy feel anxious and out of control as they think about an upcoming situation. In response to those feelings, they set pessimistic expectations about how things will go, and they mentally rehearse all the things they can think of that might happen. Thinking in specific and vivid terms about things that might go wrong helps these individuals focus on what they can do to prevent the disasters they imagine.

Defensive pessimism is an example of an affect regulation strategy. These strategies describe the ways that people try to handle their emotions in everyday life. The strategy of defensive pessimism prevents anxiety from interfering with what individuals want to accomplish, and those who use the strategy typically perform well.

### Varieties of Pessimism

Defensive pessimism is different from other kinds of pessimism, such as dispositional pessimism (also known as trait pessimism) and attributional pessimism (which focuses on how people interpret past negative events). *Dispositional pessimism* refers to the general tendency to have negative expectations about future events, while *attributional pessimism* refers to whether you think past negative events were caused by internal, stable, and global factors (i.e., the causes were internal to you, they won’t change over time, and they’ll affect everything). Both of these kinds of pessimism exert a general influence on behavior in most situations. In contrast, defensive pessimism is more specific and more focused on the process that describes how individuals’ expectations in a particular situation are connected to what they do. Defensive pessimism and other affect regulation strategies are similar to coping strategies, except that they do not typically refer to how people cope with particular external events or crises (e.g., bereavement or severe illness). Instead, they focus on everyday thoughts, feelings, and motivations, such as how a person deals with feeling anxious before giving a speech or meeting a blind date. If an individual has different goals or different feelings or a different outlook in one kind of

situation than in another, this perspective would predict that the individual would use different strategies in those different situations. Thus, a person might use defensive pessimism in work-related situations but not in social situations, or vice versa.

### How Defensive Pessimism Works

Students are sometimes anxious about their exams. Students using defensive pessimism would be likely to convince themselves that they were certain to fail miserably on the next test. A defensive pessimist would then imagine discovering incredibly hard questions that refer to obscure facts, or sitting down to take the test and being unable to remember anything. This negative thinking helps those using defensive pessimism to figure out what they need to do to prevent the bad things that they have played through in their minds from actually happening. The thinking-through process accomplishes two things. It motivates defensive pessimists to focus on action instead of their anxious feelings, and because the process is typically detailed and specific, it functions as a guide to planning effective action. Potentially intimidating goals (e.g., “do well on a really hard exam”) are broken into smaller, concrete steps (e.g., “gather all the reference materials at your desk”) that are less intimidating and easier to accomplish. Defensive pessimism is similar to some of the techniques that clinicians and counselors use to help anxious people or those who are troubled by procrastination or lack of motivation.

### Evidence

Most of the research on defensive pessimism contrasts it with a strategy called *strategic optimism*. Strategic optimism is typically used by people who do not feel anxious. These individuals set high expectations and actively avoid thinking about what might happen in an upcoming situation. Several studies have been done to compare defensive pessimism and strategic optimism, and most show that both strategies work well when they are used in appropriate situations. Some conditions, however, facilitate defensive pessimism but interfere with strategic optimism, while others facilitate strategic optimism and interfere with defensive pessimism.

For example, one study found that participants who typically use defensive pessimism performed better in a dart-throwing game when they listened to

an audiotape prior to their game that mimicked the thinking-through part of defensive pessimism. In contrast, if they listened to a relaxation tape designed to prevent them from thinking about the upcoming game, they performed more poorly. Exactly the opposite happened for those using strategic optimism: They did better in the relaxation tape condition and worse in the thinking condition. Putting those who use defensive pessimism in a better mood, encouraging them to be more optimistic, or otherwise distracting them from using their strategy also leads to poorer performance. Results such as these suggest that defensive pessimism works well for those who use it, while encouraging them to use a more optimistic approach is not helpful. Other research shows that anxious people who use defensive pessimism do better in a variety of ways than anxious people who do not.

### Implications

Defensive pessimism research demonstrates how people are able to develop effective ways of managing their anxiety so that it does not interfere with their performance. It also implies that there are many paths that individuals can take to succeed.

Defensive pessimism research shows that many variables can influence the costs and benefits of a strategy, and no strategy is likely to be effective at all times for all people. In the United States, optimism is highly valued, and pessimism is considered less desirable. In Japan, China and Korea, however, optimism is less valued in social interactions, and pessimism is considered more appropriate. Defensive pessimism may be more socially accepted in those contexts and may have fewer costs, while strategic optimism may have fewer benefits. Different strategies may work best in different contexts, in response to different emotions, or for different people.

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*See also* Affect; Coping; Self-Regulation

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## DEINDIVIDUATION

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### Definition

Deindividuation theory was developed to explain the violence and irrationality of the crowd. How does a group of seemingly normal individuals become an unruly mob? According to deindividuation theory, the anonymity and excitement of the crowd make individuals lose a sense of individual identity. As a result, crowd members cease to evaluate themselves, and they become irrational and irresponsible. All of this makes the crowd fickle, explosive, and prone to anti-normative and disinhibited behavior.

But, despite a large amount of research, there is little support for deindividuation theory. Alternative approaches suggest that crowd behavior is not due to a loss of identity but to a transition to a collective (social) identity. The remainder of this entry outlines the theoretical evolution of deindividuation theory, summarizes the research to date, and highlights an alternative perspective.

### Theoretical Evolution of Deindividuation

Deindividuation theory can be traced back to some of the earliest works of social psychology. In his 1895 book *La Foule* (The Crowd), Gustave Le Bon described how the crowd psychologically transforms the psychology of its members. Anonymity, suggestibility, and contagion turn a gathering of individuals into a *psychological crowd*. The collective mind (dominated by primitive instincts rooted in our *racial unconscious*) takes possession of individuals. As a result, rational self-control ceases, and individuals become unthinking, fickle, and suggestible; that is, they become inferior forms of evolution. The individual submerged in the crowd thus becomes a mindless puppet capable of performing any act, however atrocious or heroic.

Although many have criticized Le Bon's theory and his politics—the two are not unrelated—the influence of *La Foule* in science and society has been huge. His book is a scientific bestseller. But Le Bon was also controversial. He was popular with politicians of the right, including Benito Mussolini, Joseph Goebbels, and Adolf Hitler. Although one should not blame Le Bon for the atrocities of fascism, his writings did blend science with a shot of far-right politics. His

analysis of the crowd was clouded by fears of communism and trade unionism; he also gave race a prominent place in his theory.

As a result of his politics, Le Bon is rarely credited for his contribution to social psychology. But when Leon Festinger, Albert Pepitone, and Theodore Newcomb coined the term *deindividuation* in 1952, they borrowed core ideas from Le Bon. Their starting point was Le Bon's characterization of the crowd as irrational, disinhibited, and antinormative. What psychological process could explain this? The answer lay in the lack of accountability in the crowd, inducing a feeling among people in the crowd of being unaware of themselves. This process is called deindividuation.

Over the subsequent decades, deindividuation theory was developed and expanded. Interestingly, the psychological process that deindividuation referred to gradually shifted. By the 1990s, deindividuation had become a loss of awareness of the self. But both aspects of what became known as deindividuation (lack of accountability and lack of self-awareness) were processes already identified by Le Bon.

In other ways, deindividuation theory did move away from Le Bon. The most important difference is that deindividuation is defined as an absence of individual identity. Le Bon argued that the crowd replaces individual identity by a collective mind. But the collective mind plays no role in deindividuation theory. In fact, deindividuation theory did not offer any systematic analysis of social influence to explain how the actions of the crowd were guided or controlled.

### Deindividuation Research

In the 1970s, deindividuation became a popular area in group research. Many laboratory studies tested the prediction that anonymity leads to disinhibition. Often participants were dressed in uniforms or cloaks and hoods to render them anonymous, and they were placed in a situation where they could display aggressive or anti-normative behavior (as in the Stanley Milgram's studies of obedience). Their actions were compared with a plain-clothed control group. Unfortunately for deindividuation theory, the empirical support was inconsistent. Overview articles written in 1977 and 1980 concluded that there was virtually no evidence for the psychological state of deindividuation.

Partly to overcome these obstacles, the focus of deindividuation theory moved away from anonymity during the 1980s. Most studies from that period induced

deindividuation by getting participants to focus attention outward in other ways. But despite more and more extreme (and increasingly contrived) experimental designs, many studies simply failed to support deindividuation theory or reported contrary results. A *meta-analysis* (combining all experimental results in one overarching analysis) of deindividuation studies conducted in 1998 concluded that large groups and crowded anonymous settings do not increase disinhibition and antinormative behavior. Even the reduction of self-awareness in more direct and invasive ways does not yield consistent evidence of disinhibition. Four decades of research failed to confirm the theory.

### Reconceptualizing Deindividuation

To explain the failure of deindividuation theory, researchers revisited its starting assumptions about crowds. These were largely based on Le Bon, but he, as noted, was strongly biased against crowds, seeing them as a left-wing threat to civilization. He claimed *all* collective behavior was irrational. But if Le Bon's portrait of the crowd is wrong, then deindividuation theory set out to explain the wrong phenomenon.

Systematic research of crowds throughout history shows that Le Bon's characterization of crowds was wrong. Although almost everyone is appalled by lynch mobs, Kristallnacht, and the Rwandan genocide, we should not let our horror and fears at the outcome cloud our analysis of the process. Violence in crowds is very rare and usually a last resort when other means of action are exhausted. But when it does occur, crowd historians have witnessed preciously little chaos and randomness. Most crowds behave orderly and restrained. Even when they loot and pillage and rape, crowds display a considerable amount of organization and structure to their atrocities. Far from blindly pursuing destruction, the crowd is normally propelled by moral beliefs and consensus. Moreover, its violence is not random but targeted and symbolic of its purposes (e.g., Islamist crowds would attack Western tanks or non-veiled women but not their own mosques). Of course there are cases in which the moral principles of the crowd are completely alien to ours, and their logic might be warped. But to advance understanding of crowd psychology, it is important to acknowledge that, to the members of the crowd, their actions make sense.

The implication for crowd psychology is profound: Collective behavior (however atrocious) can be under conscious control. Le Bon's observation that crowd members are somehow automatically and inevitably

mentally incapacitated and irresponsible is simply false. In some sense, this is a disturbing (if unsurprising) conclusion—it means that people are capable of committing the vilest atrocities willingly. But in another sense, it is constructive and positive: If crowd members make conscious decisions about how to act, then we can influence their behavior and hold them personally responsible if they violate the law. It also means that we can set out to provide a better explanation for collective behavior, namely, one that tries to understand how the actions of the crowd are socially regulated (rather than why they are chaotic).

Taking this new perspective, a large body of field research of crowds has noted that group norms inform collective action. Other field research has noted that crowd members act as a collective identity (which also comprises a set of norms). Yet more field research has documented that collective identities emerge and change in an intergroup dynamic (e.g., between demonstrators and police). It follows that the police can influence the crowd by changing its tactics. Insights from this research have had a major impact on public order policing in Europe, and these new strategies seem to pay off—"football hooliganism" has declined considerably in recent international matches.

These new insights have also been tested in experimental research of deindividuation effects. Results are broadly consistent with field studies of crowds and historical evidence. Thus, the settings which were originally thought to "deindividuate" participants were actually making them more responsive to situational norms. For example, making participants anonymous by dressing them in cloaks and hoods leads to greater aggression. But dressing them in nurses' uniforms reduces it. Anonymity does not render people unthinkingly violent. Rather, anonymity increases their responsiveness to the normative cues present in their immediate environment.

Put together, experimental and field research suggest that crowd behavior is guided by a collective identity that emerges in the crowd. This common identity may become accentuated or polarized if an opposing group (such as the police) acts upon the crowd as if it were one, for example, by deploying indiscriminate tactics of crowd control. It is this collective identity which normatively regulates the actions of individuals in the crowd and which gives them a common goal.

In conclusion, social psychologists' understanding of deindividuation has advanced enormously. Contemporary studies of collective action have moved away

from the assumption that crowd members lose their identity. Instead, collective action is explained as the result of “normal” processes of social influence and intergroup relations. In this contemporary perspective, deindividuation is the transformation of a collection of distinct individuals into a group with a collective identity.

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*See also* Aggression; Crowding; Group Decision Making; Group Identity; Self-Awareness; Stanford Prison Experiment

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## DELAY OF GRATIFICATION

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### Definition

Delay of gratification requires resisting the impulse to take an immediately available reward, in the hopes of obtaining a more valued reward in the future. For example, a person who wakes up feeling tired can make the impulsive choice of going back to sleep or can delay gratification by getting up, making coffee, going to work, and hence feeling productive and alert. The ability to delay gratification is an essential to regulating or controlling oneself.

### Background

The dilemma of whether to give in to temptation or to resist in favor of a long-term benefit has plagued

humans from the beginning of time. It has been discussed in every major philosophical and religious tradition. Best known to those of Judeo-Christian background is the story of Adam and Eve eating the forbidden fruit. By giving in to this very first temptation, Adam and Eve forfeited the rewards of living under God’s care in the Garden of Eden. At the same time, people gained a greater awareness of the consequences of their choices. Indeed, this awareness may be what makes human life unique.

In addition to the fundamental desires that support humans’ basic needs, Henry Frankfurt, a philosopher, points out that humans form second-order desires, which are desires to change those fundamental desires. For example, a teenager falling in love for the first time experiences sexual desire but at the same time may feel a second-order desire to remain abstinent to adhere to a moral code or to avoid the risks that come with sexual activity. Second-order desires emerge from our ability to anticipate the future and recognize a long-term benefit to suppressing our immediate impulse. Indeed, the capacity to delay gratification is essential to human accomplishment and thus has become an important topic for psychological inquiry.

### A Classic Experimental Situation

To study the conditions that promote delay of gratification, Walter Mischel and his colleagues designed an experimental situation in which an experimenter sets up a challenge for a child. The child is asked to choose between a larger treat, such as two cookies, and a smaller treat, such as one cookie. After stating a preference for the larger treat, the child learns that to obtain that treat, he or she must wait for the experimenter to return. The child is also told that if he or she signals the experimenter, the experimenter will return, and the child will receive the smaller treat. Thus, the smaller treat is available now, but the larger treat requires waiting. To get the larger treat, the child must resist the temptation to get an immediate treat.

This experimental situation has proven very useful both in demonstrating the importance of the ability to delay gratification and in identifying strategies that make it possible for children to delay. Children who are best able to wait in this situation at 4 years old are more socially and academically successful as high school students and they earn higher Scholastic Aptitude Test (SAT) scores. The procedure adapted for adolescents by Edeldgard Wulfert and his colleagues has revealed that middle and high school students who

waited a week for a monetary reward earn higher grades, show less problem behavior in school, and are less likely to use cigarettes, alcohol, and other drugs than their peers who chose not to wait.

### The Warm/Cool Model

By varying the situation, researchers have learned what enables children to wait effectively. Waiting is made more difficult when children attend to the *hot* or emotional aspects of the reward; waiting is easier when children attend to the *cool* or intellectual aspects of the situation. For example, children who are told to think of marshmallow rewards as little fluffy clouds are better able to wait than those who are told to think of the sweet, chewy texture of the marshmallows.

Good waiters have learned ways to distract themselves from the hot rewards and instead activate their cool systems. A child with a good ability to delay might sing a happy tune to him- or herself and look around the room while waiting. A child with a poor ability to delay might instead focus on the cookie and its satisfying sweet taste. Children improve in their cooling strategies over time. Almost all adolescents can easily endure the 10-minute wait that is very challenging for a preschooler.

Unfortunately, the cool system is most difficult to access when it is needed most. Stress impairs the ability to delay gratification. The first semester in college, for example, when it would be quite advantageous to control urges to drink and eat excessively, is a time when these urges are frequently indulged. In addition, chronic stress during childhood impairs the development of the ability to delay gratification.

This program of research has gone a long way toward mapping how people's ability to delay gratification develops and has highlighted just how useful waiting can be. It does not, however, address people's capacity to use this ability judiciously.

### Delay as a Motivational Tendency

Rather than conceptualizing delay of gratification as an ability, Jack Block, David Funder, and their colleagues have identified it as one expression of ego control, a person's more general tendency to inhibit impulses. On the low end of this continuum is the undercontrolled individual who spontaneously expresses his or her wants, without concern about the future. On the high end is the overcontrolled individual who restrains the self, even when it is not necessary. Both undercontrol

and overcontrol are maladaptive. The undercontrolled individual is unable to work toward long-term goals, such as pursuing a challenging career path. The overcontrolled individual misses opportunities to experience pleasure and express feelings.

To measure this tendency to delay, these researchers developed an experimental situation in which children are shown an attractively wrapped present and told that it is for them, but that it will be set aside while they work on a puzzle. Delay of gratification is measured by the degree to which the child resists attending to and opening the gift. It is clear to the child that he or she will receive the gift regardless of his or her behavior, and so in this situation, delay behavior is not necessarily adaptive.

### Gender Differences

Interestingly, delaying gratification in this experimental situation has more positive implications for girls than for boys. Girls who delay are described by adults who know them well as "having high intellectual capacity" and being "competent" and "resourceful," while those who do not delay gratification are described as being "emotionally labile" and "sulky or whiny." Boys who delay gratification, on the other hand, are described as "shy and reserved," "obedient," and "anxious," while boys who do not are described as "vital, energetic, and lively" and "self-assertive." These differences may reflect the value our culture places on self-control for girls, while revealing a cultural acceptance of a certain degree of impulsivity among boys. In this way, the culture may encourage boys to develop behavior patterns that can cause them many problems later in life.

Clearly then, waiting is not always rewarded, and it can be a tricky business, especially for boys, to learn when to wait and when to indulge. Hence, in real life, delay of gratification is a function of both ego control and what these researchers call *ego resiliency*, or the capacity to be flexible and skillful in making social decisions. Such decisions can be more complicated than they appear at first.

### The Behavioral Economics Approach

The clever approach taken by Howard Rachlin illuminates the logic that leads to a cycle of impulsivity, even when the delayed alternative is clearly advantageous in the long run. In a self-control dilemma, the impulsive choice will always produce greater pleasure. The overeater, for example, will be given

a boost by a tasty snack. Whether the overeater is in a festive mood or in a depressed state, that tasty snack will make him or her feel better than he or she presently feels. The problem, of course, is that too many tasty snacks will eventually make the overeater miserable.

Even if the overeater has accepted the goal of lowering his or her calorie intake, having the snack now can be justified. This one last snack will not make a difference. After it, the overeater can abide by his or her long-term intention and derive the health and appearance benefits of a lower weight. And so it goes, with the short-term option often having more value in the present than the delayed option, leading the unwitting individual down the primrose path to addiction.

### Implications

Given the emotional appeal of the short-term option, it is impressive that children learn to wait. Mischel's work has shown that it is a well-developed cool system that allows them to do so. Funder and Block point out that people are naturally inclined toward hot or cool responses, and that adaptive responding depends on our ability to know when waiting makes sense. According to Rachlin, knowing is not enough. People need to commit to adaptive patterns of action rather than considering actions individually. In doing so, they are working together with their future selves to create a life of the highest subjective value over time. While challenging, such a quest for happiness is a uniquely human opportunity.

*Regina Conti*

*See also* Ego Depletion; Self-Regulation

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## DEMAND CHARACTERISTICS

### Definition

Demand characteristics are any aspect of an experiment that may reveal the hypothesis being tested or that may cue participants as to what behaviors are expected. Cues that may reveal the true purpose of an experiment can be embedded in information conveyed in the solicitation of participants, instructions given to participants, the tone of voice of the experimenter, gestures used by the experimenter, feedback given to participants (e.g., feedback about performance or personality characteristics), the laboratory setting, the design of the study, or rumors spread by others who have participated in the study.

The possibility that demand characteristics are present within a study is problematic. If participants guess what the hypothesis is, they might not act naturally, causing the results of the experiment to be inaccurate. The presence of demand characteristics could even lead to the good subject effect, where participants are overly cooperative and behave in such a way that confirms the hypothesis of a study. Put another way, if an experiment suffers from demand characteristics, then its findings are considered neither valid nor meaningful. Demand characteristics can ruin an experiment.

### Evidence

One study demonstrated how demand characteristics could influence the outcome of an experiment by recruiting participants for what they believed to be a sensory deprivation study. In this study, participants sat in a small but comfortable room for 4 hours. Participants in the experimental group, who were asked to sign a form releasing the experimenter from liability if anything happened to them during the experiment, and given a “panic button” to push if they felt overly stressed by the deprivation they were led to believe they would experience, exhibited signs of distress. Those in the control group, who did not sign a release form, were not given a panic button, and were not given the expectation that their senses were being deprived, did not exhibit signs of distress.

### Reducing Demand Characteristics

There are several ways to reduce demand characteristics present within an experiment. One way is through

the use of deception. Using deception may reduce the likelihood that participants are able to guess the hypothesis of the experiment, causing participants to act more naturally. Experimenters can also conduct a manipulation check, in which they ask participants what they thought the true purpose of the study was. This allows experimenters to assess whether or not participants correctly guessed the hypothesis of the study. A third way to reduce demand characteristics is to include a placebo control group in the experiment. Those in the placebo control group think they are receiving treatment (e.g., drug X), but in reality they are not (e.g., a sugar pill). Finally, experimenters can conduct field research, research that takes place outside of the laboratory in a real-world setting, to reduce demand characteristics.

*Ginette C. Blackhart*

*See also* Deception (Methodological Technique); Reactance; Research Methods

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## DEPENDENCE REGULATION

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### Definition

Dependence regulation refers to people’s tendency to adjust how close they allow themselves to be to a significant other to match the perceived risks of rejection. People risk greater closeness when they are more confident that their relationship partner accepts them and regards them positively (and the risk of rejection is perceived to be lower). In contrast, people find less to value in relationships where they are more uncertain or doubtful about the other’s regard for them (and the risk of rejection is perceived to be higher). People regulate dependence so that they can protect against

the potential pain of rejection in advance by devaluing relationships where rejection seems likely. After all, it should hurt less to feel rejected if people can convince themselves that they did not really care all that much about the partner that hurt them in the first place.

### Background and History

Psychologists interested in studying bonds between parents and children and between adults in romantic relationships have long recognized that relationships are inherently risky. Depending on another person, and coming to love and value them, gives that person tremendous power over one’s emotions and welfare. Having one’s needs met by a significant other can be a great source of happiness, but having one’s needs ignored by that same significant other can be a great source of unhappiness. Consequently, situations of dependence—situations where one person relies on another person to meet his or her needs—raise anxieties about rejection and disappointment.

Imagine an interaction between spouses, Harry and Sally. When Harry has broken a promise to spend an evening out with Sally, Sally must decide whether to risk letting her welfare depend on Harry’s actions again in the future. Deciding not to trust Harry’s promises protects Sally from feeling rejected or let down in the future. However, such a cautious or self-protective choice also limits Harry’s future opportunities to demonstrate his trustworthiness, putting the well-being of the relationship at greater risk.

Relationships thus present a central context where two fundamental motives—the need to protect against the potential pain of rejection and the need to establish satisfying connections to others—can frequently conflict. For people to put concerns about rejection aside psychologically, they need to be able to give themselves some sort of assurance that the risks of rejection are minimal. A sense of confidence in a relationship partner’s positive regard and caring provides the psychological insurance policy people need to establish and maintain satisfying and fulfilling connections to others.

### Evidence

To establish the needed level of confidence in a relationship partner’s positive regard and acceptance, people need to believe that this partner sees positive

qualities in them worth valuing. To feel confident of Harry's regard, for instance, Sally needs to believe that Harry sees her as warm, and smart, and responsive. Once established, this level of confidence in a partner's regard has a transforming effect on relationships.

Dating and marital relationships and parent-child relationships generally thrive when people both feel and are more valued by their relationship partner. For instance, in both dating and marital relationships, people report greater satisfaction and less conflict the more positively they believe their partner sees their traits, the more loved they feel, and the more positively their partner actually regards them. As for the qualities people attribute to a romantic partner, people in both dating and marital relationships are more likely to see the best in their partner's traits when they believe their partner loves and values them. Feeling positively regarded by a partner also predicts increases in satisfaction and decreases in conflict as relationships continue over time.

## Implications

Unfortunately, some people do not have an easy time believing that their partner loves and values them. In dating and marital relationships, people who generally feel badly about their own worth—that is, people with low self-esteem—dramatically underestimate how much their partner loves and values them. Children with low self-esteem also underestimate how much their mothers love and value them. In contrast, people with higher self-esteem better appreciate how much others value them.

For people with low self-esteem, unfulfilled needs for a partner's positive regard and approval then create substantial difficulties within their relationships. First, feeling undervalued, people with low self-esteem look to specific events in their relationships to try to figure out whether their partner really cares about them. However, they are much more likely to read into negative than positive events. For a low self-esteem person, a routine event, such as a conflict or a partner being irritable, then exacerbates the fear that their partner does not really care about or value them. In fact, low self-esteem people tend to perceive rejection in situations where their partner may be behaving quite benignly. Low self-esteem people then protect themselves against such heightened anxieties by finding

greater fault in their partner and by reducing closeness. By lashing out in return, low self-esteem people can effectively diminish the pain of this perceived rejection. Unfortunately, however, such reactions then have the effect of annoying and upsetting a partner who was not actually upset in the first place.

A dramatically different sequence of events is likely to occur for someone with high self-esteem. People with high self-esteem are not likely to be on the lookout for problems, because they are generally more confident of their partner's positive regard and love. Instead, they are able to mentally transform negative events in their relationships, seeing even events like conflicts as a testament to their partner's love and caring. In situations where they feel hurt or rejected by their partner, people with high self-esteem also resist the impulse to hurt the partner in return. Instead, they take such events as an opportunity to draw closer. Consequently, people with high self-esteem are better able to cope with relationship ups and downs. An understanding of dependence regulation dynamics can be applied to explain why some people are involved in less satisfying interpersonal relationships than others.

*Sandra L. Murray*

*See also* Need to Belong; Positive Illusions; Rejection; Rejection Sensitivity; Self-Esteem

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## DEPRESSION

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### Definition

Depression is a common disorder primarily characterized by either a low or depressed mood or a loss of interest or pleasure in nearly all activities. Many additional symptoms are often present in the disorder, such as changes in weight, appetite or sleep patterns, fatigue, difficulty with concentration or decision making, moving more slowly than usual or agitation, feelings of worthlessness or guilt, and suicidal thinking. To receive a diagnosis of major depression, an individual must have at least five of these symptoms, causing significant impairment in functioning, nearly every day for at least 2 weeks. Biological, cognitive, and interpersonal factors have all been shown to play a significant role in the development and treatment of the disorder.

### Background and Significance

In addition to being extremely common, depression also has serious consequences. Up to 25% of individuals may experience depression at some point in their lives, and the disorder leads to significant problems in social and occupational functioning and heightened risk for suicide. It is also recurrent, with individuals who have experienced one episode of depression having a very high risk for future episodes. No one approach to the study of depression can provide a complete picture of the disorder, and different areas of research provide a variety of insights. Common perceptions of depression often emphasize the role of biological factors and medical treatments, and neurotransmitters, such as serotonin, have been found to be different in individuals who are experiencing or are at risk for depression. Genetic factors may also play a role, as those with relatives who have the disorder are also at somewhat higher risk. In addition to these biological factors, however, psychological factors have been found to be very important in understanding the development and treatment of depression, and this entry will focus on current research on the cognitive and interpersonal factors involved in the disorder.

Studies conducted on college students have been an important part of the development of all of the major psychological theories of depression. Many social psychologists and other depression researchers are interested in examining the possible origins of

depression; to this end, they examine mild levels of depression experienced by college students and its association with their cognitions or interpersonal relationships. While these mild levels of depression are very different from the full syndrome of clinical depression, small, theoretical studies often provide the first information supporting a new theory of depression, which is later tested on larger and more diverse samples. Understanding how mild symptoms of depression increase over time and in response to a variety of factors provides a good starting point for more intensive clinical research on depression.

### Psychological Theories of Depression

#### *Cognitive Processes and Depression*

One of the most common features of depression is its impact on an individual's thoughts, and a persistent pattern of negative thoughts plays a prominent role in the disorder. The cognitive theories of depression describe how an individual's pattern of thoughts or interpretations may increase risk for depression as well as being a part of, and helping to maintain, an episode of depression after it has started.

*Attributions, Hopelessness, and Depression.* One of the earliest cognitive developments in the study of depression was based on Martin Seligman's work on learned helplessness. This research proposes that an individual's interpretations, or attributions, about the causes of events can lead to a feeling of helplessness, which can lead to depression. Individuals who tend to make internal (i.e., the event was caused by something about the self), stable (the causes of the event are unlikely to change over time), and global (the causes of the event also have a negative impact on other areas of the individual's life) are said to have a negative attributional style, which is associated with depression. The more recent hopelessness theory of depression proposes a process by which an individual's attributional style may lead to the development of depression in some individuals. A negative attributional style places an individual at risk for depression, and in these people, the occurrence of negative life events can lead to attributions causing hopelessness, which then leads to depression.

*Beck's Cognitive Theory of Depression.* Another cognitive theory of depression was developed by Aaron Beck. Beck's cognitive theory of depression focuses on the persistent negative thoughts of depressed individuals.

In this theory, individuals who have, or are at risk for, depression have negative mental schemas, or automatic patterns of viewing themselves and the world. Their experiences are filtered through these schemas, leading to certain automatic negative thoughts. These distorted thoughts about the self, world, and future are automatic in a variety of situations, and the depressed person has difficulty coming up with more positive, adaptive thoughts which might help reduce the symptoms of depression.

*Cognitive Therapy for Depression.* Cognitive theories of depression have led to the development of cognitive therapy, one of the most successful and common forms of treatment for depression. Cognitive therapy works to identify and challenge the automatic negative thoughts of the depressed individual. Over time, the negative cognitive style of the individual becomes less biased, and depression is reduced. Cognitive therapy is highly effective, and clinical trials have shown it to be at least as effective as medication in treating depression and preventing its recurrence.

### ***Interpersonal Processes and Depression***

Depression has a significant negative impact on interpersonal processes and relationships. Patterns of negative interpersonal behaviors, leading to increased stress or even rejection, have been observed in depressed individuals and may be a part of the process that maintains a depressive episode.

*Feedback-Seeking Behaviors and Depression.* Research has shown that depressed individuals are highly interested in different kinds of feedback from others. One such interpersonal process that has been linked to depression is excessive reassurance-seeking, which was initially described as part of James Coyne's interpersonal theory of depression. Some individuals who are experiencing, or are at risk for, depression may continually seek reassurance from others as to their own worth. This process has been shown to lead to rejection by others and increased depression. Another, opposite behavior has also been associated with depression and is based on William Swann's self-verification theory. This theory states that individuals desire feedback from others that will maintain their consistent views about themselves. As this theory predicts, research has shown that depressed individuals desire, and may even seek, negative feedback from

others that confirms their negative self-views. Even though desired, negative feedback may lead to increased feelings of depression. Additionally, the process of feedback-seeking may be aversive to others and has been associated with increased rejection.

*Stress Generation and Contagious Depression.* Depression has a strong impact on the relationships and experiences of the depressed individual. Negative life events generally have been found to place an individual at risk for depression, but one unusual effect that has been observed in depression is stress generation, which refers to the tendency for depression to lead to increases in negative life events. The processes involved in stress generation are unclear, but the interpersonal stress and rejection that can be caused by depressive behaviors may play an important role. Depression has also been found to be "contagious," in that the significant others of depressed individuals are likely to experience symptoms of depression. All these negative interpersonal processes put strain on an individual and his or her relationships and may operate in a cyclical way in the development and maintenance of depression.

*Interpersonal Therapy for Depression.* Many different interpersonal processes are involved in depression, and although no therapy has been developed to specifically address the individual processes, interpersonal therapy for depression is a type of psychotherapy that naturally addresses some of these issues. Interpersonal therapy examines the interpersonal patterns of a depressed individual's life and then focuses on specific interpersonal problem areas. Interpersonal therapy has been studied in clinical trials and has been shown to be effective in treating depression.

### ***Implications***

Diverse psychological and biological processes play a role in depression. Negative cognitive and interpersonal processes have been shown to be prominent aspects of the disorder and may also act as risk factors for the disorder. Depressive thoughts and interpersonal behaviors may work together in contributing a negative cycle, maintaining depression and adversely affecting many areas of an individual's life. Despite this, psychotherapies have been developed that can alleviate many of these problems and are highly effective in the treatment of the disorder.

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*See also* Learned Helplessness; Schemas; Self-Verification Theory; Stress and Coping

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## DEPRESSIVE REALISM

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### Definition

Depressive realism refers to the findings that depressed individuals tend to be more accurate or realistic than nondepressed persons in their judgments about themselves. Specifically, research suggests that nondepressed people are vulnerable to cognitive illusions, including unrealistic optimism, overestimation of themselves, and an exaggerated sense of their capacity to control events. This same research indicates that depressed people's judgments about themselves are often less biased.

### Context and Importance

Depressive realism is provocative for two reasons. First, it contradicts both the intuitions of common sense and the mental health profession's assumption that mental health should be associated with a high capacity to perceive and test reality. Second, depressive realism also presents a serious challenge to cognitive theories of depression, which have become increasingly important over the past 30 years. According to cognitive theories, depressed individuals make judgments about themselves that are unrealistic, extreme, and illogical, and cognitive therapy for depression is designed to correct these irrational perceptions. If depressed people already view themselves realistically, their thought patterns may not need the correction that cognitive therapists propose to provide. In fact, there is good evidence that cognitive therapy

works to alleviate depression, but it may work by training patients to construct optimistic illusions about themselves rather than by teaching them to think more realistically.

The study of depressive realism also may serve as a bridge between clinical and experimental psychology. Unlike neuropsychologists and visual perception researchers, clinical psychologists rarely have studied abnormal functioning to develop theories about normal psychology. However, an understanding of depressive realism may allow psychologists and researchers to see the adaptive functions of optimistic biases in normal human thinking.

### Evidence

What is the evidence for depressive realism? In one of the first studies, depressed and nondepressed undergraduates were asked to judge their degree of control over an outcome of a button-pressing task. The experimenters systematically varied the actual degree of control as well as the frequency and valence (good or bad) of the outcome. Nondepressed students judged incorrectly that they had control over good outcomes but not bad ones. Depressed students might have been expected to show the opposite bias; instead, they were consistently accurate judges of their control over events. Many other studies of depressed children, college students, and older adults have confirmed these results. Experiments also show that depressed people are better than average at predicting events in their own lives, especially misfortunes. The participants in most of these studies were only moderately depressed, but it is not clear that even severely depressed people are unrealistically pessimistic. The evidence is mixed; some studies have found that even patients hospitalized for depression are quite realistic about themselves.

Depressive realism and nondepressive optimistic illusions are also seen in social situations. One study found that normal individuals and psychiatric outpatients who were not depressed rated their own social competence much higher than objective observers did. Depressed patients, in contrast, agreed with the observers. There is also evidence that depressed individuals are better at evaluating the impression they make on others and that depressed mothers report their children's behavior more accurately than do nondepressed mothers.

However, depressed people are not more realistic in judgments about others. Studies consistently find that although nondepressed people succumb to optimistic

illusions about themselves, they are fairly unbiased in judging others. Depressed individuals do the opposite. For example, depressed students judge their own control over outcomes accurately but judge incorrectly that others have control over good outcomes that were actually uncontrollable. In another study, depressed and nondepressed undergraduates and psychiatric patients were asked to predict whether the roll of two dice would have a successful outcome, defined as a 2, 3, 4, 9, 10, 11, or 12 (a 44% chance). When subjects rolled the dice themselves, depressed students and patients made more accurate predictions. When experimenters rolled the dice, nondepressed students and patients guessed more accurately.

Does depression cause people to be more realistic about themselves, or does realism about the self make one more vulnerable to depression? Research suggests that it works both ways. When experimenters used mood inductions to make nondepressed students feel temporarily depressed and depressed students feel temporarily elated, their susceptibility to illusions of control was reversed. But, individuals with optimistic illusions of control are also less vulnerable to depression under stress. After performing a task measuring their judgments of control, undergraduates were asked to solve problems with no answers. Their mood was assessed immediately before and after the inevitable failure on the unsolvable problems. At this time and a month later, they also completed a checklist of depressive symptoms. At the second time, they also listed stressful life events they experienced in the previous month. The students who were realistic about their control over outcomes on the original task showed more symptoms of depression after they failed to solve the unsolvable problems and more depression a month later if they experienced many stressful events during the month. Students with strong illusions of control on the original task did not become more depressed when they failed to solve the problems or a month later even if they had experienced many negative life events. Thus, depression and realism appear to be interdependent.

### Implications

The nondepressive tendency to engage in overly optimistic thinking about oneself may have adaptive behavioral and emotional consequences. Optimistic illusions may function to enhance self-esteem, increase resilience under stress, increase capacity for persistence, and decrease vulnerability to depression. It is

ironic from the standpoint of the cognitive theories of depression, but maladaptive features of depression such as low self-esteem, sadness, and decreased persistence might result from the loss of normal, healthy personal illusions.

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*See also* Depression; Illusion of Control

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## DEVIANCE

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### Definition

Deviance is a broad term meant to signify behavior that violates social norms. The origins and functions of deviant behavior have long been of interest in the social sciences, with early sociological theories influencing the psychology theories that followed.

### Sociological Theories

#### *Structural Functionalism*

One broad sociological approach to the study of deviance was structural functionalism. This viewpoint focused attention on social institutions in societies. Social institutions are organizations that fulfill vital roles in society and that promote the continued existence of society (e.g., the criminal justice system, the courts, the family). Institutions bind individuals together by promoting social norms that define right and wrong.

Émile Durkheim, an early structural functionalist, introduced the notion of *anomie*, a precursor to modern conceptions of deviance. Anomie was conceived of as a psychological state created when social norms fail to affect how an individual acts. Robert Merton

expanded on the concept of anomie by showing two dimensions upon which individuals might deviate from social norms. First, they can reject the normative goals of society (e.g., wanting to support a drug habit rather than a family). Second, they can reject the normative means of achieving goals (e.g., stealing money rather than earning it from an employer). Alternatively, an individual can seek radical changes to society, changes that alter its normative goals and means. As an example, an American citizen might reject his or her society's embrace of capitalism in favor of community and might advocate for socialist policies as a way of promoting this new social agenda.

The strength of structural functionalism was that it drew attention to the role that society plays in defining right and wrong. Deviation from social norms was not viewed as a property inherent to certain actors. It instead was viewed as something social institutions create to preserve the society. The major weakness of this approach was that it did not elaborate on the individual-level mechanisms that cause people to deviate. In fact, structural functionalists tended to question whether one could understand the whole (society) by examining the parts (the individual).

### **Symbolic Interactionism**

Some scholars were interested in the component parts, and this contributed to the rise of symbolic interactionism within sociology. Symbolic interactionists examine how individuals construct social meaning through their interactions with other people. A key concept is the *looking-glass self*, coined by Charles Horton Cooley. Accordingly, individuals cannot find a personal identity by looking inward but must instead adopt the viewpoints of other people. The tendency to incorporate the opinions of others into the self can lead to a self-fulfilling prophesy, such that individuals become the very people they are thought to be by others.

Because symbolic interactionists focus on the opinions of other people, many of these scholars have focused attention on the majority opinions found in societies. Howard S. Becker followed such an approach. He argued that social institutions create accepted labels that give meanings to actions. Over time, he argued, people come to accept the labels society gives them. For instance, a society might create the negative term *thief* as a way of deterring crime, but people who are labeled in this way (e.g., by the criminal justice system) might

come to identify with their label and then commit more crimes.

### **Group Dynamics**

Although symbolic interactionism succeeded in bringing the individual into the discussion on deviance, it largely ignored the harder question that was of interest to structural functionalists: Why do social groups categorize certain people as deviant? It was this question that early psychological theories sought to address. The most influential of these traditions was the group dynamics approach, which was started in the 1940s by Kurt Lewin and his students and colleagues at the Research Center for Group Dynamics. This perspective emphasized two broad psychological tendencies that were thought to generate pressures to conform.

The first tendency was the need for *social reality*. It was thought that individuals possess an epistemic need to possess both certain and veridical knowledge. Individuals can satisfy this need by joining groups with like-minded individuals. For this reason, groups tend to punish and reject opinion deviants, because these individuals threaten a shared social reality. The second tendency that generated conformity pressure was the desire to succeed. Social groups often form as a way of helping individuals accomplish their goals. *Group locomotion* toward a shared goal thus creates uniformity pressures within the group, and so groups that are driven to succeed should identify and then punish deviants who stand in the way.

### **Implications**

These three broad approaches to deviance differ considerably in their assumptions, but each offers a valuable and complementary view. A structural functionalist approach emphasizes external forces that define deviance (e.g., social institutions). This draws attention to complex social systems and larger societal needs, that is, needs that occur outside the individual. A group dynamics perspective focuses attention on internal psychological forces and the individual's need to maintain a coherent social reality and to succeed. Symbolic interactionism splits the difference between these two extremes. It shares the structural functionalist emphasis on external causes (others' opinions), but it focuses attention on individual-level

mechanisms (the looking-glass self). In a way, structural functionalism and group dynamics are the most alike in that they want to reveal the ultimate cause of deviance. Structural functionalism locates this cause in the needs of societies to endure, whereas group dynamics locates this cause in the needs of the individuals to know and to grow. If symbolic interactionism is less ambitious for not seeking the true cause of deviance, it is also more generous in that it can accommodate causes that arise from society and the individual.

*Hart Blanton*

*See also* Group Dynamics; Looking-Glass Self; Normative Influence; Symbolic Interactionism

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## DIAGNOSTICITY

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### Definition

Diagnosticity refers to the extent to which a source of data can discriminate between a particular hypothesis and its alternatives. In social situations, individuals often observe others' behaviors and attempt to form an impression about their personality and aptitudes. As part of this process, individuals test dispositional hypotheses, namely, hypotheses regarding others' traits and abilities. Diagnostic sources of data are those that discriminate between possessing a particular trait or ability and not possessing the trait or ability.

For example, consider a situation in which a new classmate, John, does not respond to your welcome greetings and you want to know what kind of person he is. You may generate a hypothesis (e.g., "John is unfriendly"), gather information to test this hypothesis, and draw an inference based on the available information. Finding out that John "yelled at a fellow classmate in public" is highly diagnostic information, because such behavior is unlikely to occur unless John is an unfriendly person. Finding out that John dislikes parties has little diagnostic value. This information cannot distinguish between the hypothesis that John is unfriendly and the plausible alternative hypothesis that he is shy, as both unfriendliness and shyness may lead John to dislike parties.

### Background

When testing a dispositional hypothesis, one of two broad strategies, distinguished by the extent to which individuals consider alternatives to their chosen hypothesis, may be undertaken. One strategy, called *diagnostic hypothesis testing*, is employed when individuals search for evidence that bears on both the plausibility of their focal hypothesis as well as on the plausibility of its alternatives. By this strategy, individuals gather information that can distinguish between their chosen hypothesis and alternative ones. Once sufficient information has been gathered, their confidence in their conclusion is high only if the evidence is largely consistent with the chosen hypothesis and inconsistent with its alternatives.

In contrast to diagnostic testing, a second strategy, called *pseudodiagnostic hypothesis testing*, involves gathering and using information only according to its consistency with the chosen hypothesis. Alternative hypotheses are ignored, or it is simply assumed that information that is consistent with the focal hypothesis is inconsistent with its alternatives. In the previous example, individuals would only ask about John's unfriendly behaviors and not about his shy behaviors. They would then draw their conclusion on the basis of the extent to which the evidence is consistent with being an unfriendly person, without considering if this evidence is also consistent with other possibilities such as being a shy person. Compared to diagnostic testing, pseudodiagnostic strategy is simple, fast, and relatively effortless. However, when evidence is both consistent with the focal hypothesis and its alternatives,

pseudodiagnostic testing might lead to a confirmation bias, namely, a sense of confidence that the evidence supports one's chosen hypothesis when, in fact, alternative hypotheses may be true.

### Evidence

Research by Yaacov Trope and his colleagues has demonstrated that individuals are sensitive to diagnostic concerns when testing their hypotheses. That is, they consider alternative hypotheses when searching for information regarding a chosen hypothesis and weighing the evidence against these alternatives when drawing their inferences. For example, when individuals tested a hypothesis that a target person is an extravert, they preferred to ask questions about highly diagnostic introverted behaviors (being quiet) over questions about weakly diagnostic extraverted behaviors (engaging in athletic activities) and when testing a hypothesis that a target person is an introvert they preferred questions about highly diagnostic extraverted behaviors (being friendly) over weakly diagnostic introverted behaviors (listening to classical music). They were also more confident in their inferences when the answers to these questions provided more diagnostic evidence.

However, individuals do not always engage in diagnostic hypothesis testing. Whether individuals will engage in diagnostic or pseudodiagnostic strategies depends on cognitive and motivational resources. When individuals are distracted, their cognitive resources to process information are limited. Similarly, when individuals do not have incentive to reach an accurate conclusion, their motivational resources are low. Under such suboptimal conditions, individuals tend to perform pseudodiagnostic testing. Thus, if individuals are not motivated to reach an accurate conclusion or when they have other things on their mind, they will select and use information that only bears on their chosen hypothesis and ignore information relevant to alternative hypotheses.

### Implications for Dispositional Bias

In many real-life situations, individuals' behaviors are determined more by situational constraints and less by their personal dispositions. Factors such as group pressures, social norms, and situational stressors can affect the way individuals behave. For example, a person might react aggressively following a situation of strong provocation regardless of whether that person

is dispositionally friendly or unfriendly. Diagnostic testing of a dispositional hypothesis considers both the personal disposition (the focal hypothesis) and situational constraints (the alternative hypothesis) as potential causes of a person's behavior. Consequently, individuals using a diagnostic strategy will not attribute a behavior to the corresponding disposition when strong situational inducements to behave in a certain manner are present. For example, if John's reaction to your greetings occurred while he was in a hurry to class, then under diagnostic inference this behavior would not be attributed to dispositional unfriendliness since most individuals in this situation would behave in such a way regardless of whether or not they are friendly.

Pseudodiagnostic testing, in contrast, ignores alternative hypotheses and, therefore, may fail to give the proper weight to situational inducements in determining a person's behavior. Under pseudodiagnostic testing, John's behavior would still be attributed to dispositional unfriendliness, because the possibility that most individuals, not only those who are unfriendly, would have behaved in such a way when in a hurry is given little consideration. Pseudodiagnostic testing may thus produce a dispositional bias in the inferences individuals draw from others' behavior. This is particularly likely when individuals' processing and motivational resources are depleted. Under these circumstances, individuals are likely to rely on pseudodiagnostic testing and conclude that a person's immediate behavior reflects his or her corresponding personal disposition when alternative situational explanations are no less and even more likely.

### Diagnosticity in Self-Evaluation

Diagnostic and nondiagnostic testing strategies are relevant to questions about one's own dispositions and skills as well. Yet, when a person searches for information bearing on one's own attributes, other motivations besides reaching an accurate conclusion might play a role. Researchers have proposed three types of motives that guide testing of self-relevant information.

One motive is self-enhancement, namely, the motive to hold favorable self views and therefore seek positive feedback as well as avoid negative feedback regarding self-relevant attributes. A second motive is self-verification, namely, the motive to affirm preexisting self views. These two motives will lead individuals to seek information that may be nondiagnostic of their abilities and personality traits. That is, when self-enhancement goals guide processing of self-relevant

information, individuals will only accept information that can bolster their self-esteem, whereas information that might expose their liabilities will be avoided or rejected. Similarly, when self-verification goals guide processing of self-relevant information, individuals will only accept information that can affirm their existing self-views, whether positive or negative, whereas information that proves otherwise will be ignored regardless of its diagnosticity.

A third type of motive that guides self-relevant information processing is self-assessment, namely, the motive to hold accurate self-views that can help one predict the outcomes of future decisions and self-improvement attempts. When self-assessment goals regulate behavior, individuals will prefer diagnostic information regardless of whether it is positive or negative. Self-assessment may also lead to undertaking intermediate difficulty tasks. These tasks are diagnostic of one's ability because success is more likely given high ability, whereas failure is more likely given low ability. Easy or difficult tasks are nondiagnostic, because success on easy tasks and failure on difficult ones are highly likely regardless of one's ability level.

As in dispositional hypothesis testing, whether one will engage in diagnostic testing of self-relevant information depends on cognitive and motivational factors. Individuals are more likely to seek diagnostic feedback when they perceive the feedback as pertaining to changeable abilities rather than fixed abilities. This is particularly true for individuals who are uncertain or think that their ability is relatively low. Another factor that has been found to facilitate diagnostic self-assessment is positive mood. Individuals in a positive mood seek positive as well as negative feedback. In contrast, individuals in a neutral or negative mood tend to prefer positive, self-enhancing feedback. It has been proposed that positive mood buffers against the immediate emotional costs of negative feedback and attunes individuals to the long-term, learning benefits of diagnostic feedback.

*Ido Liviatan  
Yaacov Trope*

*See also* Decision Making; Inference

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## DIFFUSION OF RESPONSIBILITY

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Diffusion of responsibility is a concept that has been employed in several fruitful ways in psychology. First, consider a collection of persons, strangers, that faces an unexpected situation, such as that of a person who is suddenly in distress. Intuitively it is clear that each member of the collection of persons feels less responsibility to intervene in the situation than does a solitary individual who, knowing he or she is the sole witness, faces the same crisis alone. The solitary individual knows that if help is to come, it must come from him or her, while a witness who is a member of a crowd reasons that there are many other persons who could provide help.

Any reluctance a person has to intervene in this situation can be rationalized by this possibility. Reasons to be reluctant to intervene are present in many situations, such as fears of embarrassment for crying wolf when the situation is in fact no emergency, to fears of performing the necessary actions in an incompetent way, to fears for one's own personal safety. Social psychological research demonstrates that, in staged situations in which a victim is calling for help, this effect occurs; there is a markedly lower probability of each individual intervening as the apparent size of the group available to intervene increases.

In these experimental tests of the concept, it is usual to make the witnessing individual aware that other witnesses are also aware of the potential emergency but to make it impossible for the witness to know how the other individuals are reacting to the event. The reasoning here is that if they are aware of how the others react, this provides information about the others' definition of the event, which could also influence their reactions to it in ways not connected

with the diffusion concept. The attempt here is to model situations such as the famous Kitty Genovese killing, in which a person was killed in the courtyard of her apartment building. Neighbors at their windows were aware that other neighbors' were also witnessing the event but could not be aware of the exact reactions of the other neighbors to the event.

Diffusion of responsibility can arise in group decision-making situations as well. Assume that a decision needs to be made, and it is one of uncertainty or risk. That is, the decision outcome may be good, but it also may be bad. If the decision is made by one person, that person will worry about whether the decision he or she makes will be a bad one, because he or she will feel responsible for the poor decision. Also, others will hold that person responsible and criticize and perhaps punish that person. On the other hand, suppose that it is a group that is making a decision about what action will be taken. Again, intuitively, each individual participating in a group decision-making process will feel that he or she would not be so responsible for the joint decision outcome if the decision comes out poorly. After all, the decision would not have been made if others didn't agree with it. "So I was not really so dumb because everybody thought it was the right decision."

The diffusion idea is easily expanded to illuminate the often-observed phenomenon of social loafing. The task of a tug of war team is to win the tug of war, and the task of a group making a report in class is to turn out a really good report. But it won't surprise you to learn that people often expend less effort to achieve a goal when they work in a group than when they work alone. The reason is that they feel a diminished motivation to do their best when their own contributions to the product will be lost in the overall group product. This is why those who are clever at task design will often arrange things so that each person's true contributions to the task can be separately assessed and the group members know this is so. But in some ways, this is really nothing more than turning a group task back into a set of individual tasks. Happily, it is often not necessary to go this far to get high productivity out of the group. For instance, if the members are really committed to reaching the group goal, then social loafing is not likely to occur. It is also often possible to get efficiency gains by working in groups, by having different individuals take on the tasks that they do best.

*John Darley*

*See also* Bystander Effect; Decision Model of Helping; Social Loafing

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## DILUTION EFFECT

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### Definition

The dilution effect is a judgment bias in which people underutilize diagnostic information when nondiagnostic information is also present. Diagnostic information is knowledge that is useful in making a particular judgment. Nondiagnostic information is knowledge that is not relevant to the judgment being made. For example, if a medical doctor were making a judgment about a patient's condition, the patient's symptoms would be diagnostic information. The doctor might also know the patient's hair color, but because this information would not be useful in judging the patient's condition, it would be nondiagnostic.

When both kinds of information are present, people tend to underrely on diagnostic information in making judgments. Thus, the presence of nondiagnostic information weakens, or dilutes, the impact of diagnostic information on judgment. The dilution effect results in less-extreme judgments than those made using only diagnostic information.

### Background and History

The term *dilution effect* was first used by Richard E. Nisbett, Henry Zukier, and Ronald E. Lemley. These scientists observed that when research participants

considered both diagnostic and nondiagnostic information, they made less-extreme predictions about other people than when they considered diagnostic information alone. Michael C. Troutman and James Shanteau previously made a similar observation. They referred to the same phenomenon as the *nondiagnostic effect*. Although Troutman and Shanteau were first to report this judgment bias, it became commonly known by its later name.

The dilution effect conflicts with intuitive knowledge about how human judgment should operate. Logically, when people are given diagnostic information, they should make the same judgment whether or not they have access to nondiagnostic information. For instance, a professor's prediction of a student's future academic success should be the same if the professor knows only the student's grade point average as it would be if the professor knows both the grade point average and the student's color preference. Logically, color preference has no impact on future academic success. However, the professor is likely to underutilize information about the grade point average if color preference is also known, due to the dilution effect.

Differing explanations have been proposed for why the dilution effect occurs. It may in part be due to people's failure to distinguish clearly between diagnostic and nondiagnostic information. When people are given information and asked to make a judgment, it is reasonable for them to assume that all of the information they have been given is useful or diagnostic. Thus, they may give both kinds of information equal weight. Although this explanation raises important considerations about how the dilution effect is studied, it is not likely to account for it fully. The ability to distinguish between the two kinds of information does not seem to prevent susceptibility to the dilution effect. Even when people know that some of the information they have is nondiagnostic, it still influences their judgments.

Research relating the dilution effect to stereotyping has yielded information about another possible explanation. It may in part be due to the process by which people categorize others. In making a judgment, people may compare what they know about the person being judged to what they know about the social categories to which that person could belong. The more similar a person is to a category, the more likely that person is to be perceived as belonging to it. Diagnostic information helps in identifying a person's similarity to a possible category. Conversely, nondiagnostic information can

make the person seem distinct from typical members of the category. When nondiagnostic information is present, the person seems less similar to what is known about the possible social category, and thus categorization is weakened.

### Importance and Consequences of Dilution Effect

The dilution effect relates importantly to several real-life situations in which individuals must make judgments. It has been observed in a variety of settings and situations. It affects business judgments, consumer behavior, and social categorization.

Studies of financial auditing have indicated that auditors are susceptible to the dilution effect in assessing the risk that an auditee's records contain misstatements. Auditors' judgments indicate that they take into consideration nondiagnostic information, such as the auditee's field of business. This information weakens the effect of diagnostic information, such as previous misstatements in the auditee's records.

Marketers are aware that providing consumers with nondiagnostic information can decrease the extent to which they judge a product to be beneficial. When a marketing message contains information that is useful in judging a product's purported benefits as well as irrelevant information, the irrelevant information is likely to dilute the impact of diagnostic information. Consumers' likelihood of judging the product as beneficial is thereby weakened.

The dilution effect has a positive consequence in relation to stereotypes. In some circumstances, the dilution effect can reduce people's reliance on stereotypes in forming judgments. Nondiagnostic information can increase the extent to which a person is perceived as an individual rather than as a member of a social category. This occurs because information that is irrelevant to category membership reduces a person's perceived similarity to members of that category. Perceiving people as individuals can decrease reliance on stereotypes in forming judgments.

However, it would be inaccurate to conclude that the dilution effect is likely to inevitably negate the effects of stereotypes. It has been shown to decrease the impact of stereotypes on judgment under some conditions. Conversely, in other conditions, the dilution effect fails to prevent, or may even enhance, the use of stereotypes.

*Celeste E. Doerr*

*See also* Representativeness Heuristic; Saliency; Social Categorization; Stereotypes and Stereotyping

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## DISCONTINUITY EFFECT

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### Definition

The interindividual–intergroup discontinuity effect is the tendency in some settings for relations between groups to be more competitive, or less cooperative, than relations between individuals. Why is this effect referred to as a discontinuity rather than just as a difference? Unpublished research has demonstrated that variation in the number of people in an interacting pair from one-on-one to two-on-two to three-on-three to four-on-four, and so on, has found a large difference between one-on-one and two-on-two, a smaller difference between two-on-two and three-on-three, and little change thereafter; that is, there is a discontinuity between one-on-one relations and two-on-two (intergroup) relations. Research has documented the discontinuity effect in both nonlaboratory and laboratory contexts.

### Nonlaboratory Evidence

The nonlaboratory research has had participants record on small diaries instances of back-and-forth social interaction that fell into one of five categories: (1) one-on-one (participant interacting with another individual), (2) within-group (participant within a

group interacting with other group members), (3) one-on-group (participant interacting with a group), (4) group-on-one (participant in a group interacting with an individual), (5) group-on-group (participant within a group interacting with another group). After classifying the social interaction, the participants then evaluated the interaction as cooperative or competitive. Data collected over a number of days indicated that interactions of types 1 and 2 were less competitive, or more cooperative, than interactions of types 3, 4, and 5. More specifically, there was a discontinuity effect, a difference between interactions of type 1 (one-on-one) and type 5 (group-on-group).

### Laboratory Evidence

Most of the laboratory research has structured the interaction with the use of a matrix game referred to as the *Prisoner's Dilemma Game* (PDG). Within the PDG each of two players, *A* and *B*, has two choices, *X* and *Y*, yielding a total of four possible choice pairings. Typically a choice is made in isolation without knowledge of the other player's choice. Each choice pairing has a different combination of payoffs or outcomes. These payoffs or outcomes can be illustrated with U.S. dollars. If both *A* and *B* choose *X*, they both receive a moderate payoff, say \$3.00. If on the other hand, one player chooses *Y*, while the other player chooses *X*, the player choosing *Y*, whether *A* or *B*, may receive \$4.00 and the other player may receive only \$1.00. Finally, if both players choose *Y*, they may both receive \$2.00. The 2 X 2 matrix of four choice pairings thus presents a dilemma. Either *A* or *B* can increase outcomes by choosing *Y*, but if both *A* and *B* are guided by self-interest, they will receive lower outcomes than could have been obtained by mutual *X* choices. The *X* choice is a cooperative choice, and the *Y* choice is sometimes referred to as a competitive choice and sometimes as a defecting choice. If the *Y* choice is guided by greed, or an interest in increasing outcomes, the competitive label is appropriate. On the other hand, if the *Y* choice is guided by fear, or an interest in minimizing the reduction in outcomes resulting from the other player's *Y* choice, the defecting label is appropriate.

Common examples of PDG-like situations relate to being honest versus cheating, over-fishing, and pollution of the air and water. In general the PDG models situations in which individual selfishness can lead to collective detriment. Laboratory research has demonstrated that when individuals communicate

prior to each trial, they tend to be fairly cooperative. Sometimes the communication has involved face-to-face meeting, sometimes the exchange of notes, and sometimes talking through an intercom. On the other hand, groups who are required to reach consensus regarding the *X* or *Y* choice on each trial generally have been found to be less cooperative, or more competitive. Typically the communication between groups has involved the meeting of group representatives but, as with individuals, sometimes has involved the exchange of notes or talking through an intercom.

### Three Questions

Three questions have been asked regarding the discontinuity effect. First, what are the mechanisms responsible for the effect? Second, what is the generality of the effect across different situations? Third, what are possible ways of reducing the effect by making groups less competitive? These three questions will be considered in turn.

#### **Possible Mechanisms Producing the Effect**

Comparison of intergroup relations with interindividual relations uses interindividual relations as a comparison control to identify the distinctive group mechanisms that may lead to the discontinuity effect. To date, evidence for five different mechanisms has been obtained. Each of these possible mechanisms can be formulated as a hypothesis. First, the schema-based distrust, or fear, hypothesis suggests that there is greater distrust in intergroup than in interindividual interactions because the actual or anticipated interaction with a group activates learned beliefs and expectations that groups are competitive, deceitful, and aggressive. Second, the social-support-for-shared-self-interest, or greed, hypothesis suggests that, unlike separate individuals, group members can obtain active support for a competitive choice. Third, the identifiability hypothesis proposes that the group context provides a shield of anonymity, allowing group members to avoid personal responsibility for a selfish-competitive choice. Fourth, the ingroup-favoring-norm hypothesis suggests that membership in a group implies normative pressure to act so as to benefit the ingroup. Fifth and finally, the altruistic-rationalization hypothesis proposes that group members can rationalize their self-benefiting competitiveness as flowing from a concern for benefiting fellow group members.

#### **Generality of the Effect**

Research on the generality question has followed either an atheoretical or a theoretical approach. Research following the atheoretical approach has found, for example, that the discontinuity effect occurs not only in the United States but also in Europe and Japan, and that the effect does not change significantly when the values in the matrix vary from those that have frequently been used to values that are increased by a factor of 10 (e.g., \$0.66 vs. \$6.60 for the highest possible outcome on 1 of 10 trials). Research following the theoretical approach has looked at the correlation between the outcomes for the two players across the four cells of the 2 X 2 matrix. With the PDG, the correlation is negative but can vary as a mathematical function of the ratio of the difference between column means to the difference between row means for the column player (or the ratio of the difference between row means to the difference between column means for the row player). Research has found that as the correlation becomes more negative (and higher outcomes for one player are increasingly associated with lower outcomes for the other player), intergroup competitiveness and the discontinuity effect increases. This result is consistent with the theoretical assumption that as the correlation becomes more negative, the implication of the ingroup-favoring norm becomes increasingly obvious.

#### **Reduction of Intergroup Competitiveness**

Finally, research on possible ways of reducing intergroup competitiveness has provided evidence that one possible approach is to encourage group members to think beyond the immediate situation to the long-term consequences of their behavior.

*Chester A. Insko*

*See also* Cooperation; Group Decision Making; Intergroup Relations; Prisoner's Dilemma; Trust

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## DISCOUNTING, IN ATTRIBUTION

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### Definition

Attribution is the way in which people explain the causes of events or behaviors. At times, individuals must choose among different possible causes as explanations for a particular event or behavior. When people can see more than one reason for something happening, they discount, or minimize, the importance of each reason because they are unsure what the real cause actually is.

### Background, History, and Evidence

Harold Kelley introduced the discounting principle in 1971 in his writings on attribution. He demonstrated how people use discounting to explain how job candidates present themselves to interviewers. When candidates act ideal in every way, observers explain that they may be showing their true personalities or may be simply conforming to what the situation demands. However, if they reveal themselves as not ideal for the job, observers conclude that they are showing who they truly are, since they could not have acted that way to try to get the job. Multiple causes make for uncertainty: For instance, how can you know if a politician's promises are because of his or her beliefs or because of the potential for obtaining your vote? Given the strong situational demands upon their behavior, you might discount their beliefs.

The discounting principle has been confirmed by many experiments since Kelley, with both adults and children. As children grow older, they become more sophisticated at differentiating when a person's behavior is due to a single cause or multiple causes and at explaining the behavior in terms of these causes.

### Importance and Implications

Discounting can be seen as a set of tradeoffs between two explanations; if one is present, people discount

the other. For instance, the person/situation tradeoff can be seen in Kelley's initial demonstration of explaining a job candidate's behavior. Interestingly, observers seem prone to correspondence bias, in which they explain another's behavior in terms of the individual's corresponding personal qualities rather than in terms of situational factors that adequately explain the behavior. This bias is seen less in Eastern cultures, where people are more apt to discount the impact of the person's disposition when there are reasonable situational explanations for their behavior.

Another tradeoff is whether people explain someone's success by their effort or their inherent ability. As children get older, they become better at understanding that effort and ability are different, concluding that if someone works hard to succeed, they might not be smart. Some people create or claim obstacles in the way of their own success, such as drinking or not studying the night before a test; this is called self-handicapping. By doing this, they create multiple explanations for their failure at something. If they fail, they can discount the role of their own ability or intelligence, instead blaming the obstacle. If they succeed, they can attribute their success to their own ability. The implications of strategic discounting are quite profound in that individuals can skillfully keep ambiguous the explanations for the behavior of themselves, other individuals, or other groups, exploiting this uncertainty for their own purposes.

*Maureen T. Steckler*

*Kathryn C. Oleson*

*See also* Attributional Ambiguity; Attributions; Fundamental Attribution Error; Self-Handicapping

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## DISCOURSE ANALYSIS

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*See* DISCURSIVE PSYCHOLOGY

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## DISCRIMINATION

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### Definition

Discrimination is the phenomenon of treating a person differently from other persons based on group membership and an individual's possession of certain characteristics such as age, class, gender, race, religion, and sexuality. Discriminatory behavior can take various forms from relatively mild behavior, such as social avoidance, to acts of violence, including hate crimes and genocide.

### Issues Pertaining to the Study of Discrimination

Social psychologists study several aspects of discrimination, including overt or *old-fashioned* discrimination and subtle or *modern* forms. For example, overt discrimination might involve explicitly excluding job applicants who are women or people of color. Subtle discrimination occurs when, for example, the job interviewer unwittingly might sit farther away, not make eye contact, and conduct a shorter interview with a job applicant who is a woman or person of color.

Social psychologists distinguish *individual discrimination* from *institutional discrimination*. Individual discrimination, which is typically studied by social psychologists, includes discriminatory behavior by one person toward another. Institutional discrimination can take the form of government-sponsored laws and practices such as the Jim Crow laws during the post-Emancipation era in the United States that legally segregated Blacks and Whites in public places and denied African Americans many civil rights. Laws banning same-sex marriage are more recent manifestations of institutional discrimination.

Another area of study for social psychologists is whether there are individual personality characteristics associated with discriminatory behavior. That is, are there certain *types* of people who are more likely to discriminate? Individuals who emphasize submission to authority and are conventional and traditional in their values may discriminate against those who are different from them. Also, those who have difficulty with ambiguity and have a personal need for order and structure in their environment may discriminate more than those who have more tolerance for ambiguity.

Finally, social psychologists may investigate the extent to which discrimination (behavior) is related to prejudice (negative feelings) and stereotyping (beliefs and thoughts). Many assume that discriminatory behavior is a product of prejudice and stereotyping—that the prejudiced person discriminates, and those who are not prejudiced do not discriminate. Or, those who are stereotypical in their thinking will likely discriminate against a target person about whom they hold stereotypes. The relationship between these three constructs is complicated, and discrimination, prejudice, and stereotyping are not always related. For instance, a person might be familiar with certain stereotypes of some groups (e.g., Hispanics are thought to be lazy, lesbians are believed to be masculine) but may not treat members of those groups differently. Also, stereotyping and prejudice could be a *consequence*, not a *cause*, of discrimination. In an attempt to understand why some people are treated worse than others, one might conclude that the target of discrimination actually is worse (prejudice), or actually possesses different characteristics (stereotyping), than those who are not the targets of discrimination. In other words, that discrimination exists can justify or contribute to people's prejudices and stereotypes.

One issue worth noting is that discrimination, because it is *behavior*, tends to be illegal, whereas stereotyping and prejudice (thoughts and feelings) are not. In other words, a supervisor might believe women are not fit for management positions, but it is only when and if that supervisor treats women and men differently (e.g., in hires or promotions) that legality becomes relevant.

*Kristin J. Anderson*

*See also* Attitude–Behavior Consistency; Prejudice; Racism; Stereotypes and Stereotyping; Symbolic Racism

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## DISCURSIVE PSYCHOLOGY

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### Definition

Discursive psychology is an approach that focuses on how people interact with one another and, in particular, on the role of psychological words and issues in that interaction.

### The Development of Discursive Psychology

Discursive psychology emerged in the early 1990s, drawing on ideas from the subdisciplines of conversation analysis, rhetoric, and constructionism. Early work offered new ways of understanding topics in social psychology, such as memory, attribution, and attitudes. Studies showed how, for example, people manage issues of motive, intention, and morality in their descriptions of actions and events. To illustrate what is involved in this kind of research, consider this illustrative example from a rape trial (Witness is the victim of the alleged rape, Counsel is the legal counsel for the defense of the alleged rapist, and Mr O is the defendant who has been accused of rape):

*Counsel:* And during the evening, didn't Mr O come over to sit with you?

*Witness:* Sat at our table.

We can, no doubt, recognize that counsel's description suggests a familiarity and prior relationship between the defendant and the victim. It implies attitudes and motives that might make a rape conviction of the defendant harder to achieve. The witness's immediate correction offers an alternative that de-personalizes and de-familiarizes the relationship. It implies different attitudes and motives and perhaps a different moral status for the witness. These psychological matters are played out in the competing descriptions offered by the two parties to this interaction. This is the topic of discursive psychology.

### Contemporary Discursive Psychology

Discursive psychology is unusual in social psychology in that it works primarily with audio and video recordings of actual interaction in natural settings rather than using experiments, questionnaires, or interviews. For example, recent work has focused on relationship counseling, child protection helplines, neighbor disputes, police interrogation, and different kinds of therapy, as well as everyday phone calls and interaction over family meals. Although it has continued to develop alternatives to mainstream social psychological topics, it has become increasingly focused on how actions are coordinated in institutional settings. For instance, how does a child protection officer working on a child protection helpline manage the possibly competing tasks of soothing a crying caller and simultaneously eliciting evidence sufficient for social services to intervene to help an abused child?

Discursive psychology has developed a rigorous methodological approach to records of interaction. It uses a form of transcription that captures features of speech delivery and has recently been able to exploit advances in digital audio and video to provide more powerful ways of working with large amounts of data.

Discursive psychology offers a very different way of addressing psychological issues than is common in much North American work. It has a different set of theoretical assumptions about mind and action, a different research method and even some rather different ideas about the nature of science. Its success has been based on a mix of theoretical innovation and a natural history approach that studies what people actually do in the settings in which they do it.

*Jonathan Potter*

*See also* Content Analysis; History of Social Psychology; Integrative Complexity

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## DISGUST

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### Definition

Although there is much dispute about exactly what emotions are, everyone, starting with Charles Darwin in the 19th century, agrees that disgust is one of them. Disgust is almost always considered a basic emotion, often along with anger, fear, sadness, happiness, and surprise. Basic emotions, as defined most clearly by the psychologist Paul Ekman, are differentiated from more complex emotions on the grounds that basic emotions have some presence in nonhuman animals, are expressed and recognized universally in humans, and have a distinct facial expression.

Although disgust was clearly described by Charles Darwin in 1872 in his classic work, *Expression of Emotions in Animals and Man*, unlike anger, fear, and sadness, it was studied very little in psychology until the past few decades.

### Behavioral, Expressive, and Physiological Responses

Like other basic emotions, the elicitation of disgust causes a set of predictable responses. Behaviorally, there is a withdrawal from the object of disgust. There is a characteristic facial expression, including a closing of the nostrils, a raising of the upper lip, and sometimes a lowering of the lower lip (gaping). The lowered lip is sometimes accompanied by tongue extension. Physiologically, the signature of disgust is nausea. Unlike fear and anger, the two most similar basic emotions, disgust is not accompanied by physiological arousal (e.g., increased heart rate). These three types of response (behavioral, expressive, and physiological) are generally accompanied by a feeling of revulsion.

### Elicitors

It is in the domain of understanding the elicitors of disgust that the greatest challenge is encountered. So many things can elicit a disgust response. It is natural to look at nonhuman animals to get an idea of the basic core or origin of disgust. An expression very much like the human facial expression of disgust is seen in many mammals. It typically occurs in response to tasting a food that is either innately unpleasant (like something

very bitter) or something that has been associated with nausea (e.g., a contaminated food). This fact, plus the fact that the disgust facial expression functions to eject things in the mouth and close off the nostrils, suggests that disgust, in its primitive form, is about food rejection. Further evidence for this comes from the very name of the emotion, *disgust*, which means bad taste. And the nausea that is part of the disgust response has the very specific effect of discouraging eating. These facts caused Darwin to describe disgust as a response to bad tastes and caused the psychoanalyst Andras Angyal to describe disgust as a form of oral rejection based on the nature of a particular food.

This type of bad taste or distaste disgust seems to be the origin of disgust and may be a way that animals both reject food and communicate to other members of its species that a particular food should be rejected. Similar expressions and functions for distaste can be observed in human infants. However, by the age of 5 years or so, humans show disgust responses to many potential foods that neither taste innately bad nor have been associated with illness. Feces is a universal disgust, acquired in the first 5 years of life, along with disgust responses to other body products, rotted foods, and many types of animals (such as worms and insects, depending on the culture). Almost all foods that produce a disgust response are of animal origin. From about age 5 on, the human disgust response shows a uniquely human feature: contamination sensitivity. If a disgusting entity (say, a cockroach) touches an otherwise edible food, it renders that food inedible. This is not true of distasteful substances (such as a bitter food) for humans, and no animal (or human infant) has been shown to show the contamination response. Some believe that true disgust is a distinctly human response that uses the same expressive system as the distaste response seen in human infants and nonhuman animals but is a response not to the sensory properties (e.g., bitterness) of a food but rather to its nature or origin. People find worms disgusting because of what they are and not because of what they taste like (most people don't even know what they taste like).

Some researchers view basic disgust in humans as Angyal described it, a form of oral rejection based on the nature of a particular food, with animal foods accounting almost entirely for disgusting foods. The distaste system of animals has been appropriated for expression of a related but more conceptual form of food rejection, which is called *core disgust*.

But many things are disgusting to humans besides potential foods and body products. One category of disgust elicitors includes things like dead bodies, deformed or gored bodies, sexual activities between inappropriate partners (such as humans with animals), and filthiness (poor hygiene). This group of disgust elicitors can be described as reminders of humans' animal nature; animals die, have disgusting substances inside them, are perceived as filthy, and engage in what people would call inappropriate sex (e.g., with other animals). All of these elicitors, along with those related to eating, are reminders of our animal nature. People, cross-culturally, tend to be uncomfortable with the idea that humans are just animals and are particularly upset with one feature of animalness: mortality. The extension of the disgust response to exposure of the animal features of humans seems to be a way for humans to pull away from reminders of their animal nature and their mortality. Notably, the classic odor of disgust is the odor of decay, which is, of course, the odor of death.

There are many other disgust elicitors besides foods, body products, and other animal nature reminders. One major class is other people. Contact with other people a person doesn't like, whether because of personal experience with them or their membership in groups a person doesn't like, tends to elicit disgust. Disgust responses are common to wearing the clothing of disliked people, sharing food with them, and so forth. Finally, people find certain types of moral offenses disgusting, so that, in all cultures, some of the elicitors of disgust have to do with immorality. One might say that child abuse is disgusting, for example, and it has been found that very few people feel comfortable even wearing a sweater that had been worn by Adolf Hitler. Notice that this is an example of contamination; by contacting Hitler, the sweater took on negative Hitler properties, just as if it had been contacted by a cockroach. This cannot simply be a fear of illness or infection, as might be the case for contaminated and rotten meat. Hitler is no more likely to convey illness than anyone else. Furthermore, research has shown that a heat-sterilized cockroach, which is perfectly safe, is almost as disgusting as the usual, less clean creature. So, although disgust and contamination may have originated as a way to avoid infection, in its full-blown cultural form, it seems to have a life of its own.

### Variations

This progressive extension from potentially contaminated food to moral offenses can be described as a

shift from disgust as a response to protect the body to disgust as a response to protect the soul, from "get this out of my mouth" to "get this out of *me*." It seems that cultures have discovered that they can easily enforce rejection of certain entities or activities by making them disgusting. In this sense, disgust can be thought of as the emotion of civilization; to be civilized is to show disgust toward a wide class of objects and activities. The evolution of disgust from food rejection is beautifully described by Leon Kass in his book *The Hungry Soul*, and the greater expansion of disgust into the moral world is very effectively described by William Miller in *The Anatomy of Disgust*.

Disgust, as described here, is not present in infants and probably originates in development in the process of toilet training. This universally creates the first offensive substance: feces. Within culture, individuals vary greatly in disgust sensitivity: On the low sensitive end, some Americans don't mind eating insects; on the very sensitive end, some people are disgusted by sharing food even with close friends and will not touch the door knob of a public restroom door. It is not known what causes this variation.

While disgust is a universal emotion, and feces are a universal disgust, there is a great deal of cultural variation. Americans tend to find somewhat decayed meat disgusting but enjoy rotted milk (cheese), Inuits enjoy fairly rotten meat, Chinese enjoy rotted soy beans (soy sauce) and eggs but find milk and cheese disgusting, and so on. Japanese may be more sensitive than Americans to the interpersonal disgust of contact with strangers (hence not liking used clothing or handling money), whereas they seem less sensitive to contact within their close-knit group, as in sharing their family bath. In India, disgust plays a major social role in enforcing avoidance of lower castes; upper-caste individuals are disgusted by food prepared by individuals of lower castes. In general, in Hindu India, disgust seems to be a more moral/interpersonal, and a less animal-nature avoidance, emotion than it is in the United States.

Disgust has recently come to the attention of neuroscientists, who have discovered that people with certain kinds of brain damage (e.g., Huntington's disease) show deficits in recognizing disgust. A few brain areas have now been associated with disgust, such that damage to these areas leads to poor disgust recognition and probably low disgust sensitivity.

A final turn in this fascinating cultural history is that disgust is often funny. Laughter is a common response to encounters with disgusting objects or

situations—but only when they are at least moderately distant. Disgust is a major component of jokes and other forms of humor, and in this sense, the experience of mild disgust is often sought by individuals. Aren't humans complex? They find a negative emotion pleasant in certain situations. But then humans also find sadness (as in sad movies) and fear (on roller coasters) pleasant as well. Humans seem to like to experience negative emotions when they are not really threatened.

*Paul Rozin*

*See also* Emotion; Facial Expression of Emotion

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## DISPLACED AGGRESSION

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### Definition

Direct aggression follows the tit-for-tat rule that governs most social interaction: A provocation or frustration elicits verbally or physically aggressive behavior that is directed toward the source of that provocation or frustration, typically matching or slightly exceeding its intensity. In displaced aggression, an aggressive behavior is directed at a person or other target (e.g., a pet) that is not the source of the aggression-arousing provocation or frustration. Displaced aggression occurs when it is impossible or unwise to respond aggressively toward the source of the provocation or frustration.

### History and Modern Usage

Sigmund Freud discussed displaced aggression. For example, if a man receives strong criticism from his boss, it would be unwise to retaliate by verbally or physically assaulting him. Instead, at a later time, he might insult his own wife or kick his dog. Each of these behaviors can be viewed as a displacement of the aggressive behavior that the man would have preferred to direct at the original source of the provocation—his boss.

In direct aggression, little time usually elapses between the provocation and the aggressive response to it. But in displaced aggression, the time between the provocation and the aggressive response can range from minutes to hours or days. After a provocation or frustration, physiological measures (e.g., heart rate) typically show increased arousal. This increase ordinarily lasts about 5 or 10 minutes but can persist for about 20 minutes. It may or may not contribute to displaced aggression. Rumination (persistent thought) about the provoking event, however, allows displaced aggression to occur long after the physiological arousal has subsided.

### Triggered Displaced Aggression

Probably more common than displaced aggression is *triggered* displaced aggression. Instead of being totally innocent, the target of triggered displaced aggression provides a minor irritation that is seen by the aggressor as justifying his or her displaced aggression. As in displaced aggression, the magnitude of the aggressive act clearly violates the tit-for-tat matching rule.

### The Relation Between Triggered Displaced Aggression and Excitation Transfer

Although the concept *excitation transfer* seems similar to triggered displaced aggression, they differ. In excitation transfer, arousal from another source (e.g., loud noise, exercise, or sexual stimulation) combines with the arousal from a provocation or frustration and produces a stronger retaliation than would have been the case without that other source of arousal. Thus, the increased arousal might be viewed as similar to a trigger. For excitation transfer to occur, however, the other source of arousal must have happened within about 5 minutes of the provocation. Moreover, one must be unaware that the other arousal still persists.

If aware, it will instead be properly attributed to its source (e.g., the exercise) and thus not increase the aggressive retaliatory response to a provocation. In triggered displaced aggression, however, one is fully aware of both the initial provocation or frustration and the trigger. Other differences are that excitation transfer consists of direct aggression toward the provocateur and that, unlike excitation transfer, triggered displaced aggression can occur with intervals between a provocation and trigger that well exceed the 5- or 7-minute maximum for excitation transfer.

### Scapegoating

When displaced aggression is directed at persons who belong to an outgroup, it is called *scapegoating*. Typically, members of a disliked group are made the target of scapegoating.

Norman Miller  
Vicki Pollock

*See also* Aggression; Excitation-Transfer Theory; Scapegoat Theory

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## DISTINCTIVENESS, IN ATTRIBUTION

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### Definition

Distinctiveness, in attribution, refers to the extent to which a specific action engaged in by an individual is unusual or uncommon for that particular individual. The judgment of whether an action is high in distinctiveness, that is, uncommon for the individual who engaged in it, or low in distinctiveness, common for that individual, depends on knowledge of that individual's

past behavior. Such information is referred to as *distinctiveness information*.

### Background

The concept of distinctiveness developed out of attribution theory, which was originated by Fritz Heider. Heider began by noting that to understand people, one needs to understand how they view their own social world—their naive psychology. Heider proposed that people understand their social worlds largely in terms of cause and effect. When observing a given action, the individual typically decides the action was caused either by an attribute of the individual (i.e., an internal attribution) or by an aspect of the individual's situation (i.e., an external attribution). Heider further argued that the attribution for the action would depend on the observer's knowledge of both the individual and the situation.

### Distinctiveness and Attribution

In 1967, Harold Kelley formalized some of Heider's ideas into a model of attribution which labeled the different judgments people use to infer causal attributions for another individual's behavior. He proposed that knowledge of the individual's past actions, that is, distinctiveness information, would affect the likelihood of making an internal attribution. If this information suggests that the individual has engaged in similar behavior in the past in a variety of situations, the behavior would be judged low in distinctiveness, and an internal attribution, to some aspect of the individual, would be more likely. In contrast, if the information suggests the individual has rarely engaged in similar behavior in other situations, the behavior would be judged high in distinctiveness, and an internal attribution would be less likely.

Consider a hypothetical example. If John gets into a fight, information suggesting that John has often got into fights likely would lead to an internal attribution to his aggressive nature. Alternatively, information suggesting that John had never previously fought would be unlikely to lead to an internal attribution.

### The Importance of Distinctiveness

As this example suggests, and research generally confirms, distinctiveness plays a significant role in attributions, and attributions affect the impressions people form of others. This is important not only in daily

social life but in other domains of life, such as legal settings, as well. In an assault case, if jurors decide that the defendant's action was a result of his violent nature, a guilty verdict would be likely. In contrast, if they decide that the action was caused not by the defendant's violent nature, but rather by severe provocation from the victim (an external attribution), a not guilty verdict would be likely. United States courts are so aware of the role of distinctiveness information that judges are very careful in determining whether information concerning the defendant's past behavior is admissible in court.

*Jeff Greenberg*

*See also* Attribution Theory; Kelley's Covariation Model

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## DISTRIBUTIVE JUSTICE

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### Definition

Distributive justice refers to the perceived fairness of one's outcomes. When a reward is allocated or a decision is made, people often make a judgment whether or not the outcome was fair. This judgment is referred to as a *distributive justice judgment* because it has traditionally been an assessment of how resources are distributed, or allocated, to individuals. Scholars have sought to understand both how these judgments are made and, once formed, what the consequences of such judgments are. Distributive justice has received considerable interest in a variety of different academic disciplines including psychology, philosophy, business, and law.

### Theoretical History and Background

The notion of justice is a topic that has interested scholars, philosophers, and psychologists for a long time. Great thinkers such as Plato, Aristotle, and Socrates were some of the first to ponder this question of justice. Within the social sciences, the past half-century has witnessed considerable attempts to better understand justice. While philosophers speak of

justice as an objective truth about what is fair, scholars in the social sciences seek to understand what individuals *perceive* to be fair. Thus, when psychologists speak of distributive justice, they are concerned with what individuals perceive to be fair as opposed to a logic-based, philosophical argument for whether something is indeed fair or not.

The initial study of distributive justice within psychology began in the late 1940s. The pioneering research involved studying members of the U.S. army during World War II. In examining survey data collected from the troops, an interesting finding emerged. Soldiers' attitudes were influenced more not by objective outcomes received but rather by the relative level of their outcomes compared to others in their unit. Indeed, members of Air Corps had less favorable perceptions about promotion opportunities compared to other units' members despite the fact that they had a much higher chance of being promoted than did members of those other units. After examining the results more closely, it became clear that Air Corps individuals compared themselves to other members of their unit as opposed to individuals in other units with lower promotion rates. Thus, *relative deprivation theory* was born, the notion that outcomes are not satisfying or unsatisfying in and of themselves but rather the comparison of one's own outcomes to others' outcomes is what matters most.

In the early 1960s, some scholars moved forward with the importance of comparing one's own treatment to that of others' treatment in determining whether outcomes are distributed fairly. A perspective emerged that suggested that, over time, individuals develop expectations in their relationships with others. These expectations are based on the idea that an individual's costs should be proportional to their rewards. People are keenly aware of whether they are putting more into a relationship than they are getting out of it. When individuals feel as if they put more into an exchange relationship than they get out of it, they tend to have negative reactions. A key point is that not all people will perceived distributive (in)justice the same way, because people have different *referents* (other people individuals compare themselves to) for determining whether there is an imbalance in the relationship.

Building on this idea of expectations in exchange relationships, other scholars further delineated between types of exchanges. For example, an exchange can be *economic*, whereby a tangible item of interest is exchanged, like an employee who works for a salary;

or an exchange can be *social*, such that it is more subjective, like how one should repay a friend that does one a favor. Thus, this perspective suggests that distributive (in)justice can occur whether economic or social exchanges are violated in some way. And, in addition to looking to other people and other relationships to determine if an injustice occurred, one is likely to consider societal norms with regard to how people should be treated. For example, there is a norm that if you help someone in need, they should reciprocate in some way by acknowledging your help and helping you when you are in need.

In the mid-1960s, the most detailed theory developed to explain how people determine whether the outcomes they receive are fair was introduced. Referred to as *equity theory*, this theory builds on much of the prior work on relative deprivation and expectations in exchange relationships. Specifically, equity theory posits that individuals in exchange relationships develop a ratio in their head of their perceived outcomes to their perceived inputs. They then compare that ratio to their perceptions of someone else's ratio or to the ratio they have experienced in similar situations in the past. When an individual's output-to-input ratio is lower than that of a referent, he or she is likely to perceive distributive injustice. Importantly, this theory goes on to explain what people tend to do when they feel their ratio is less than it should be, given their comparison base. Generally, people in "inequitable" situations will try to restore balance in one of three ways: by (1) altering one's own outputs or inputs, (2) altering a referent's outputs or inputs, or (3) removing oneself from the relationship.

In the 1970s, some scholars began to critique prior work on distributive justice. One of the primary concerns was that by describing distributive justice and equity synonymously, it did not allow for any other means to determine whether an outcome was fair. Scholars questioned whether weighing output-input ratios was the only way people could determine distributive (in)justice. A result of this inquiry was the identification of other principles, or rules, used to govern distributive justice. Indeed, some individuals are guided more by a principle of *equality*, the notion that regardless of one's input, everyone should receive the same outcomes. For example, if individuals are on a team, they should be given equal credit for success as opposed to just praising the most productive members. In addition, some individuals adhere to the principle of *needs*, the notion that regardless of input, those in need should get more favorable outcomes.

For example, our taxation system in the United States is designed such that wealthier individuals pay more and poorer individuals are supposed to reap more of the benefits of social services. Other principles were introduced over the years, but the principles of equity, equality, and needs have remained. Thus, this perspective on distributive justice highlights other principles people use to determine whether an outcome is fair.

To summarize, the initial work on distributive justice began over a half-century ago. The preliminary work focused on relative deprivation, or comparing one's own outcomes to the outcomes of a referent other. The next set of work concerned economic and social exchanges in relationships and expectations for outcomes one should receive. The most comprehensive and well-known theory about distributive justice, equity theory, was introduced in the 1960s and provided a specific formula for determining distributive justice based on an output-input ratio and highlighted what people do if they perceive inequity. Finally, in the 1970s, the notion was introduced that in addition to equity, other principles are often used by people to determine distributive justice, such as equality (providing the same outcomes to everyone) and needs (providing more favorable outcomes to those that are most in need).

Today, the study of distributive justice is alive and well. In general, interest has shifted more toward the procedures used to determine one's outcomes (referred to as *procedural justice*) and the fairness of interpersonal treatment (referred to as *interactional justice*). Despite this shift in interest, many scholars continue to study distributive justice. And, while equity is still the dominant paradigm for examining distributive justice, most scholars acknowledge that other principles such as equality and needs are also useful ways to understand distributive justice.

## Research Findings

In addition to all of the theoretical work that has sought to explain what distributive justice entails and how people form perceptions of distributive (in)justice, there also has been a considerable amount of research on how people react once they have formed distributive justice judgments. For example, when individuals have favorable distributive justice perceptions, they are also likely to have more positive emotions and more favorable attitudes and behaviors directed toward the individual or organization that has

provided the outcomes. Specifically, outcomes of distributive justice include the following: improved affect, satisfaction, commitment, evaluations of others, trust, willingness to help others, and performance. Thus, this large body of research demonstrates that perceptions of distributive justice are associated with a variety of important outcomes.

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*See also* Equity Theory; Procedural Justice

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## DOMINANCE, EVOLUTIONARY

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### Definition

Virtually all human groups are characterized by some sort of hierarchy, in which some individuals enjoy relatively more respect and power than others do. Dominance refers to a person's rank or level in their group hierarchy. The term *dominance* is also used to refer to an individual's potential for asserting power and authority over more submissive members of his or her group (i.e., those with less dominance).

The concept of dominance should be differentiated from prestige or esteem. Although dominance and prestige often go hand in hand, it is possible to have prestige without power (e.g., a figurehead monarch

who has no real authority), just as it is possible to have power without prestige (e.g., a disreputable dictator who, although able to assert authority over others, is neither liked nor respected by others).

### Evolutionary Origins

Dominance in humans owes its importance, in part, to a long history of biological evolution. Dominance regulates the behavior of many species, from crickets and crayfish to baboons and bonobo chimpanzees. The term *pecking order*, for example, comes from the fact that hens commonly fight with one another (using their beaks to peck) to establish dominance over one another. Over time, direct conflict gives way to a more peaceful arrangement in which some hens are dominant over others. Indeed, in humans and other species, while immediate dominance competitions can be very turbulent, with losing individuals sometimes suffering injury or even death, most of the time members of a group settle into a relatively stable hierarchical structure. Relatively stable dominance hierarchies sometimes emerge spontaneously, even among strangers, with individuals settling into their relative positions extremely quickly (some estimates say within just a few minutes of interacting).

### Dominance Striving

Dominance is a key characteristic in the social organization of primates. Chimpanzees, for example, are highly dominance oriented and will battle one another for places atop the hierarchy. Dominant chimps tend to puff themselves up, often strutting around as a way of asserting their power over others, while chimps lower in the hierarchy often grovel at their feet, exhibiting submissive gestures and persuading dominant chimps not to attack.

In many ways, humans are not all that different from chimpanzees. Many humans are highly motivated to achieve positions of dominance, and dominant people assert their power over others in myriad ways, from standing tall, speaking loudly, and looking people in the eye to delegating unwanted responsibilities to subordinate members of the group.

Why are humans—like members of other species—so interested in attaining dominance? Throughout evolutionary history, humans that achieved dominance over their peers were rewarded with access to a bounty of social and material resources that helped them better survive and reproduce. Relatively dominant

individuals, for example, generally had more and better food, as well as protection from threats posed by other groups. Thus, human ancestors who were inclined to strive for dominance often reaped important benefits and were therefore able to more effectively pass their genes on to subsequent generations. As a result, humans today exhibit a strong, biologically based tendency to seek positions of high social dominance.

### Sex Differences

Men tend to be more interested in achieving dominance than are women. Evolutionary psychologists attribute this to differences in the reproductive challenges faced by men and women throughout evolutionary history. Whereas human females have had almost invariably the opportunity to mate and have children, opportunities for men to reproduce have been much more variable, with some men mating often with many different partners and other men not having the chance to mate at all. As a result, men competed with one another to achieve dominance, for dominant men were better able to attain mates.

Throughout evolutionary history, women have been attracted to dominant men because they have greater access to resources, which help provide for the welfare of offspring. Dominant males, in turn, tend to experience relatively free access to mating partnerships. Kings, maharajas, and noblemen throughout history, for example, have routinely mated with dozens and even hundreds of women. Thus, one of the reasons men are so interested in attaining high levels of social dominance is that, throughout evolutionary history, dominance has increased their opportunities to mate and, in turn, enhanced their reproductive success.

Although men are relatively more interested in achieving dominance than are women, there are certainly many cases in which women, too, achieve positions of dominance. There is evidence, however, that dominant women sometimes express their dominance in different ways than men do. Whereas men are relatively more inclined to express dominance through acts of personal ascension (e.g., by directly asserting authority over a subordinate), women are somewhat more inclined to express their dominance in prosocial ways. Dominant women, for example, often use their authority to enhance relationships among group members and to facilitate the functioning and well-being of the group as a whole.

### Implications

From relationships between parents and children to interactions between managers and employees, everyone at times is affected by their level of relative social dominance. Dominance is a universal regulator of human social interactions. Virtually every human society has rules governing the manner in which dominance hierarchies are to be arranged and expressed. Moreover, a person's level of dominance also has important psychological implications. For example, people with high levels of social dominance tend to be happier, more confident and assertive, and tend to attract the attention of those around them.

*Jon K. Maner*

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*See also* Evolutionary Psychology; Leadership; Power

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## DOOR-IN-THE-FACE TECHNIQUE

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### Definition

The *door-in-the-face* is an influence technique based on the following idea: If you want to make a request of someone but you're worried that they might say no, get them to say no to a larger request first. Although this approach may seem odd, psychologists have identified two reasons why a "no" in response to a large request often leads to a "yes" in response to a subsequent smaller request.

The first reason is the powerful rule of reciprocity. The rule of reciprocity states that if someone does something for us, we feel obligated to do something for him or her in return. If a friend sends us a holiday card, we feel obligated to send them a holiday card in return. To see how the door-in-the-face technique uses the rule of reciprocity, imagine that a friend asks to borrow \$100, but we say no. The friend then says, "I understand that \$100 is a lot of money. Could you

lend me \$25 instead?” The friend has done something for us (he was asking for \$100; now he’s asking for only \$25), and we feel obligated to do something for him in return (we said “no” to his request for \$100; now we say “yes” to his request for \$25).

This example also shows the second reason why the door-in-the-face technique works. In contrast to \$100, \$25 doesn’t seem like much money at all. Thus, the door-in-the-face does two things: It invokes the rule of reciprocity (when the requestor moves from a large request to a smaller request, we feel a reciprocal obligation to move from “no” to “yes”), and it creates a contrast effect (the size of the large request makes the smaller request seem even smaller in comparison).

### Evidence

In one of the first scientific demonstrations of the door-in-the-face technique, Robert B. Cialdini and his colleagues had a researcher approach students on campus and ask them to spend a day chaperoning juvenile delinquents on a trip to the zoo. Only 13% agreed. The researcher made the same request to another set of students, but with these students, the researcher used the door-in-the-face technique. The researcher first asked these students if they would be willing to act as counselors for juvenile delinquents for 2 hours a week for 2 years. When the students said “no,” the researcher asked if, instead, they would chaperone the juvenile delinquents to the zoo for a day. This time, 50% agreed.

### Limitations and Implications

The door-in-the-face technique does have its limits. If the first request seems unreasonably large, then the technique can backfire. However, as the results of Cialdini and colleagues’ experiment show, requests can get pretty big before they seem unreasonable. (Two years of volunteer work with juvenile delinquents is a pretty big request.)

So how do we feel when we’ve been hit by the door-in-the-face technique? It turns out that we actually feel better about the transaction than if the door-in-the-face had not been used. It’s satisfying to win a concession from a negotiating opponent. Because the door-in-the-face begins with a concession on the part of the requestor, we feel greater satisfaction with the outcome. And because the door-in-the-face ends with our agreement with the concession, we feel greater responsibility for the outcome. Indeed, researchers

have found that the door-in-the-face increases not only the number of people who say “yes” but also the number of people who follow through with their agreement and who volunteer for the same thing in the future.

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*See also* Contrast Effects; Influence; Reciprocity Norm

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## DOWNWARD COMPARISON

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*See* DOWNWARD SOCIAL COMPARISON

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## DOWNWARD SOCIAL COMPARISON

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### Definition

Social comparison involves thinking about one or more other people in relation to the self. Downward social comparison involves making comparisons with others who are inferior to, or less fortunate than, oneself in some way.

### History and Background

Leon Festinger’s theory of social comparison proposed that because people seek accurate self-evaluations, they compare themselves with other people who are similar to themselves. People also make upward social comparisons with others who are superior, in hopes of learning how to improve. Early researchers discovered, however, that people are not always unbiased self-evaluators. Sometimes people wish to self-enhance—to feel better about themselves—which may lead them to compare downward. In a highly influential article

in 1981, Thomas Wills proposed that when individuals are low in subjective well-being, they often make downward social comparisons in an attempt to feel better. They may make downward social comparisons in several ways, including active derogation or simply passively taking advantage of opportunities to compare with people who are worse off. Wills also proposed that downward comparisons are made especially frequently by people who are depressed or low in self-esteem, because of their greater need for self-enhancement. To support his thesis, Wills reviewed an abundance of evidence on topics ranging from aggression and social prejudice to humor.

Wills's article inspired considerable research on downward social comparisons. Indeed, his article may be credited with rekindling social psychology's interest in social comparison more generally.

### **Research on the Selection and Effects of Downward Social Comparisons**

Much of that research has been consistent with Wills's original propositions. Laboratory experiments have shown that people who are threatened in some way make downward social comparisons—or at least, fewer upward social comparisons. For example, in one study, participants who had failed a test of social sensitivity were more likely than those who had succeeded to choose to look at the scores of others when they expected those scores to be worse than their own.

Field studies have found similar evidence. For instance, in an interview study of breast cancer patients, the vast majority spontaneously brought up ways in which they were superior to, or more advantaged than, other people with cancer. They were much less likely to describe upward social comparisons. Other populations that have been shown to engage in downward social comparison include mentally disabled adolescents, victims of fire, arthritis patients, and mothers of premature infants.

Considerable research also has examined the effects of downward social comparisons. They have been shown to increase positive affect, decrease negative affect, heighten optimism about the future, increase relationship satisfaction, and enhance self-esteem. These benefits seem to be especially pronounced for people who are low in self-esteem and who are strongly disposed to make social comparisons.

### **Challenges to Downward Social Comparison Theory**

As is true of any theory that has inspired considerable research, evidence has emerged that challenges Wills's theory or that at least identifies qualifications to it. First, it has become clear that upward social comparisons can benefit people under threat. Although traditionally it has been assumed that comparisons with superior others make people feel worse, upward social comparisons can be self-enhancing and motivating. For example, ex-smokers may seek contact with successful ex-smokers to learn about their strategies or to be inspired by their examples. People under threat also may avoid social comparisons altogether. Cancer patients sometimes schedule their oncologist appointments first thing in the morning to avoid seeing others whose conditions are worse.

Evidence that people under threat avoid social comparisons or make upward social comparisons does not contradict downward social comparison theory; it merely suggests that those people have other comparison strategies available to them. More challenging to the theory is evidence that downward social comparisons sometimes have deleterious effects. Specifically, people may worry that they will suffer the same fate as the downward target. Successful dieters, for example, may not wish to hear about others who have gained back all the weight they lost. People also may refrain from making downward social comparisons for fear of appearing boastful or as lacking in empathy.

Two important determinants of comparison effects appear to be one's level of (1) perceived control and (2) identification with the comparison target. When people perceive little control over the comparison dimension, such as whether their illness will worsen, they may fear comparisons with others who are worse off. Similarly, when people identify with the downward target, they may worry that they will suffer a similar fate. In contrast, when they believe that they do have control over the comparison dimension or feel dissimilar to the target, they are likely to feel better after making downward social comparisons.

Perhaps the greatest challenge to downward social comparison theory comes from a study that investigated social comparisons made by university students in their everyday lives. Respondents were more likely to report downward social comparisons when they felt happy rather than unhappy. To explain this result, the researchers drew upon the large literature on

mood-congruent cognition. They proposed that social comparisons may operate in a mood-congruent fashion: When people are happy, they tend to focus on favorable thoughts about themselves and ways in which they are superior to other people, which may promote downward social comparisons. In contrast, when people are sad or under threat, they may focus on unfavorable information about themselves and on ways that other people are better off, which may promote upward social comparisons.

One way to reconcile these results with downward social comparison theory may be that two forces drive social comparisons under threat: both mood-congruent priming and the motivated processes proposed by Wills. That is, people may be prone to make upward social comparisons when they are sad, because their moods prime them to have unfavorable thoughts about themselves and about their inferiority to others. These mood-congruent effects may be especially likely to drive the comparisons that people make unintentionally. At the same time, people may combat their bad feelings by deliberately seeking downward social comparisons. The social comparisons they are motivated to make, then, may be downward rather than upward. One study of comparisons in daily life offered support for these predictions.

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*See also* Control; Coping; Self-Enhancement; Social Comparison

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## DRIVE THEORY

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### Definition

Drive refers to increased arousal and internal motivation to reach a particular goal. Psychologists differentiate between primary and secondary drives. Primary drives are directly related to survival and include the need for food, water, and oxygen. Secondary or acquired drives are those that are culturally determined or learned, such as the drive to obtain money, intimacy, or social approval. Drive theory holds that these drives motivate people to reduce desires by choosing responses that will most effectively do so. For instance, when a person feels hunger, he or she is motivated to reduce that drive by eating; when there is a task at hand, the person is motivated to complete it.

### Background

Clark L. Hull is the most prominent figure from whom this comprehensive drive theory of learning and motivation was postulated. The theory itself was founded on very straightforward studies of rat behavior done by Hull's students, Charles T. Perin and Stanley B. Williams. The rats were trained to run down a straight alley way to a food reward. Thereafter, two groups of rats were deprived of food, one group for 3 hours and the other for 22. Hull proposed that the rats that were without food the longest would have more motivation, thus a higher level of drive to obtain the food reward at the end of the maze. Furthermore, he hypothesized that the more times an animal was rewarded for running down the alley, the more likely the rat was to develop the habit of running. As expected, Hull and his students found that length of deprivation and number of times rewarded resulted in a faster running speed toward the reward. His conclusion was that drive and habit equally contribute to performance of whichever behavior is instrumental in drive reduction.

## Application to Social Psychology

When a person is hungry or thirsty, he or she feels tension and is motivated to reduce this state of discomfort by eating or drinking. A state of tension can also occur when a person is watched by other people or simultaneously holds psychologically inconsistent beliefs or thoughts. The theory of cognitive dissonance, proposed by social psychologist Leon Festinger, suggests that when a person is faced with two beliefs or thoughts that are contradictory, he or she feels psychological tension. This psychological tension is a negative drive state that is similar to hunger or thirst. Once a person feels cognitive dissonance, he or she is motivated to reduce this psychological tension, modifying beliefs or thoughts to match one another.

An interesting application of drive theory to social psychology is found in Robert Zajonc's explanation of the social facilitation effect, which suggests that when there is social presence, people tend to perform simple tasks better and complex tasks worse (social inhibition) than they would if they were alone. The basis for social facilitation comes from social psychologist Norman Triplett, who observed that bicyclists rode faster when competing against each other directly than in individual time trials. Zajonc reasoned that this phenomenon is a function of humans' perceived difficulty of the task and their dominant responses: those that are most likely given the skills humans have. When drives are activated, people are likely to rely on their easily accessible dominant response, or as Hull would suggest, their habits. Therefore, if the task comes easy to them, their dominant response is to perform well. However, if the task is perceived as difficult, the dominant response will likely result in a poor performance. For instance, imagine a ballet dancer who was ill-practiced and often made several errors during her routine. According to drive theory, when in the presence of others at her recital, she will display her dominant response, which is to make mistakes even more so than when alone. However, if she spent a substantial amount of time polishing her performance, drive theory would suggest that she may have the best performance of her dancing career (which she might never match in solitude).

Behavioral and social psychological perspectives, although addressing different phenomena, share an important similarity. Humans experience arousal (drive) to achieve a particular goal; habits (or dominant responses) dictate the means for reaching that

goal. With enough practice, the perceived difficulty of a task will decrease, and people are likely to perform better.

How can the simple presence of other people in our environment affect our behavior? We can never be sure how others will react to us. Will they evaluate, admire, or judge us? From an evolutionary standpoint, because we do not know how people will respond to us, it is advantageous for individuals to be aroused in the presence of others. Our instinctive drive to notice and react to other social beings provides the foundation of Zajonc's drive theory. For instance, imagine walking down the street late at night when you see a dark shadow approaching you. You will likely prepare yourself for this unexpected encounter. Your heart rate will increase, you might run, or you may even choose to socialize. Nonetheless, Zajonc maintains that your impulse is to become socially aware of those in your proximity whose intentions are unknowable.

What does another's presence make people feel? One theory suggested by social psychologist Nickolas B. Cottrell includes an evaluation apprehension model. This model suggests that humans experience arousal in the form of anxiety because of the fear of being evaluated or judged by those around them. In several experiments, it was found that the drive to present oneself as capable to avoid negative evaluation was nonexistent when the audience was blindfolded; thus, they were inattentive to the task at hand. When the audience was attentive to the task, however, instinctive drive promoted better performance.

## Implications

Drive theory combines motivation, learning, reinforcement, and habit formation to explain and predict human behavior. It describes where drives come from, what behaviors result from these drives, and how these behaviors are sustained. Drive theory is also important in understanding habit formation as a result of learning and reinforcement. For instance, to alter bad habits, such as drug use (which can be seen as a way to reduce the drive for euphoria), an understanding of how habits are created is essential; drive theory offers this insight.

In addition, drive theory as an explanation of instinctive arousal in the presence of others is apparent in people's daily lives. Because humans do not exist in a vacuum, it is imperative that they understand how

others influence them: their performance, their self-concept, and the impressions they make on the social world.

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*See also* Cognitive Dissonance Theory; Social Facilitation

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## DUAL ATTITUDES

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### Definition

Dual attitudes refer to the idea that an individual can have two different attitudes about something—both an implicit attitude and an explicit attitude. The implicit attitude refers to an intuitive response or gut reaction, whereas the explicit attitude refers to a more deliberate, thought-out response. Thus, a past love may evoke both a positive intuitive response (a positive implicit attitude) and a negative deliberated response (a negative explicit attitude). When an individual has different implicit and explicit attitudes toward something, he or she is said to have dual attitudes.

### Context

Debate exists about whether intuitive and deliberated responses truly represent different attitudes. One alternative theory is that intuitive and deliberated responses are part of a single attitude. For example, a positive intuitive response to a past love could combine with deliberated thoughts to form a single negative attitude. Another alternative theory is that

intuitive responses represent true attitudes, whereas deliberated responses are inauthentic and tainted by conscious concerns with appearance. For example, an intuitive positive response to a past love would be the true attitude, whereas a more negative deliberated response would be inauthentic, perhaps tainted by concerns with appearing to be over it. In contrast to these theories, the view endorsed by dual attitudes is that intuitive responses are one type of attitude (implicit attitudes), deliberative responses are another type of attitude (explicit attitudes), and individuals may have both implicit and explicit attitudes toward a single object or idea.

### Evidence

The strongest evidence in favor of dual attitudes is that implicit attitudes and explicit attitudes are related to different types of behavior. Implicit attitudes appear to be most strongly related to nonverbal behaviors and behaviors that are not consciously controlled. Thus, an individual with a positive implicit attitude toward a past love would be expected to lean toward, and maintain eye contact with, that past love during conversation. In contrast, explicit attitudes appear to be most strongly related to verbal behaviors and behaviors that can be consciously controlled. Thus, an individual with a negative explicit attitude toward a past love would be expected to complain about and not return the phone calls of that past love. The fact that some behaviors can be predicted on the basis of implicit, but not explicit, attitudes is consistent with the view that implicit attitudes are indeed distinct from (not part of) explicit attitudes.

Other evidence consistent with the dual attitudes perspective is that there is often little relationship between measures of implicit and explicit attitudes. If implicit attitudes were actually a component of (or a pure form of) explicit attitudes, then some relationship between the two would be expected. Although a dual attitudes model does not prohibit a relationship between implicit and explicit attitudes, such a model does not require a relationship between the two.

### Distinctions

The clearest distinction between implicit and explicit attitudes is that the former are effortlessly and unintentionally activated in the presence of the attitude

object. For example, for an individual with a positive implicit attitude toward candy, passing the candy store on the drive home should elicit a positive response, even when the individual is busy driving and is trying to concentrate on the road. In contrast, explicit attitudes are only activated with effort and intention. Thus, implicit attitudes can be ascertained even if a target person is busy or does not wish to express an attitude; explicit attitudes can only be ascertained if the target has resources and motivation to express an attitude.

Equally as important and related to these distinctions is that implicit attitudes, in contrast to explicit attitudes, are extremely difficult to bring into conscious awareness. Thus, people are often unaware of their implicit attitudes but are typically quite aware of their explicit attitudes.

A final distinction is that implicit attitudes reflect long-term, habitual responses, whereas explicit attitudes reflect more recently learned responses. A spouse whom one loved for many years may become disliked after one learns of the spouse's infidelity. However, the new explicit attitude of dislike does not necessarily replace the old and habitual positive attitude. Instead, the latter continues to exist as an implicit attitude. Ultimately, explicit attitudes are easier to change than are implicit attitudes.

### Applications

Dual attitudes have been applied to the study of prejudice with results that mirror those described earlier in this entry. First, several studies have shown that there is little correspondence between implicit and explicit attitudes toward people of a different ethnicity. Second, implicit and explicit attitudes are related to different types of behaviors. For example, White people with prejudicial implicit attitudes are more likely than other White people to blink and look away from Black people during a social interaction. White people with prejudicial explicit attitudes are more likely than other White people to verbally denigrate a Black person and to say that Black people are guilty of crimes. Thus, different types of prejudiced behavior are related to different types of prejudiced attitudes.

Dual attitudes have also been applied to the study of self-esteem with results that mirror those described earlier. First, several studies have shown that there is little correspondence between implicit and explicit attitudes about the self. Second, implicit and explicit

self-attitudes are related to different types of behaviors. For example, people with low implicit self-esteem are more likely than their high self-esteem counterparts to appear anxious in social situations. In contrast, people with low explicit self-esteem are more likely than their high self-esteem counterparts to report anxiety felt during a social situation.

### Implications

Contrary to popular opinion, gut reactions, slips of the tongue, and nonverbal behaviors may reveal only an implicit attitude, not a person's true nature. A person's explicit attitude may be revealed through more direct means. Indeed, many of the behaviors that make a difference in life, such as decisions about whom to call back, who to hire, or who to convict are more closely related to explicit attitudes.

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*See also* Ambivalence; Aversive Racism; Dual Process Theories; Implicit Attitudes

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## DUAL PROCESS THEORIES

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### Definition

Dual process theories are a group of theories in social, personality, and cognitive psychology that describe how people think about information when they make judgments or solve problems. These theories are called dual process because they distinguish two basic ways of thinking about information: a relatively fast, superficial, spontaneous mode based on intuitive associations, and a more in-depth, effortful, step-by-step mode based on systematic reasoning. Dual process theories have been applied in many areas of psychology, including persuasion, stereotyping, person perception, memory, and negotiation. In general, these theories assume that people will think about information in a relatively superficial and spontaneous way unless they are both able and motivated to think more carefully.

## Background and History

Dual process theories are built on several key ideas that have a long history in psychology. For instance, the two modes of thinking described by various dual process theories can often be mapped onto a top-down, idea-driven way of understanding the world versus a bottom-up, data-driven way of understanding. The notion that the way people understand the world is critically influenced by the knowledge that they bring to a situation (so that they begin at the top—their heads—in their understanding), as well as by the information provided within the situation itself (the bottom), dates back to Wolfgang Kohler's distinction in the 1930s between perception and sensation. For instance, when a person looks at a book on a table, he or she senses both a pattern of colors and lines with his or her eyes and actively labels the pattern "book" by using his or her knowledge about what a book is like.

Dual process theories also build on Gestalt principles explored by psychologists in the 1930s and 1940s, which suggest that people have a natural tendency to make experiences meaningful, structured, and coherent. By focusing on how one thing relates to the next and seeing patterns in the way that events unfold, a person can understand and predict the social world, which allows him or her to anticipate, plan, and act effectively.

These and other elements were integrated into dual process theories in a variety of fields, beginning in the 1980s, often as an attempt to understand and synthesize conflicting findings or theories in the area. In persuasion, for instance, the development of two dual process theories (the elaboration likelihood model and the heuristic-systematic model) allowed researchers to organize complex findings in the field of attitudes and attitude change and explain why certain variables sometimes lead to attitude change and sometimes do not. For instance, when people are relying on simple, intuitive shortcuts in their thinking, they will be more persuaded by an expert than by a nonexpert, even when the expert's arguments are not very good. However, when people are relying more on systematic, bottom-up processing of all available information, they will tend to be more persuaded by good arguments than by someone's title.

Similarly, in the field of person perception, the continuum model of impression formation was developed in an attempt to reconcile two competing viewpoints

on how people perceive others: one proposing that individuals form impressions in a bottom-up fashion, adding up lots of specific evaluations about a target person to form an overall average impression, and another claiming that people form impressions based on stereotypes or other social categories (e.g., race, gender). The continuum model suggests that people can use both of these modes, and the model identifies when a perceiver will rely solely on an initial, general categorization and when he or she will go on to think more carefully about another person based on unique information about that individual.

## Importance and Consequences

As dual process theories became increasingly popular, they were adopted by more and more areas of psychology to describe how people think about information and arrive at conclusions. Dual process theories differ in various ways. For instance, some assume that the two ways of thinking about information are mutually exclusive (either/or), whereas others suggest that they happen one after the other, or even at the same time. However, the theories are more similar than different. They typically distinguish between a quick, superficial mode and an effortful, systematic mode of thinking. They also identify factors that affect whether people are able to and want to think carefully about information. In addition, they predict how the use of each mode will influence outcomes such as judgments, attitudes, stereotyping, and memory. By focusing on how people think about social information, dual process theories allow psychologists to identify the way in which a given variable (e.g., time pressure) will influence these thought processes and how this change in thinking will in turn affect the conclusions and judgments that people make.

As an example, consider the heuristic-systematic model of attitude change in the field of persuasion. Like other dual process theories, the heuristic-systematic model proposes two distinct modes of thinking about information. Systematic processing involves attempts to thoroughly understand any information encountered through careful attention, deep thinking, and intensive reasoning (e.g., thinking carefully about the arguments presented, the person arguing, and the causes of the person's behavior). This information is combined and used to guide subsequent attitudes, judgments, and behaviors. For instance, a systematic approach to

thinking about the Israeli–Palestinian conflict might involve reading as many magazine and newspaper reports as possible to learn and develop an opinion about the best course of action for the Middle East. Not surprisingly, such systematic thinking entails a great deal of mental effort, and requires that a person (a) can devote a certain amount of attention to thinking about the issue and (b) wants to devote this attention. Thus, systematic processing is unlikely to occur unless a person is both able and motivated to do it.

Relative to systematic processing, heuristic processing is much less mentally demanding and much less dependent on having the ability (e.g., enough knowledge and enough time) to think carefully about information. In fact, heuristic processing has often been called relatively automatic because it can occur even when people are not motivated and able to deliberately think about a topic. Heuristic processing involves focusing on easily noticed and easily understood cues, such as a communicator’s credentials (e.g., expert or not), the group membership of the communicator (e.g., Democrat or Republican), or the number of arguments presented (many or few). These cues are linked to well-learned, everyday decision rules known as *heuristics*. Examples include “experts know best,” “my own group can be trusted,” and “argument length equals argument strength.” These simple, intuitive rules allow people to form judgments, attitudes, and intentions quickly and efficiently, simply on the basis of the easily noticed cues, and with little critical thinking. A heuristic approach to the Israeli–Palestinian conflict might involve simply adopting the opinion of a noted Middle East political expert. In other words, heuristic thinking is what a person does when he or she does not have much ability or time to think about something and wants to make a quick decision.

The heuristic-systematic model suggests that people’s ability and motivation to think carefully about information influence whether they rely solely on quick decision rules or go on to think about information more carefully and deeply. Furthermore, this model identifies three broad categories of motives that influence whether thinking in either manner will be relatively open-minded versus relatively biased. Accuracy motivation is geared toward discovering what is correct. Accuracy motivation leads to relatively open-minded, evenhanded thinking. Defense motivation refers to the need to protect oneself against

potential threats to one’s valued opinions and beliefs. This self-focused motivation leads people to choose heuristics that help protect their beliefs and to systematically think about information in a biased way that supports these beliefs. Finally, impression motivation involves the desire to make a good impression on another person or to maintain a positive relationship with someone. This other-focused motivation also biases thinking in favor of reaching a desired conclusion—in this case, the one that will best serve the relationship. Research on these three motivations reveals that people can think about information in an open-minded way when they have a lot of time and energy and really want to, but they are also very good at thinking about information in a way that lets them believe what they want to believe or what they think others want them to believe.

Dual process theories have been applied to many other research areas in social psychology. For example, the MODE model (motivation and opportunity as determinants of the attitude–behavior relationship) suggests that attitudes may guide behaviors in one of two ways. Strong positive or negative attitudes can guide behavior directly, without the individual thinking very much. Or, individuals can construct their attitudes in a more bottom-up, systematic fashion and then use this new attitude to determine their behavior. As another example, dual process models of how we perceive other people suggest two sequential modes of thinking about information when forming impressions of others. First, individuals spontaneously categorize the person (e.g., “She is a woman”; “He is Chinese”), and then—if they are both motivated and able to do so—they continue on to think more systematically about individuating, unique features of the person. Similarly, a dual process model of stereotyping suggests that people have an automatic tendency to stereotype others but can correct this stereotype if they are motivated and able to deliberately modify their views.

Perhaps most recently, a dual process perspective has been applied to negotiation settings. Studies in this field suggest that when negotiators have little desire to think carefully (or are unable to think carefully), they often rely on stereotypes about an opponent’s group membership or the belief that if one side wins the negotiation, the other has to lose. In contrast, when motivation and ability to think carefully are relatively high, reliance on these heuristics tends to

decrease, and systematic processing increases. This allows negotiators to discover win–win solutions that are better for both parties.

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*See also* Attitude Change; Elaboration Likelihood Model; Heuristic Processing; Motivated Cognition; Need for Closure

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## DYNAMICAL SYSTEMS THEORY

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### Definition

Emotions go up and down over the course of days. But sometimes emotions are more constant. For instance, depression could be characterized with fairly constant negative emotions across days. When will hearing some negative information lead a person into a depressed pattern? When will the same negative information just lead to a bad day among the good days? Dynamical systems theory (also known as dynamic systems theory or just systems theory) is a series of principles and tools for studying change. It is based on concepts from mathematics and is a general approach applicable to almost any phenomenon.

There are two types of change that are central to this method. First, a systems approach focuses on how a phenomenon changes over time. For example, a systems approach to emotions concentrates on how

emotions evolve in time rather than whether a person is happy or sad on a given day. It seeks to identify patterns of change that can be reoccurring, constant, or even ever-changing. For example, emotions might go back and forth between good and bad days (reoccurring), remain negative (constant, not unlike depression), or constantly change in complex ways. A systems approach often assesses the stability of those patterns. For example, will receiving some negative information knock a person out of a pattern of ups and downs? Will the same negative information disrupt a constant negative pattern such as depression? Dynamical systems theory can also identify when the pattern of emotional change will evolve into another pattern on its own or in relation to other parts of the system. For example, under what circumstances can only a constant negative pattern of emotions exist? In summary, dynamic systems can be used to identify what might alter the entire long-term pattern of emotions that follow.

The second type of change examined by systems theory is that which occurs from the many interactions among units (i.e., individuals, groups, aspects within the individual). For example, a systems perspective of emotions might simultaneously consider the interaction of the differing emotions between a husband and wife. These interactions are assumed to be multidirectional. That is, the husband and wife mutually influence one another so that each changes and limits the emotions of the other. Because of these mutual influences on emotions with other people, there is the potential for each person to generate a very complicated pattern of emotions in time. Surprisingly, these multicomponent systems tend to generate relatively simple patterns. For example, a pair of individuals who begin with different emotions might converge on the same emotional pattern and might even help each other maintain that pattern (stability). That is, a couple both in the same ups and downs of emotions might make each person in the pair more resistant to negative information. This order emerges because of the multidirectional and reciprocal influences and tends to promote a great deal of predictive power. For example, you might need to know only the emotional pattern of a single individual in a group to know automatically the emotional changes of every other individual in the group. Thus, part of a systems perspective is identifying the qualities that depict the entire multicomponent system.

## Context and Importance

Within social psychology, systems theory has been applied to a wide variety of topics. It is often called a meta-theoretical perspective because its principles can be applied to virtually any phenomenon. For this reason, systems theory is often thought not to be theory at all but instead a descriptive tool. Regardless, systems theory is inherently an interdisciplinary approach found in fields as diverse as mathematics, physics, architecture, biology, chemistry, and psychology, sharing the same language, tools, and concepts.

## Applications

Systems theory tends to be applied in three main ways. The first, dynamical systems modeling, consists of generating simulations of the many interactions functioning over time. The simulations describe the phenomenon mathematically, testing out situations that parallel the real world but that would be difficult to study in the real world. For example, it is possible to study the emotions of couples across days, but modeling could be used to examine emotions at a community level identifying the circumstances that discriminate when depression is commonplace in a community from when it is rare. Dynamical systems models have revealed that very simple mathematical equations of change are capable of producing a great deal of complexity. The simulations need not be very complicated to move beyond predicting patterns in real life. However, both relatively simple equations and very complex ones can also generate order.

The second way dynamic systems theory is used is empirically. In empirical methods, mathematical concepts are applied through longitudinal methods and

designs that measure changes over time. These studies tend to be very data demanding, often collecting information in real time over long periods of time. Mathematical equations and systems concepts are then used to describe the outcomes, often generating new predictions for further empirical studies.

Lastly, systems theory is used as a metaphor whereby the concepts are applied qualitatively without use of mathematical relationships. Many phenomena in psychology cannot easily be measured at the quantitative level that is demanded by empirical systems techniques. Nor can they be easily quantifiable by a set of equations. Thus, the concepts are used as heuristic examples of the phenomenon. Since a systems approach focuses on change and complex interactions, the concepts are still metaphorically informative to the psychological sciences.

*Jonathan Butner*

*See also* Emotion; Research Methods

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# E

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## ECOLOGICAL RATIONALITY

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### Definition

Human reasoning and behavior are ecologically rational when they are adapted to the environment in which humans act. This definition is in stark contrast to classical definitions of rationality, according to which reasoning and behavior are rational when they conform to norms of logic, statistics, and probability theory.

### History

The notion of ecological rationality, that is, the interaction of cognition and environment, is highlighted in Herbert Simon's analogy of a pair of scissors: Human rational behavior is shaped by a pair of scissors, with one blade being the structure of the environment and the other blade the computational capabilities of the actor. This notion highlights two important aspects of the concept of ecological rationality. First, just as one cannot understand the function of scissors by looking at a single blade, one cannot understand human cognition by studying either the environment or cognition alone. Second, the concept of ecological rationality can be employed to evaluate more than just people's behavior; it is additionally presumed that people's reasoning is the result of an adaptation of the individual to his or her environment.

The concept of ecological rationality has been strongly influenced by the psychologist Egon Brunswik's work on human perception. Brunswik argued that human perception cannot be understood when it is studied in a nonrepresentative laboratory

setting that eliminates the ecological structure of real-world environments. When following the common experimental practice of using a factorial design, objects are constructed or selected such that the cues describing the objects, which are the focus of interest, are independent of each other. This procedure does not acknowledge that the same cues are often correlated with each other in everyday life and that human perception could take these correlations into account. Ignoring these environmental aspects in an experimental setting has profound consequences: It severely limits the generalizability of the results and, in particular, obscures the adaptation and ecological rationality of cognitive mechanisms.

According to Brunswik, to understand cognition one needs to explore the characteristics of the environment on which cognition is based. This point has inspired many researchers, including John R. Anderson, James J. Gibson, Gerd Gigerenzer, David Marr, and Roger Shepard. Anderson, for instance, argues that any study of psychological mechanisms should be preceded by an analysis of the environment. His point is that such an analysis may help to identify the cognitive mechanisms that underlie human behavior. This process can be problematic, however, given that different mechanisms often predict very similar behavior. Therefore, the behavior alone does not allow one to infer unambiguously which of the mechanisms produced that behavior. However, when one also analyzes what mechanisms are able to produce adaptive behavior in a specific environment, the set of mechanisms can be reduced. If a limited set of adaptive mechanisms is focused on to explain cognition, the identification of the most adequate mechanism is simplified.

The identification of cognitive mechanisms that govern human behavior can further be improved when it is taken into account that people's reasoning is constrained by limited resources, such as time, memory, or computational power. Faced with these limitations, it is reasonable to assume that humans will aim for solutions to a problem that do not require many resources. Thus, when two potential cognitive mechanisms are able to produce adaptive behavior in a specific environment, it is likely that humans will apply the mechanism that requires the least amount of resources. In this vein, researchers such as Gigerenzer, Peter Todd, and the ABC Research Group have argued that people apply fast and frugal heuristics that are adapted to an environment. A heuristic is frugal when it does not require much information, and it is fast when it relies only on simple computations. From the perspective of ecological rationality, a heuristic that does not require many resources and, in addition, is able to solve a problem well is a very promising candidate to describe the cognitive process that underlies human behavior.

### **Classical Definitions of Rationality**

The definition of ecological rationality stands in stark contrast to classical definitions of rationality. According to the classical definition, human behavior is rational to the extent that it conforms to the norms of logic, statistics, and probability theory. For example, according to Jörg Rieskamp, Jerome Busemeyer, and Barbara Mellers, most theorists use principles of consistency and coherence when evaluating the rationality of people's preferences. For instance, if a person prefers option A to option B, and option B to C, the preference of option C to A would be intransitive and violate consistency. Because of the violation of the logical consistency principle, the person's preferences are perceived as a violation of rationality. The use of this classical definition of rationality to evaluate cognitive processes has prevailed in one of the most influential psychological research programs on human reasoning, judgment, and decision making of the past 3 decades, namely, the heuristics-and-biases program. This program has illustrated for a large variety of reasoning problems that human behavior often violates basic norms of logic or probability theory. These violations, following the classical definition of rationality, have consequently been labeled as biases and have

been explained by the application of heuristics that also violate the classical norms of rationality.

### **An Example of Classical and Ecological Rationality**

Consider a physician's problem of inferring which of two heart attack patients needs more urgent treatment. This inference can be made on the basis of several cues, for example, the patients' systolic blood pressure or age. A physician might consider blood pressure as a more important indicator compared to age when inferring a patient's risk. When considering two patients, A and B, the physician might decide that although patient B has higher blood pressure than A, due to a small negligible difference, the physician will treat the older patient A first. The same might be the case when the physician compares patient B with C, where again patient C's blood pressure is not substantially higher than B's, so the physician treats the older patient B first. However, if the physician had compared patients A and C, she might have treated patient C first, because now C's blood pressure is substantially higher than A's. Thus, the physician's decisions would be intransitive and thereby would violate the consistency principle, a cornerstone of classical definitions of rationality.

Consider the decision now from an ecological perspective, and a different conclusion can be drawn. First, the physician has to make decisions rather quickly and his or her sequential inference strategy allows for very quick decisions. Second, the hypothetical example illustrating intransitive decisions might not occur very often in real life: Blood pressure could be positively correlated with age, so that when treating the patient with the higher blood pressure, most likely the older patient will be treated first. Thus, the ecologically rational inference strategy of the physician, in principle, violates classical definitions of rationality, but in fact these violations might not occur frequently in real life.

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*See also* Behavioral Economics; Decision Making; Dual Process Theories; Ecological Validity; Fast and Frugal Heuristics

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## ECOLOGICAL VALIDITY

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### Definition

Ecological validity is the extent to which research findings would generalize to settings typical of everyday life. As such, ecological validity is a particular form of external validity. Whereas external validity refers to the overall extent to which findings generalize across people, places, and time, ecological validity refers more specifically to the extent to which findings generalize to the settings and people common in today's society.

### Background and Distinctions

Validity has many faces, including *internal validity* (accurate claims about cause), *construct validity* (accurate claims about the nature of variables), and *external validity* (accurate claims about how processes and findings generalize across people, places, and time). Ecological validity is one aspect of external validity in which researchers ask whether research results represent what happens in everyday life. More specifically, ecological validity addresses whether an effect has been shown to operate in conditions that occur often for people in the population of interest.

In this regard, ecological validity is closely related to the concept of *mundane realism*. Experimental tasks are said to have mundane realism when they closely resemble activities that are common in natural settings. For example, activities in an experiment might be realistic in this mundane way when participants are asked to read a newspaper story about an obscure issue in a foreign country. This study might be considered as having a great deal of mundane realism because it uses activities common in everyday life (reading a newspaper). Yet the study may also be considered as

lacking in *experimental realism* (the extent to which the activities are meaningful and have an impact on participants) if the topic of the newspaper article is uninteresting and fails to engage participants.

Ecological validity does not simply reflect an absence of experimental realism, because there are certainly many engaging and influential activities that form core aspects of everyday life. In fact, one might distinguish between mundane realism and ecological validity by noting that, in the real world, people would be relatively unlikely to spend time reading a newspaper article about a topic about which they know and care very little. Thus, although newspaper reading itself seems to reflect everyday activities quite well (mundane realism), the use of that activity in the experimental setting may diverge from the ways and reasons people typically read newspapers. That is, findings based on the use of this activity may lack ecological validity.

In this sense, ecological validity is also related to *psychological realism* (the extent to which the psychological processes operating in an experiment also occur in everyday life). When discussing psychological realism, it is important to distinguish between the specific activities and materials used in a study (mundane realism), the likely impact of the activities and materials (experimental realism), and the types of psychological processes that participants use to complete the activities in the study. Even if the activities in a study bear little resemblance to real-world activities (low mundane realism) and have relatively little impact on participants (low experimental realism), the thought processes that participants use in the study may be quite common in the real world (high psychological realism). For example, if a study involves judging words as quickly as possible as they appear on a computer screen, this would not be a typical activity in everyday life, and the words may not create strong reactions in research participants. However, if the words are activating concepts that then help people to quickly comprehend the next word on the screen, this may demonstrate a psychological process (concept activation) that is extremely common in everyday life.

Researchers might reasonably ask whether ecological validity is always valued. To be sure, all else being equal, researchers would prefer that their findings replicate in real-world settings. However, as noted earlier, psychological processes that would operate in many everyday settings may be more efficiently and

effectively tested using methods that remove much of the messiness (lack of experimental control) of real-world settings. Especially when one is testing specific psychological theories and doing so by isolating particular variables within the theory, ecological or even external validity more generally may not be of the utmost importance. When seeking to intervene in specific applied settings, however, one would certainly want to make sure that the intervention of interest is able to influence behavior even with all of the messiness of the natural environment. This may be more likely if the intervention is developed on the basis of research that incorporates as many features of the real-world environment as possible.

Despite ecological validity being relevant to which settings a result might generalize, the reader should note that ecological validity is not the same as external validity. There is no guarantee that an effect found in a specific, ecologically valid setting is more likely to generalize across settings (a key aspect of external validity) than is an effect found in a more artificial laboratory setting. Although a study conducted in a coffee shop might produce results that are more likely to generalize to coffee shops, the results of the study may be no more likely to generalize across many settings (such as courtrooms, boardrooms, or classrooms) than a study conducted in a laboratory where background noise is more carefully controlled. Support for external validity can be garnered from replications of an effect at different points in time and in different places, even if all of those places are quite artificial and all lack ecological validity.

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*See also* Mundane Realism; Research Methods

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## EFFORT JUSTIFICATION

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### Definition

Effort justification is the idea that when people make sacrifices to pursue a goal, the effort is often rationalized by elevating the attractiveness of the goal. In other words, people sometimes come to love what they suffer to achieve. The effort justification hypothesis is derived from cognitive dissonance, one of the best-known theories in social psychology. Dissonance theory emphasizes how inconsistencies among important cognitions can be motivating, often by bringing one's attitudes in line with one's behavior. It has been broadly applied. With effort justification, the potentially dissonance-arousing question is whether the sacrifices one is making to achieve a goal are worth it.

The definition of *effort* used by dissonance theorists has been broad. It includes not only the literal expenditure of physical and mental energy but also sacrifices such as payment of a fee and enduring embarrassment. From the standpoint of the effort justification hypothesis, the exact nature of the effort is less important than its magnitude. In fact, some evidence suggests that, once a person is committed to a course of action, the mere anticipation of effort can lead to justification even before the effort is actually undertaken. Regardless of the nature of the effort or whether it is actual or anticipated, the underlying, dissonance-based logic is the same: motivated thinking to rationalize the effort.

A straightforward effort justification prediction that has been supported by research is that the more effort that is expended on a task, the more the task will be liked. For example, when participants in an experiment are asked to perform a task such as circling numbers, the task is subsequently liked more when undertaken with instructions that make it high (vs. low) in effort.

### Applications: Group Initiation Rituals

The relevance of effort justification for such processes as initiation into groups was evident early in cognitive dissonance research. In a classic experiment, participants were asked to pass an embarrassment-based screening test before being admitted into a discussion group on sex. The test was in fact bogus (all participants passed), but it allowed for a manipulation of effort required to enter the group. Participants who underwent

a highly embarrassing screening subsequently rated both the group members and the discussion as significantly more interesting than did participants who undertook a mildly embarrassing screening (or no screening at all).

If effort enhances liking for, and commitment to, the group, it is easy to understand why many groups have initiation rituals that one must pass before becoming a full-fledged member. Hazing is a long-standing practice associated with Greek organizations in college and sports teams more generally. Military boot camps are grueling trials through which soldiers must pass. And anthropology provides many examples of societies that require difficult, and sometimes dangerous, rites of passage between adolescence and adulthood. From the standpoint of effort justification, these diverse activities accomplish a common outcome: greater attraction to the group.

### Applications: Psychotherapy

Although psychotherapy can be undertaken for many reasons and can take many forms—cognitive behavioral, psychodynamic, individual, group—in each case the client is required to expend effort to achieve a goal. If effort justification results in enhanced goal attractiveness, then the process might serve as a common factor that contributes to the success of diverse therapies.

Evidence for this comes from several studies that use therapies that are bogus from the standpoint of traditional theories of psychotherapy but which require the expenditure of effort. For example, people with snake phobia or who are underassertive might be asked to engage in physical exercise; overweight women might be asked to speak into a machine that makes fluent speech difficult; or speech-anxious participants might be asked to proofread. In each case, on subsequent behavioral assessments, the bogus therapy produced significant improvement compared to a lower-effort version of the same therapy or a no-therapy control group.

An interesting implication of this perspective is that if therapies are free, the motivation to engage in effort justification will be reduced. Even a nominal fee might take better advantage of cognitive dissonance.

### Boundary Conditions

Effort does not always enhance goal attractiveness. If it did, more children would like school and fewer

marriages would end in divorce. Cognitive dissonance research has shown that people's tendency to rationalize their behaviors is greatest when they see themselves as freely choosing the behavior (especially by public commitment), when the expected sacrifice is known beforehand, and when external justifications for the behavior are low. In the psychotherapy studies described previously, for example, the beneficial effects of effort therapies are seen only when participants' choice for undertaking the procedures (as well as their aversive nature) is emphasized beforehand.

Even when conditions are ripe for dissonance, effort may not always lead to enhanced goal attractiveness. Other ways to rationalize the effort (suggested by decades of dissonance research) include minimizing one's perception of the sacrifice being made or retrospectively minimizing one's perceived choice for undertaking the effort.

### Implications

At least two important implications seem to follow from effort justification. First, it is likely to have functional benefits for groups. By increasing attraction and commitment to the group, group cohesion and stability are enhanced. Second, effort justification is likely to increase persistence at tasks that are not altogether pleasant, especially when such tasks are seen as chosen. Many worthwhile outcomes in life require short-term sacrifice to achieve longer-term gain. By encouraging such sacrifice, effort justification is functional to the individual and the group.

Of course, what is functional is not always good. Attractive, cohesive groups may be more prone to group-think, and persistence at lost causes can be destructive. For example, the persistence of the American war effort in Vietnam in the face of escalating costs and decreasing likelihood of success has been analyzed using effort justification.

Danny Axsom

*See also* Autonomy; Cognitive Dissonance Theory; Group Dynamics; Motivated Cognition; Motivated Reasoning

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## EGOCENTRIC BIAS

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### Definition

Most people know more about themselves than they know about others. This is true in part because people tend to pay more attention to themselves than to others and in part because people have privileged access to information about themselves (e.g., private thoughts, emotions) that is unavailable to others. Because it is so plentiful, information about the self can exert a disproportionate influence on various kinds of judgments. When it does, that tendency is known as an egocentric (i.e., self-centered) bias.

As an example of an egocentric bias, consider how people divide up the credit for collaborative endeavors. When individuals work together on a task, such as a sales team that works to market a new product or students who collaborate on a class assignment, each person, on average, tends to assign him- or herself a bit more of the credit for the group's output than the others feel he or she deserves. Thus, if you add up the proportion of the work that each collaborator claims to have contributed, you usually end up with a sum that exceeds 100%. (Logically, of course, this cannot be; if three collaborators each believe they have done 50% of the work—a total of 150%—then one or more of them are mistaken.) Why does this happen? Some of it is an unscrupulous “grab for credit” in which people falsely claim to have done an inflated share of the work to claim an inflated share of the rewards (a sales bonus or a course grade). But it also stems in part from an egocentric bias in recalling one's own contributions. Simply put, people have an easier time remembering their own inputs than those of others. The ideas *we* contributed at a sales meeting or the hours *we* spent in the library are easier to remember than those that others contributed.

When it comes time to determine each collaborator's share of the credit, then, the relative ease with which our own contributions come to mind makes them seem as though they were more numerous than they actually were, causing us to overestimate them. Indeed, because one's own inputs are easier to recall even when they are unflattering, this bias occurs even when people wish to *minimize* their role in a collaborative endeavor. Married individuals in one study who were asked to divide responsibility between themselves and their spouse for several household activities claimed more than their fair share of the credit not

only for positive activities (“cleaning the dishes”) but also for negative ones (“causing arguments”).

This is just one example of an egocentric bias. Our self-centered perspectives give rise to many others, including a tendency to overestimate how successfully we communicate with others (assuming others understand what we understand), a tendency to overestimate how much others share our attitudes and preferences (assuming others feel as we do), and a tendency to believe others are paying attention to us more than they are (assuming we stand out to others as much as we do to ourselves).

*Ken Savitsky*

*See also* Accessibility; Availability Heuristic; Self; Self-Reference Effect; Self-Serving Bias

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## EGO DEPLETION

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### Definition

Ego depletion refers to the loss of a personal resource (and associated breakdown in performance) due to the previous exertion of self-control or other effortful and willful acts of the self. Ego depletion may be especially important in understanding why self-control fails and what the processes are that underlie self-control.

The model of ego depletion suggests that individuals have a fixed amount of resource to exert self-control or perform other effortful and willful acts of the self. This resource, called ego strength, is required for any and all self-directed efforts (in particular, self-control and making choices that are relevant to the self). This ego strength is consumed or depleted in the process of self-control, however. In addition, this ego strength is recovered slowly, so that it remains depleted for some time after the exertion itself. Thus,

the process of exerting self-control or making choices reduces the amount of ego strength available for future self-control efforts. Moreover, the success of self-control depends on ego strength: When ego strength is depleted, self-control is more likely to fail. Hence, individuals whose ego strength has been depleted through the previous exertion of the self's will are more likely to suffer a loss of self-control, because the success of self-control depends on having enough strength to fight off the temptation. In short, the exertion of self-control can lead to poorer self-control subsequently, through the exhaustion of self-control strength, a process known as ego depletion.

### Evidence

Although a direct measurement of individual's ego strength is not yet possible, scientists can investigate the effects of ego depletion by examining self-control performance. In particular, researchers have focused on how exerting self-control affects subsequent self-control performance. Consistent with the process outlined in the previous section, individuals perform more poorly on a task that requires self-control after exerting self-control, as compared to individuals who worked on an equally frustrating, arousing, and unpleasant task that did not require self-control. For instance, in one experiment, individuals who were asked not to eat freshly made chocolate chip cookies (a highly tempting food that requires a great deal of self-control not to eat) subsequently quit working on a difficult puzzle sooner than individuals who were asked not to eat radishes (a less tempting food that requires only a little self-control not to eat). Despite the differences in final self-control performance, the groups did not differ in mood or arousal; the differences in persistence on the frustrating puzzle appeared to be the result of how much self-control was required by the initial task.

Subsequent research illustrates the importance of ego strength in self-control. Underage drinkers were asked to record their alcohol intake on a palm-top computer for more than 2 weeks. They also reported their moods, urge to drink, and self-control demands on this computer. On days that they reported greater self-control demands than average (and hence were more ego depleted), they were more likely to drink alcohol, consumed more alcohol when they did drink, and became more intoxicated. Most important, when they were ego depleted, these drinkers reported consuming more alcohol than they intended. In other words,

they had trouble controlling their alcohol intake when ego depleted. Additional analyses indicated that self-control demands did not increase the urge to drink, but instead undermined their ability to self-regulate.

### Importance and Implications

Ego depletion may help explain why self-control breaks down, despite a person's best intentions. If a person's level of ego strength is depleted, he or she may find it difficult to resist temptations, as demonstrated in the research on underage drinkers. Because many important behaviors require self-control, the process of ego depletion can have broad ranging effects, from increased criminal behavior and prejudice to picking fights with significant others and even a decline in intellectual performance. Likewise, everyone has many demands on his or her ego strength throughout the day. Besides resisting temptations, research has found that making personally difficult choices, controlling moods and thoughts, trying to make a good impression, and even ignoring someone depletes ego strength. Indeed, there is evidence that individuals are more likely to suffer a breakdown in self-control in the evening as compared to the morning because of the amount of self-control that everyone has to exert throughout the day.

Because of the many demands on our ego strength and the importance of self-control, self-management of ego strength is key. Individuals may decide what self-control tasks are important (and hence will deplete ego strength on) and which are less important. Both external and internal motivators likely shape this decision. This means that the conservation of ego strength is critical and can help explain the difference between individuals and situations in self-control outcomes.

It is also important to realize that exerting self-control may lead to eventual increases in ego strength. In the same way that lifting a heavy weight fatigues a muscle and leads to weakness until the person has had a chance to rest, exerting self-control appears to deplete ego strength. However, much as lifting weights leads to greater strength and increased resistance to fatigue with rest and proper training, the judicious regular exertion of self-control may lead to better self-control performance in the long run.

*Mark Muraven*

*See also* Executive Function of Self; Self; Self-Regulation

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## EGO SHOCK

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### Definition

Ego shock refers to feeling mentally paralyzed or frozen in response to severe self-esteem threats. Individuals in a state of ego shock have trouble thinking; they feel distant from themselves; the world seems distant or strange; they feel emotionally numb. The experience of ego shock is temporary, usually only lasting for seconds or minutes.

### Context and Importance

Ego shock typically occurs when individuals experience extreme blows to their self-esteem. One of the most common causes of ego shock is rejection by friends or romantic partners. For example, having a girlfriend or boyfriend unexpectedly say that you are worthless and ugly might lead to an experience of ego shock. There might be an immediate experience of mental paralysis or strangeness that comes over you. The ego shock then passes and other thoughts and feelings, such as anger, sadness or blame, may emerge. Other causes of ego shock include academic failure (such as being turned down for admission by a prestigious university), athletic failures (such as missing a free throw at the last second of a championship game and causing your team to lose), and moral failures (stealing something from a store and then being caught). Fortunately, these are rare experiences: Ego shock does not occur frequently.

Ego shock can have both negative and positive consequences for the person. In the short term, people who are in a state of ego shock have difficulty controlling themselves. Because of this, they are more easily

influenced by social circumstances. For example, if someone hands them a bottle of whiskey and says, “Drink this,” the person in a state of ego shock is more likely to do so. In the long term, the experience of ego shock can also have negative consequences. People may respond to ego shock by giving up on what had caused the blow to their self-esteem. For example, a person may swear off dating or quit playing basketball.

On the other hand, ego shock can have certain benefits. It is possible that the experience of ego shock actually protects the person psychologically in the short term following self-esteem threat. Rather than mentally disintegrating or behaving destructively, the person goes numb. In the longer term, individuals who experience ego shock often change their lives in positive ways. After the shock of a major academic failure wears off, for example, students may redouble their efforts to succeed and actually become better students than they were before.

No one knows the exact cause of ego shock. It may be an adaptive or protective feature that has evolved to help preserve the personality in the face of threatening information. Ego shock may also simply reflect a mechanical failure in the brain. When information comes in that is too extreme and negative to process effectively, the brain simply shuts or slows down temporarily.

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*Amy B. Brunell*

*See also* Rejection; Self; Self-Esteem; Self-Serving Bias

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## ELABORATION LIKELIHOOD MODEL

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### Definition

The elaboration likelihood model (ELM) of persuasion is a theory about how attitudes are formed and changed. This theory organizes the many different attitude change processes under a single conceptual umbrella. The ELM was created to provide a framework to help explain the many seemingly inconsistent

findings in the persuasion literature. Sometimes a variable (e.g., distracting the person reading a message or associating the message with an attractive source) would enhance persuasion, sometimes it would reduce persuasion, and sometimes it would have no effect. Furthermore, sometimes attitude change would last over time and would predict behavior, but sometimes it would not. The ELM provides a framework to help researchers understand the factors responsible for these conflicting findings.

### Elaboration Continuum

The extent to which people elaborate in response to a message is reflected in the extent to which they generate their own thoughts or reactions to the message. The generation and consideration of these thoughts will vary, depending on how much mental effort the person is willing and able to exert. That is, the ELM recognizes that sometimes people think a lot about an issue or message, and sometimes they hardly pay any attention to it at all. Depending on the extent of elaboration, different processes can be responsible for attitude change, often with different outcomes.

### Two Routes to Persuasion

The ELM also distinguishes between two routes to persuasion: the central route and the peripheral route. Central route processes are those that require a great deal of thought and therefore are likely to occur under conditions that promote high elaboration. Central route processes involve careful examination of a persuasive communication (e.g., a speech, an advertisement) to determine the merits of the evidence presented. Under these conditions, a person's thoughts in response to the communication and their confidence in these thoughts determine the persuasive outcome (i.e., the direction and amount of attitude change). The more positive thoughts people have to a message, such as a proposal to cut taxes (e.g., "I'll make more money if taxes are cut") and the more confidence they have in these thoughts, the more persuaded they will be by the message. On the other hand, the more negative thoughts that people have to a message (e.g., "the tax cut will hurt poor people") and the more confidence they have in these thoughts, the less persuaded they will be by the message.

Because people are carefully assessing the information in a persuasive communication for its merits under the central route, the perceived quality of this evidence

is a very important determinant of persuasion. If the evidence for some proposal is seen as strong, a person is more likely to have favorable thoughts about the position and is likely to form a proposal-consistent attitude. If the evidence is seen as weak, however, then the person is likely to have unfavorable thoughts with regard to the message position and may even form an attitude that is opposite to the advocated position. The thoughts that occur in the central route can be relatively objective (fairly evaluating each argument), or they can be biased by other factors (e.g., a sad mood). A number of factors will determine whether people have confidence in the thoughts that they generate, such as how quickly the thoughts come to mind (more easily accessible thoughts are held with more confidence) and the credibility of the person who presents the arguments (people have more confidence in thoughts generated to a credible source).

Peripheral route processes, on the other hand, require relatively little thought and therefore predominate under conditions that promote low elaboration. In the peripheral route, the strength of the evidence presented matters less. Instead, in peripheral route processes, people often rely on judgmental heuristics (e.g., "experts are always right") or cues taken from surface features of a message (e.g., the number of arguments presented), its source (e.g., their attractiveness), or other factors (e.g., being in a good or bad mood). That is, people might go along with a proposal just because they like the source and not because they have considered the merits of the issue. In addition, peripheral route processes can occur without awareness, such as in classical conditioning or mere exposure.

### Determinants of Elaboration

Which route a message recipient takes is determined by the extent of elaboration. When elaboration is high, central route processes will predominate, but when elaboration is low, peripheral route processes will predominate. Under conditions of moderate elaboration, a mixture of central and peripheral route processes will be responsible for attitudes. Both motivational and ability factors determine elaboration. Motivational factors include (among others) how personally relevant the message seems, how accountable the person feels for evaluating the evidence presented, and the person's need for cognition (i.e., his or her intrinsic enjoyment of thinking). Factors affecting one's ability to process a message include how much distraction is present, the time pressure to decide, and the amount of

issue-relevant knowledge one has regarding the proposal (e.g., when a message uses a lot of technical jargon that requires specific knowledge to understand).

### Consequences of Persuasion

Not only can the processes that occur under high and low elaboration be different, but the consequences of these processes also differ. Attitudes formed under high elaboration are stronger in that they are more predictive of behavior and information processing, more stable over time, and more resistant to future persuasion than those formed under low elaboration. This is because careful thought about an issue leads to the development of a more consistent, coherent, accessible (i.e., comes to mind readily), and confidently held representation of the attitude object.

### Multiple Roles for Persuasion Variables

One of the most important features of the ELM is the proposition that variables can serve multiple roles in a persuasive setting depending on other contextual factors. The variables that serve multiple roles can include any aspect of the persuasive communication, such as the message itself (e.g., number of arguments, complexity of language), its source (e.g., credibility, attractiveness), the recipient (e.g., their mood, preexisting attitudes), or other contextual variables (e.g., the color of paper on which the message is printed). For example, under high elaboration, a given variable (e.g., source attractiveness) will be processed as an argument and examined as to whether it provides compelling evidence for the position advocated (e.g., “If she looks that good after using that shampoo, maybe I will too”). In addition, the same variable can sometimes serve to bias the ongoing thinking. Some variables, like source attractiveness or a positive mood will typically bias the information processing in a positive way (e.g., “I really want to like her so I’ll see if I can agree with the message”), whereas others will introduce a negative bias. Among the latter variables are the knowledge that the message source is attempting to persuade you or a preexisting attitude toward the issue (e.g., if your original attitude disagrees with a speaker, you may defend your existing attitude and focus on finding the flaws in the speaker’s arguments). If, however, a person becomes aware that something may be biasing his or her thinking, and the person

wishes to correct for the bias, attitudes can be corrected. That is, people can adjust their attitude in the direction and magnitude opposite to the perceived direction and magnitude of the biasing factor. Thus, if one person thinks that an attractive source produces a huge bias, he or she will make a large adjustment to his or her attitude in a direction opposite the perceived bias. This correction process is likely to occur under high elaboration, because it requires both motivation and ability to perform.

A third role that variables can play under high elaboration is to affect a person’s confidence in the thoughts that were generated (e.g., “That model really knows about fashion so I can trust my thoughts”). Confidence is a metacognition because it is a thought about a thought. In this case, one thought is the thought in response to the message (e.g., “this product sounds very useful”), while the other thought is about the first thought (e.g., “I am confident that my thoughts about this product are valid”). Many variables have been shown to affect thought confidence. In one study, for example, students who were induced to nod their heads (as if saying “yes”) during the presentation of a message had more confidence in their thoughts than people who were induced to shake their heads (as if saying “no”) during the message. When the message contained strong arguments, nodding led to more persuasion than shaking because people had more confidence in their favorable thoughts to these strong arguments, but when the message contained weak arguments, nodding led to less persuasion than shaking because people had more confidence in their unfavorable thoughts. This confidence effect only occurred when elaboration was high.

Under conditions of low elaboration, the same variable that served as an argument, biased thoughts in response to the message, or affected thought confidence can act as a cue or heuristic (e.g., “if she likes the car, so do I”). Note that if an attractive person were processed as an argument for a car, it would not be a very compelling argument and might lead to no persuasion, whereas when this attractive person is processed as a simple cue, more persuasion would result.

Under conditions where elaboration is not constrained to be high or low, a given variable can serve to increase or decrease the extent of elaboration (e.g., “I am curious as to what this attractive person thinks, so I’ll pay careful attention”). When variables affect elaboration, they can increase or decrease persuasion, depending on the strength of the arguments presented.

For example, if a variable (e.g., source attractiveness) increases elaboration, persuasion will be enhanced when strong arguments are presented but decreased when weak arguments are presented. With the multiple roles postulate, the ELM explains how the same variable can bring about attitude change in different ways (e.g., serving as a cue, biasing processing) with different consequences.

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*See also* Attention; Attitude Change; Attitude Strength; Dual Process Theories; Motivated Cognition; Need for Cognition; Persuasion; Resisting Persuasion

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something that is vast and beyond current expectations. People experience awe in response to transcendent and vast objects in art, in nature, and for some, in religious experience. People experience elevation, in contrast, in response to the morally virtuous actions of others.

Jefferson's analysis points to other hypotheses that are beginning to be investigated. What is the physiological sensation of elevation? People report feelings of the opening and swelling in the chest. These sensations may trace back to the activity of the vagus nerve, which is a bundle of nerves originating in the top of the spinal cord. Research finds that when the vagus nerve is activated, shifts in breathing and heart rate occur, and people tend to feel prosocial sentiments, such as compassion, as well as engage in prosocial behavior aimed at attending to the needs of others.

Perhaps more intriguing is the question of whether the experience of elevation inspires morally virtuous action? For Jefferson, elevation was a source of charity and gratitude. Does witnessing another's selfless action inspire altruism and benevolence in the viewer? As yet there is no evidence to support this, but the answers to this question will have important implications for the study of how people learn to be moral actors and how cooperative communities form.

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## ELEVATION

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### Definition

Novels, films, religious texts, and popular books often provoke a feeling in the viewer of being moved by the moral excellence of another person. Drawing upon Thomas Jefferson's own analysis of this emotion, Jonathan Haidt has called this *emotion elevation*. According to Jefferson, *elevation* is the desire to perform acts of charity or gratitude when presented with same and, on the contrary, the sense of abhorrence when presented with an appalling deed.

### Usage and Analysis

Elevation is elicited by acts of charity, gratitude, fidelity, generosity, or any other strong display of virtue that runs counter to current expectations. In this way, elevation differs from a closely related emotion, awe, which occurs when the individual encounters

*See also* Awe; Emotion; Helping Behavior

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## EMBARRASSMENT

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### Definition

Embarrassment is the emotion that results when social predicaments increase the threat of unwanted evaluations from real or imagined audiences. It occurs when people realize that they are making undesired impressions on others, and it usually strikes without warning

when some misstep or abrupt change in fortune puts people in awkward situations. It is characterized by feelings of startled surprise, ungainly awkwardness, and sheepish abashment and chagrin. Embarrassed people typically feel painfully conspicuous and clumsy; they rue their circumstances and may be mortified or even humiliated by the unwelcome judgments they presume from others.

### Context and Importance

Embarrassment is clearly an emotion: When it occurs, it strikes quickly and automatically in a manner that people cannot control, but it lasts only a short time. Moreover, embarrassment is a distinctive emotion that is unlike any other: It has unique antecedents and physiological effects, it elicits singular feelings and behaviors, and it has particular effects on people's interactions with others.

The events that cause embarrassment range from individual blunders—in which people rip their pants, spill their drinks, or forget others' names—to more complex circumstances in which interactions take awkward turns or innocent victims are made the butt of practical jokes. The common element in these events is that they all convey to other people unexpected, unwelcome information that threatens to make an unwanted impression. Because embarrassment arises from acute concerns about what others are thinking, it is unlikely to occur if one genuinely does not care what one's present audience thinks.

When it occurs, embarrassment engenders a notable physical reaction, blushing, which is caused by dilation of veins in the neck and face that brings blood closer to the surface of the skin. A distinctive pattern of nonverbal behavior also occurs: When embarrassment strikes, people avert their gazes and try not to smile, but they usually break into sheepish grins that are recognizably different from smiles of real amusement. They may bring their hands to their faces, bow their heads, gesture broadly, and stammer, and when this sequence of behavior is accompanied by a blush, embarrassment is easy to detect.

The feelings that result from embarrassment are less painful than those that result from shame. Embarrassment causes sheepish discombobulation, whereas shame (which follows darker, weightier wrongdoing) is characterized by spiteful disgust and disdain for one's flaws. Embarrassment is also quite different from shyness, the state of fretful trepidation over potential disapproval that has not yet occurred.

Shyness operates as a mood that may persist for long periods of time, whereas embarrassment strikes suddenly in response to actual predicaments but then quickly fades.

Abashed and chagrined, people who are embarrassed are usually contrite and eager to please. Their behavior is typically helpful and conciliatory as they try to repair any insult or damage they may have caused. Perhaps for that reason, embarrassment usually elicits positive reactions from those who witness it. Audiences routinely respond to someone's obvious embarrassment with expressions of sympathy and support, and when some public transgression occurs, observers like people who become embarrassed more than those who remain unruffled and calm. Embarrassment that is proportional to one's predicament actually elicits more favorable evaluations after some misbehavior than poised imperiturbability does.

### Evidence

Embarrassment's links to social evaluation emerge from three types of evidence. First, people who lack the self-conscious ability to understand what people are thinking of them—such as very young children or adults with damage in certain areas of the prefrontal lobes of their brains—do not experience embarrassment. Second, it takes years for our cognitive abilities to develop fully, and only when they are able (around 10 years of age) to comprehend others' points of view do children become embarrassed by the same subtle situations that embarrass adults. Third, some people are more susceptible to embarrassment than others are, and people who embarrass easily tend to be sensitive to social evaluation; they dread disapproval and they fear that others' judgments of them are more negative and rejecting than they really are.

Importantly, if audiences are shown tapes of shoppers who clumsily cause damage in a grocery store, they like those who respond to their predicaments with evident embarrassment more than those who remain cool and calm. Furthermore, diary studies demonstrate that, as it unfolds in actual interactions, a person's embarrassment is usually met with kindly responses from those who encounter it. Evidently, embarrassment is a desirable reaction to social missteps that threaten to portray a person in an unwanted manner.

### Implications

Embarrassment's nature and its interactive effects are consistent with the provocative possibility that

embarrassment evolved to help forestall social rejection that might otherwise threaten one's survival in difficult ancestral environments. In occurring automatically when a person becomes aware of some misbehavior, embarrassment interrupts the person's activity and focuses his or her attention on his or her predicament. It also provides a reliable nonverbal signal that shows others that a person both recognizes and regrets his or her misconduct: A blush cannot be faked or consciously controlled, so it demonstrates that a person's abashment is authentic and his or her contrition sincere. That may be why others then routinely respond to a person's embarrassment with kindly support, despite the person's missteps; a person's embarrassed emotion reassures them of his or her good intentions. It is sometimes goofy and usually unpleasant, but embarrassment provides a handy mechanism with which to manage the inevitable pitfalls of social life.

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*See also* Emotion; Moral Emotions

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## EMOTION

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### Definition

Emotions can be defined as psychological states that comprise thoughts and feelings, physiological changes, expressive behaviors, and inclinations to act. The precise combination of these elements varies from emotion to emotion, and emotions may or may not be accompanied by overt behaviors. This complex of states and behaviors is triggered by an event that is either experienced or recalled. Someone insults you. Depending on the nature of the insult and your perception of the extent to which it was or was not intended to hurt you, you might feel angry or annoyed. If you feel angry, your face may redden, your heart may beat faster, your fists clench, and thoughts of retribution occur to you. In some cases you might take action against the person who was insulting. Days later, recalling the insult may re-evolve at least some features of the original emotional reaction. Similarly, clear-cut

cases of emotion could be given for fear, joy, love, disgust, and sadness, among many others. However, there are also emotions that are less clear-cut, in that they do not always involve changes in physiological or motivational states and do not always result in behavioral change. Take the example of regret. Having made a decision or taken a course of action that turns out badly, one may well feel strong regret, but this subjective experience will typically not be accompanied by changes in physiology or behavior.

Further complications arise when considering psychological states that seem to be borderline cases of emotion: physical pain, generalized or free-floating anxiety, sexual arousal, boredom, depression, irritability, all of which can be seen as examples of affective states. Psychologists who study emotion tend to distinguish between affective states that have a clear object and those that do not, arguing that *emotion* is a term that should be reserved for psychological states that have an object. On this basis, chronic pain, general states of boredom, depression, or irritability would not be classed as emotions, whereas sexual arousal—to the extent that it has a clear object—would be treated as an emotional state. The distinction between affective states that have an object and those that do not is one that separates emotions, on one hand, from moods (e.g., irritability, boredom) and affective dispositions (depression, generalized anxiety), on the other.

Recognizing the difficulties inherent in trying to arrive at watertight definitions of what constitutes an emotion, theorists are generally agreed in regarding emotion as a set of states that has a fuzzy boundary with other psychological states, such as beliefs, attitudes, values, moods, and personality dispositions. What is not in dispute is that the set of states called emotion is defined by good examples, such as anger, fear, and passionate love. Where there is room for doubt, at or near the fuzzy boundary with neighboring states, psychologists are generally unconcerned with whether the state in question is an emotion. The difficulty of defining emotion is thereby finessed.

### History and Background

Modern emotion theory is usually traced back to the writings of Charles Darwin or William James. Writing in the second half of the 19th century, these authors focused on issues that are still the subject of research and debate nearly 150 years later. Darwin's focus was on the relation between subjective emotion and overt

behavior. He argued that three principles explain the relation between emotions and expressive behavior. Of these, the first, the principle of serviceable associated habits, is the one most commonly linked to Darwinian explanations for expressive behavior. Here the argument is that movements of the face that originally served a purpose during emotional experiences have become automatic accompaniments of those emotions. Thus, the frowning that often accompanies anger might help to protect the eye socket by drawing the brows forward and together, or the eye widening that often accompanies surprise might help to take in more visual information when sudden, novel events occur. Surprisingly, given the general theory of evolution for which Darwin is better known, his writings on emotional expression did not treat this expression as the outcome of a process of natural selection. Rather, he saw the emotion-expression link as a learned habit that then gets passed on to one's progeny. However, modern evolutionary theory can readily be applied to this issue, resulting in the view that it was the adaptive significance for the individual or the group that led to emotions being outwardly expressed. The notion that there is a close relation between emotional experience and bodily expression is certainly one that is echoed in modern emotion theory.

James focused on the fundamental question of the determinants of emotion. James advocated what has come to be called a *peripheral theory* of emotion, in which he argued that the perception of an arousing stimulus causes changes in peripheral organs, such as the viscera (heart, lungs, stomach, etc.) and the voluntary muscles, and that emotion is quite simply the perception of these bodily changes. To use James's own example, it is not that people tremble and run because they are afraid; rather, they are afraid because they tremble and run. This raises the question of how the bodily changes come about. Here James argued for a direct link between perception and bodily change, using the analogy of a lock and a key. The fit between the perception of emotion-arousing stimuli and the human mind is, in James's view, such that the stimuli automatically unlock physiological changes in the body, and it is the perception of these changes that is the emotion. The idea that there is a close link between perception and emotion, relatively unmediated by conscious cognition, is still found in modern emotion theory, as is the notion that changes in the peripheral activity of the body results in changes in emotion.

A third major plank in the theoretical analysis of emotion in psychology came with the rise of cognitivism

(i.e., close study of mental processes) in the 1960s. The first proponent of a view that came to be known as *appraisal theory* was Magda Arnold. She argued that what makes people experience an emotion is not bodily change, but rather the cognitive process that makes one kind of stimulus emotionally arousing while another kind of stimulus leaves people cold. The difference, she argued, is that the emotionally arousing stimulus is personally meaningful and matters to people. Unless the stimulus matters to people, they will not become emotional. Clearly, what matters to one person may leave another person cold. This emphasis on subjective meaning in appraisal theory led researchers to shift their attention from the objective properties of emotional stimuli to the subjective processes (appraisal processes) by which perceivers attach significance and meaning to stimuli. Modern emotion theory is very much concerned with this process of meaning making.

Notice that these three key sources of influence on modern emotion theory map rather neatly onto three of the supposed components of emotion: expression, physiological activity, and cognitions. Before examining each of these three components in greater detail, consider the connection between emotion and social psychology.

## Social Psychology and Emotion

Emotion is a topic studied within many subdisciplines of psychology, including clinical psychology, biological psychology, and developmental psychology. Yet if one reviews the history of psychological theory and research on emotion, it is noticeable that social psychologists have played a prominent role. In one sense this is surprising. There are certainly emotional reactions that have little or nothing to do with the social world that is the primary concern of social psychologists: Think of fear of heights, of snakes, or of grizzly bears. Yet these emotions are not typical of the range of emotions that people experience in everyday life. As noted earlier, emotions are always about something: They have an object. This object is very often social. It is a person (a rival for your loved one's affection), a social group (an organization that does inspiring work in developing countries), a social event (your favorite sports team winning a trophy), or a social or cultural artifact (a piece of music). It turns out that these social objects are much more likely than nonsocial objects to be the source of our everyday emotions.

Furthermore, many emotions are either inherently or functionally social, in the sense that they either would not be experienced in the absence of others or seem to have no other function than to bind people to other people. Emotions such as compassion, sympathy, maternal love, affection, and admiration are ones that depend on other people being physically or psychologically present. Fear of rejection, loneliness, embarrassment, guilt, shame, jealousy, and sexual attraction are emotions that seem to have as their primary function the seeking out or cementing of social relationships.

A final point concerning the link between emotion and social life is that when people experience emotions, they have a strong tendency to share them with others. In research on what is called the *social sharing of emotion*, investigators have shown that the overwhelming majority of emotional experiences are shared with others, are shared with several others, and are shared soon after the triggering event. Moreover, this sharing of emotion with others elicits emotional reactions in the listeners, which is itself an interesting phenomenon, depending as it does on the listener's tendency to empathize with the sharer. And the emotions experienced by the listeners tend to be shared with third parties, a phenomenon called *secondary social sharing*. There is an interesting paradox here. People tend to share their emotional experiences, some of which may be painful or shaming, with intimates because they trust them not to share their secrets with others. And yet these intimates are the very ones who are likely to empathize with other people and therefore to experience emotions themselves as a result of listening to what others divulge. This makes it likely that they will engage in secondary social sharing.

These points make it clear that emotions are invariably social in nature: They are about social objects, their function seems to be social, and they have social consequences. A parallel point is that the subject matter of social psychology is invariably emotional in nature: Topics such as close relationships, aggression and hostility, altruism and helping behavior, prejudice and stereotyping, and attitudes and persuasion entail concepts and processes that are often explicitly emotional. In short, there is an intimate connection between emotion and social psychology, which in turn helps to account for the prominent role that social psychologists have made to emotion theory and research.

This entry will now return to the three components of emotion identified earlier, namely, physiological changes, cognitions, and expressive behaviors, and review modern developments in research on each component.

## Physiological Change

The theory of emotion proposed by James, already referred to, is one that places physiological change at the center of emotion. As James put it, if people could imagine themselves perceiving an emotional stimulus without any accompanying bodily changes, the result would be a pale and colorless imitation of the real emotion. This seems correct in the case of emotions such as fear and anger: What would such experiences be if they were stripped of all the accompanying physiological changes? For James, this was evidence of the necessary role played by such bodily activity. However, there are several possible problems with James's approach, one of them being the fact that the large variety of emotion terms found in English and many other languages is not matched by an equally large variety of distinguishable patterns of physiological activity during emotion. This is one of five problems noted by Walter Cannon who focused his attention on that aspect of James's theory concerning visceral changes in organs such as the heart, as opposed to changes in voluntary muscles such as those in the face or the limbs. Another of the problems noted by Cannon is that visceral changes tend to be rather slow, whereas emotional reactions can be, and often are, rather fast. If this is the case, how can the experience of an emotion be the perception of the bodily changes that occur on exposure to the right emotional stimulus?

These were some of the considerations that Stanley Schachter took into account in developing his two-factor theory of emotion. Schachter had previously conducted research on the way in which people who were made to feel anxious and uncertain liked to be in the company of other people who were in the same situation, so that they could compare their own emotional reactions with those of other people. This suggests that social context may play an important role in emotion, by helping people to interpret their stirred-up internal state. Rather than there being a particular pattern of bodily change associated with each subjectively distinguishable emotion, Schachter suggested that the key role played by bodily change was to energize emotion; without a state of physiological arousal, no emotion would ensue. Bodily change, on this account, is a necessary but not sufficient condition for emotion. For emotion to be experienced, the second of the two factors is also needed. This factor is cognition, and the role it plays in Schachter's model is that of labeling the general state of arousal. In theory, then,

exactly the same physiological state of arousal could be interpreted in quite different ways and therefore experienced as quite different emotions.

Despite its elegance, this bold prediction made by two-factor theory did not attract enough experimental support for the theory to be able to remain as influential as it was in the 1970s and early 1980s. What has survived relatively unscathed is the proposition that people can misattribute the cause of any felt arousal, with the result that they will tolerate more pain if they are led to believe that at least part of the arousal they experience when exposed to a painful stimulus is due to a drug (in fact a placebo, which means a drug that has no genuine effect, like fake pills) that they have swallowed. Equally, if they are led to think that they have ingested a tranquilizer (again, in fact a placebo, so it has no tranquilizing effect) then any arousal they experience will tend to be overattributed to the most plausible source of arousal. If the most plausible source of the arousal is the fact that they have just written an essay advocating a position that runs contrary to their beliefs, and they are concerned about the effect this essay may have on others, they change their attitudes even more than they would in a no-tranquilizer control condition, apparently because they believe themselves to be experiencing a lot of cognitive dissonance as a result of writing the essay; and the most effective way to reduce the dissonance is to change one's attitude to bring it more into line with the position taken in the essay.

The focus both of Cannon's critique of James and of Schachter's attempt to build a theory that took account of this critique was the state of arousal of the individual's autonomic nervous system. Yet bodily change clearly can involve more than how fast one's heart is beating, how dry one's mouth is, and how much tremor there is in one's hands—all of which are perceptible signs of autonomic nervous system arousal. James's theory was as much concerned with the activity of the voluntary muscles as with visceral changes, as is evident from his assertion that we feel angry because we strike (rather than striking because we feel angry). This aspect of James's theorizing was taken up by researchers interested in the effects of manipulating the feedback individuals receive from their facial or postural musculature. A series of studies has shown, for example, that people tend to find humorous stimuli more amusing if their faces are induced to smile during exposure to these stimuli, that they find painful stimuli more noxious if they are led to adopt more negative facial expressions while

exposed to these stimuli, and that they feel more dejected if they are induced to adopt a stooping posture. Thus modern research has provided support for one feature of James's theory, even if that evidence is more consistent with the view that the perception of bodily change moderates (rather than mediates) the experience of emotion.

## Cognition and Emotion

Although cognition was given a central role in Schachter's two-factor theory, that role was distinct from the role it has in appraisal theories of emotion. In Schachter's theory, the role of cognition was to label arousal that was already present. In appraisal theory, the role of cognition is to interpret the significance and meaning of the unfolding emotional event. Imagine that you hear a strange noise coming from your ground-floor kitchen in the middle of the night. The sense you make of this event through a process of appraisal is regarded as determining whether and how you will react emotionally. Interpreting the noise as caused by a human intruder will give rise to a very different set of emotions than will interpreting the noise as caused by your cat or by the wind blowing something off the window sill. Another important factor, in the view of appraisal theorists, is your sense that you will be able to cope with any possible threat to your well-being. A young, physically able person will experience less threat under these circumstances than will an elderly or disabled person. The essence of the appraisal theory view of the role played by appraisal is nicely summarized in Nico Frijda's law of situational meaning, which states that emotions arise from the meanings people ascribe to situations and that if the meaning changes (such that your initial thought that the noise from your kitchen was made by an intruder now changes as you remember that your cat had been outside when you went to bed, and the noise is the sound of her entering the house), so too will be emotion (in this case from fear to relief).

The singular term *appraisal theory* makes it seem as though there is one theory to which all appraisal theorists subscribe. In fact there are several appraisal theories, all of which share the view that emotions arise from cognitive appraisals. Where they differ is with respect to the details of how this common assumption is worked into a full-fledged theoretical position. Some theorists, like Richard Lazarus, emphasize the importance of a relatively small set of core relational themes. These are, in effect, clusters of configured

appraisals that capture the essence of an emotion. Thus, the core relational theme of irrevocable loss is one that holistically defines sadness, whereas the core relational theme of other blame is one that holistically defines anger. The advantage of these core relational themes is that they capture the key relational meaning of a situation and are therefore likely to be predictive of physiological and behavioral changes. Other appraisal theorists, like Frijda, emphasize the readiness for action that appraisals entail. Even if one does not act on these so-called action tendencies, the felt tendency to aggress, to retreat, to freeze, to cry, to laugh, and so on, represents an important element of the experienced emotion. Still other theorists, such as Klaus Scherer, emphasize the importance of the temporal dimension of appraisal. On this view appraisal is a sequential business, starting with rudimentary checks, such as whether the stimulus is novel, pleasant, and expected (in that order), and ending with more complex assessments, such as whether the stimulus conforms to personal or social norms.

There is a wealth of evidence showing that individual emotions are associated with distinct appraisals or patterns of appraisal. There is no doubt, then, that people are able to make connections between emotions and appraisals in much the same way that appraisal theorists propose. Less plentiful is good evidence showing that appraisals are causally linked to emotions. This leaves open the question of whether appraisals are causes, constituents, or even consequences of emotion. This turns out to be a critical issue, because the most sustained attack on appraisal theory, initiated by Robert Zajonc, has argued that affective reactions (in the sense of like, approach, dislike, avoid) often *precede* cognitive reactions (such as beneficial or detrimental to one's goals), and therefore cannot be caused by them. The sheer speed of emotional reactions is an important component of Zajonc's critique, raising doubts about the potential for relatively time-consuming cognitive processes to mediate these reactions. Also important for Zajonc's argument is evidence that people are able to arrive at evaluations of stimuli without being aware of having been exposed to them, as in the mere exposure effect, which again raises questions about the necessity of appraising a stimulus before having an emotional response to it.

A compromise position on the role of cognitive appraisal in emotion is one that recognizes that there is more than one route to an emotional response. Take fear as an example. Modern animal and clinical research shows that there are two distinct ways in

which fear can be triggered in the brain, one of which is cortically mediated (thereby implying a role for appraisal), the other of which is mediated by the amygdala (implying a fast response that would be adaptive in predator-prey situations). Note that this subcortical route harks back to one of James's central assumptions, namely, that there is an automatic link between perception and bodily change. The two-routes argument works best for emotions such as fear, which have clear implications for the survival of the individual. It is less plausible to argue for two routes in the case of an emotion such as guilt, for example. Yet here, too, there is debate about the extent to which the appraisal that is assumed by many theorists to be a necessary condition for guilt, namely, perceived responsibility for harm to another, is in fact necessary. Roy Baumeister, for example, has argued that the root cause of guilt is loss of love in a valued relationship and that people who experience this loss of love feel guilty and, as a component or consequence of these guilt feelings, feel responsible for the hurt experienced by the other party to the relationship.

## Expression and Emotion

It is obvious that emotions can be expressed in the face and other parts of the body. If someone is intensely angry, sad, afraid, or surprised, others are likely to be able to see signs of the emotion in question in that person's face. The outward expression of inner emotional experience is, of course, of particular interest to social psychologists because it affords others the opportunity to understand how someone is feeling without this person needing to explain the feeling in words. It is sometimes argued that the nonverbal means of communicating emotion are more important and effective than the verbal means. Clearly, this is true of interpersonal communication whereby one or both persons are unable to communicate verbally, because they are prelingual (as in the case of infants) or deaf or simply unable either to speak or to hear each other because of the context (as in a silent Trappist Order or in noisy working environments). It is known that babies are especially interested in faces and that there is a tendency for humans to mimic each other's nonverbal behaviors. People tend to like other people more when others mimic them in this way. To the extent that people do what others do, facially and posturally, and to the extent that feedback from the face and from body posture moderates their emotional experience, it is likely that people come to feel what others are feeling, thereby strengthening understanding of and bonding

with those others. However, all of this depends to an important degree on the extent to which subjective experience of emotion translates into overt expression. It may well be obvious that there are conditions under which this does happen, but it is also obvious that people are capable of appearing to feel one thing when they really feel something else. To avoid giving offense, people pretend to like things that they do not; actors pretend to feel things that they do not so as to produce a convincing portrayal of a character in a particular setting. To what extent is bodily behavior a reliable reflection of someone's emotional state?

Paul Ekman and his colleagues have tested the notion that there is a close relation between emotion and facial behavior, which is what Ekman's notion of a facial affect program, a hardwired system linking experienced emotion to facial behavior, would predict. Their research program employs two kinds of methods. The first is based on Darwin's idea that the ways in which emotions are expressed are universal and therefore independent of culture. To provide more scientific support for this idea than Darwin had been able to muster, Ekman and colleagues took photographs of faces that were recognized by Westerners as clearly expressing certain emotions, and they showed these to persons in a variety of other cultures. The most telling studies are those conducted in preliterate cultures, such as the highlands of Papua New Guinea. What the researchers found was that members of tribes living in these remote cultures, who had had little exposure to Westerners or to Western media images, could match the photographs to short stories of an emotional nature in ways that showed that they broadly understood the emotional meaning of the faces. This is taken as evidence that emotions are expressed facially in the same way across the world: How else could researchers account for the ability of those living in isolated cultures to attribute the same meaning to faces as Westerners do? However, it is important to recognize that these findings relate to a limited set of emotional expressions—happy, sad, angry, afraid, disgusted, and surprised—and that the stimuli used in this type of research are still photos taken at the apex of an extreme, iconic version of an expression. It is also worth noting that although members of remote tribes could match the photos to emotional stories with above-chance accuracy, their performance on average tends to be worse than that of their Western counterparts. Bearing in mind that the expressions they are asked to judge in these studies are of Western faces, this raises the possibility that

people may be better at recognizing emotions in own ethnicity faces than in other ethnicity faces. Recent research suggests that this is the case, pointing to the existence of emotional dialects that are easier for persons who are familiar with the dialect to decode.

The second line of research pursued by Ekman and colleagues has directly examined the extent to which different emotions are accompanied by measurable differences in facial behavior. In this line of work, researchers have made use of the Facial Action Coding System (FACS), a measurement system for coding all visible movement in the human face, which was developed by Ekman in collaboration with Wallace Friesen. This sort of research has shown, for example, that happiness and disgust, as induced by film clips, are associated with different facial actions. This seemingly uncontroversial finding has been the subject of some debate in the literature. Various researchers have used films and other types of stimulus to induce emotional states, surprise being a recent example, and have failed to find that these states are accompanied by the distinct facial actions (brow-raising, eye-widening, jaw-dropping) that would be expected if the notion of a facial affect program were correct. Other researchers have questioned the assumption that there is a close relation between emotion and facial action, arguing instead that facial actions evolved to communicate intentions or motives, not emotions, to conspecifics. This line of argument leads one to predict that facial behavior should vary as a function of how social a situation is, rather than how emotional it is. The debate concerning the closeness and robustness of the relation between emotion and overt behavior is far from settled, but it is evident to most commentators that the strength of the relation is variable. The challenge for future researchers is to identify the factors that moderate this relation.

### **The Social Life of Emotion**

Although much of the research on emotion has a distinctly social psychological flavor, emotion researchers have started to address more explicitly social psychological issues, and social psychologists have started to incorporate emotional concepts and measures into their study of mainstream social psychological issues. Thus, on the one hand, there are emotion researchers who study social or self-conscious emotions, such as shame, guilt, embarrassment, envy, and jealousy—emotions that depend on a real or imagined social context. The importance of this work is that it treats emotion as embedded in a social context and thereby helps to

counterbalance the tacit assumption in much theorizing that emotion is essentially a private experience that arises from socially isolated individuals' assessments of the implications of events for their personal well-being. Also noteworthy in this connection are emotion researchers who study the impact of culture on emotional experience and expression. What this type of research makes clear is that the ways in which cultures promote certain kinds of values (e.g., honor) or self-construals (e.g., the self as an autonomous agent) have an impact on the conditions under which emotions are experienced and communicated.

On the other hand, there are social psychologists who study phenomena such as interpersonal, group, or intergroup relationships and who have found that by taking emotional processes into account they gain a richer understanding of these phenomena. Harmony and discord in close personal relationships can be better understood by examining the quality and quantity of emotional communication in those relationships. Variations in productivity in work groups can be better understood by examining the emotional climates that prevail in these groups. Acceptance or rejection of other social groups can be better understood by taking account of the emotions that are felt toward members of those groups.

Although social psychologists have played a central role in emotion research, it is only relatively recently that emotion has become a central topic of research for social psychologists, but there is every indication that the relationship between emotion and social psychology will be mutually beneficial.

*Antony S. R. Manstead*

**See also** Affect; Affect-as-Information; Arousal; Coping; Deception (Lying); Emotional Contagion; Emotional Intelligence; Facial Expression of Emotion; Facial-Feedback Hypothesis; Intergroup Emotions; Mere Exposure Effect; Misattribution of Arousal; Moral Emotions; Nonconscious Emotion; Nonverbal Cues and Communication; Opponent Process Theory of Emotions; Positive Affect; Stress and Coping; Stress-Appraisal Theory (Primary and Secondary Appraisal)

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## EMOTIONAL CONTAGION

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### Definition

Emotional contagion is the phenomenon that individuals tend to express and feel emotions that are similar to those of others. When someone tells you with a big smile that she passed an important test, you smile as well. If, on the other hand, your friend tells you his father passed away last week, you feel depressed, not so much because of the recollection of your friend's father, whom you don't know, but mainly because your friend is so sad. In other words, you do not only observe your friend's emotions, but they also affect your own emotional expressions and emotional state. Thus, emotional contagion is a form of social influence.

### Context and Function

Emotional contagion may occur between two persons but also in larger groups. Think of collective rage that spreads among a group of workers when facing their superiors, who argue that the financial cuts are a necessary measure to make the organization healthy again; or the panic that flows through a community, because of a series of crimes committed in the neighborhood; or of the shared sentiments of a crowd moved by a speech of their leader. In all of these cases, emotions are, in large part, elicited because people catch each other's emotions: People are sad, elated, frightened, or

angry because they see others in their immediate surroundings experiencing these emotions.

Why would emotional contagion occur? The most important function of emotional contagion is that it smoothens social interactions and facilitates mutual involvement and emotional closeness, because it helps to synchronize and coordinate the interaction. Communication is simply better when you have the feeling that another person understands your feelings and feels with you rather than when the other person is completely unaware of your emotions. This not only would lead to a better conversation, but it may also improve feelings of intimacy or friendship with the other person. A similar function applies to larger groups where emotional contagion enhances positive feelings between ingroup members (and sometimes negative feelings toward outgroup members) and thus strengthens social bonds.

### Explanations and Evidence

Emotional contagion has been described as a multiply determined process, consisting of both automatic processing of others' nonverbal displays as well as more conscious information processing of others' emotional expressions and behavior. To date, most research has been focused on the first aspect of emotional contagion, which has been referred to as *automatic mimicry*: We unconsciously tend to mimic and synchronize our own nonverbal expressions with the nonverbal expressions of other people. Thus, we smile, frown, move, cry, sit, or stand in the same way as others, without necessarily being aware of our copying behavior. The bodily feedback from this mimicry would change our subjective feelings accordingly. In other words, we do not merely smile, or frown, but our smiling or frowning makes us feel happy, or angry, in accordance with these nonverbal displays. Various studies have provided support for automatic mimicry. For example, individuals show more happy and sad faces in response to movie characters or mere photos showing the same expressions; they start yawning or laughing when seeing others yawn or laugh; individuals even imitate others by tapping their feet, stuttering, or expressing pain. It is less clear, however, to what extent persons also feel similar emotions as a result of this mimicry.

In addition to this more automatic mimicking behavior, individuals may try to empathize or identify with another person at a more conscious level, resulting in feeling and expressing similar emotions.

There are different factors that may facilitate emotional contagion. The first factor relates to the *nature of the relationship* between persons, namely, empathy. When individuals love, like, or identify with others or share their goals, they are more likely to catch the other person's emotions. More intimate relationships are therefore characterized more by emotional contagion than are relations between professionals or between strangers. Indeed, it has been shown that dating partners and college roommates became more emotionally similar over a year. This emotional contagion effect applied to both positive and negative emotional reactions to events and could not be explained by increasing similarity in personality variables. In addition, the amount of empathy one may feel with the other person also reflects individual differences: Some individuals are simply better able to empathize than others. Finally, empathy may also occur in less intimate relations. Here, empathy may depend on whether one shares goals or not. For example, the expectation to cooperate with another person leads to more empathy.

Other potential determinants of emotional contagion have hardly been studied empirically. One factor may relate to the nature of the event eliciting the emotions in the first place. We may expect others' emotions to be more contagious when the nature of the eliciting event can be interpreted in different ways. For example, should one feel anxious (or calm) when in a waiting room for a medical test, or should one feel angry (or sad, or happy) at the George W. Bush administration for the war in Iraq? Still another important factor may be the intensity of others' emotional expressions and the nature of these emotions. When expressions are more intense, they may be more contagious; on the other hand, some emotions may be more contagious in nature than other emotions. For example, it is harder not to smile when someone smiles at you than it is not to frown when someone frowns at you.

### Implications

Emotional contagion may explain specific group behaviors, as well as the emotional development of interpersonal relations. Most research has focused on automatic mimicry, testing this phenomenon in different contexts and with various nonverbal behaviors. However, the phenomenon is still rather unexplored and needs further examination, in particular with respect to the conditions under which it occurs.

Agneta H. Fischer

*See also* Affect-as-Information; Emotion; Empathy; Influence; Mimicry

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## EMOTIONAL INTELLIGENCE

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Emotional intelligence (EI) refers to the processes involved in the recognition, use, understanding, and management of one's own and others' emotional states to solve emotion-laden problems and to regulate behavior. EI, in this tradition, refers to an individual's capacity to reason about emotions and to process emotional information to enhance reasoning. EI is a member of an emerging group of mental abilities alongside social, practical, and personal intelligences.

Research on EI is as an outgrowth of two areas of psychological investigation that emerged toward the end of the 20th century. In the 1980s, psychologists and cognitive scientists began to examine how emotion interacts with thinking and vice versa. For instance, researchers studied how mood states can assist and influence autobiographical memory and personal judgment. At the same time, there was a gradual loosening of the concept of intelligence to include a broad array of mental abilities. Howard Gardner, for instance, advised educators and scientists to place a greater emphasis on the search for multiple intelligences (e.g., interpersonal intelligence, bodily-kinesthetic intelligence). Gardner was primarily interested in helping educators to appreciate students with diverse learning styles and potentials.

The term *emotional intelligence* was introduced to the scientific literature in two articles published in 1990. The first article, by Peter Salovey at Yale University and John (Jack) D. Mayer at the University of

New Hampshire, formally defined EI as the ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use emotion-laden information to guide one's thinking and actions. The second article presented an empirical demonstration of how EI could be tested as a mental ability. This study demonstrated that emotion and cognition could be combined to perform sophisticated information processing. Daniel Goleman popularized the construct in a best-selling 1995 book, *Emotional Intelligence: Why It Can Matter More Than IQ*. EI quickly captured the interest of the media, general public, and researchers. Goleman's claims about the importance of EI went beyond the available data on the construct, however; for example, he claimed that EI was as powerful and at times more powerful than general intelligence in predicting success in life. Goleman's definition of EI also encompassed a broad array of personal attributes, including political awareness, self-confidence, and conscientiousness, among other desirable personality attributes.

In the following years, educators, psychologists, and human resource professionals began to consult and write about EI. Many of these individuals used the term to represent the traits and skills related to character and achieving success in life. However, other researchers have focused the definition of EI on a set of mental skills. They define EI as a set of four abilities pertaining to (a) accurately perceiving and expressing emotion, (b) using emotion to facilitate cognitive activities, (c) understanding emotions, and (d) managing emotions for both emotional and personal growth.

*Perceiving emotion* refers to the ability to perceive and identify emotions in oneself and others, as well as in other stimuli, including people's voices, stories, music, and works of art. *Using emotion* refers to the ability to harness feelings that assist in certain cognitive enterprises, such as problem solving, decision making, and interpersonal communication, and also leads to focused attention and, possibly, creative thinking. *Understanding emotions* involves knowledge of both emotion-related terms and of the manner in which emotions combine, progress, and transition from one to the other. *Managing emotions* includes the ability to employ strategies that alter feelings and the assessment of the effectiveness of such strategies.

There also are a number of published tests to measure EI. Performance-based tests, such as the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) for adults and the Mayer-Salovey-Caruso Emotional

Intelligence Test–Youth Version (MSCEIT–YV) for adolescents (ages 12–17), have been developed. These tests are performance-based measures of EI because they require individuals to solve tasks pertaining to each of the four abilities that are part of the theory (i.e., the perception, use, understanding, and management of emotion). For example, to measure the ability to perceive emotion, respondents examine a picture of a person expressing a basic emotion and indicate the extent to which the person is expressing each of five emotions (e.g., happy, sad, fear, anger, and surprise) using a 5-point scale. Each respondent's score is then compared to scores from the normative sample (5,000 individuals) or from a group of emotions experts who have dedicated their careers to studying human emotions.

Evidence is quickly accumulating that EI, measured by the MSCEIT, is related to a wide range of important social behaviors in multiple life domains. For example, individuals with higher MSCEIT scores report better-quality friendships, and dating and married couples with higher MSCEIT scores report more satisfaction and happiness in their relationship. In addition, EI is associated (negatively) with maladaptive lifestyle choices. For example, college students with lower MSCEIT scores report higher levels of drug and alcohol consumption and more deviant acts, including stealing and fighting. Moreover, among college students and adolescents, lower MSCEIT scores are associated with higher levels of anxiety and depression. Finally, EI is associated with a number of important workplace outcomes. For example, business professionals with high EI both see themselves and are viewed by their supervisors as effectively handling stress and creating a more enjoyable work environment.

EI was only introduced to the broader psychological audience about 15 years ago, and performance-based measures of the construct have been used in scientific investigations for about 5 years only. Future research will certainly expand on the theory of EI, and new tasks will be developed to measure the construct. There is much to be learned about EI, and the fate of EI is, in part, in the hands of investigators who will explore the topic in greater detail.

Marc A. Brackett

Peter Salovey

*See also* Emotion; Self-Monitoring

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## EMPATHIC ACCURACY

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### Definition

Empathic accuracy refers to the degree to which people can accurately infer the specific content of other people's thoughts and feelings. The ability to accurately read other people's thoughts and feelings (everyday mind reading) is a fundamental skill that affects people's adjustment in many different aspects of their lives.

For example, one researcher found that mothers who were more accurate in inferring their child's thoughts and feelings had children with more positive self-concepts. Other researchers have found that young adolescents who were good at reading other people's thoughts and feelings had better peer relationships and fewer personal adjustment problems than those who were poor at reading others. And, with regard to people's dating and marriage relationships, other researchers have found that accurately reading a relationship partner to anticipate a need, avert a conflict, or keep a small problem from escalating into a large one is likely to be healthy and adaptive.

### History, Measurement, and Validation

Empathic accuracy is a subarea of interpersonal perception research—a field of study that has had a long

tradition in psychology. As a broad generalization, it can be argued that interpersonal perception research began with the study of accuracy regarding stable and enduring dispositions, such as traits and attitudes, and then gradually turned to the study of accuracy regarding more unstable and transient dispositions such as current thoughts and emotions (feelings).

The study of empathic accuracy emerged in the late 1980s when psychologist William Ickes and his colleagues at the University of Texas at Arlington devised a method for measuring the degree to which research participants could accurately infer the specific content of other people's thoughts and feelings. The essential feature of their method is that a perceiver infers a target person's thoughts or feelings either from a videotaped record of their spontaneous interaction together (the unstructured dyadic interaction paradigm) or from a standard set of the videotaped interactions of multiple target persons (standard stimulus paradigm). In each case, the target persons have previously reported the actual thoughts and feelings they had at specific points during the videotaped interaction, thereby enabling the researchers to compare the perceiver's inferred thoughts and feelings with the target person's actual thoughts and feelings to assess the perceiver's empathic accuracy.

To obtain a measure of empathic accuracy, independent raters make subjective judgments about the similarity between the content of each actual thought or feeling and the content of the corresponding inferred thought or feeling. Then, the number of each perceiver's total accuracy points is divided by the maximum number of possible accuracy points to obtain a percent-correct empathic accuracy measure that can range from 0 to 100.

Across many studies conducted since 1988, this method of measuring empathic accuracy has proved to be both reliable and valid. Raters typically agree with each other in their judgments of how many accuracy points should be assigned to each of the various thought/feeling inferences. In addition, perceivers tend to be quite consistent in how well or how poorly they infer the specific content of different target persons' thoughts and feelings. That is, some perceivers are consistently good at reading others, other perceivers are consistently average, and still other perceivers are consistently poor.

A number of *predictive validity* studies have been conducted to date. One of the first predictions tested

was that, if the method for measuring empathic accuracy was indeed valid, close friends should display higher levels of accuracy than strangers when inferring the content of each other's thoughts and feelings. This prediction was confirmed in studies which revealed that, on average, the empathic accuracy scores of close, same-sex friends were about 50% higher than those of same-sex strangers.

The predictive validity of the empathic accuracy measure received further support in a clinically relevant study in which perceivers tried to infer the thoughts and feelings of three female clients who each appeared in a separate videotaped psychotherapy session. The perceivers' empathic scores were significantly greater at the end of the psychotherapy tapes than at the beginning, reflecting their greater acquaintance with the clients and their problems. In addition, perceivers who were randomly assigned to receive immediate feedback about the clients' actual thoughts and feelings during the middle portion of each tape should subsequently achieve better empathic accuracy scores by the end of the tape than perceivers who did not receive such feedback.

Establishing the *convergent validity* of the empathic accuracy measure has proven to be more difficult and complicated. Self-report measures of empathically relevant dispositions generally fail to predict performance on interpersonal accuracy/sensitivity tests, and this conclusion certainly applies to the performance measure of empathic accuracy. Accordingly, researchers have instead concentrated on establishing the predictive validity of the empathic accuracy measure.

## Facts and Fictions About Everyday Mind Reading

In studies conducted during the past 2 decades, some beliefs about everyday mind reading have been supported as fact, whereas other beliefs have been exposed as apparently fictional. For example, it now seems reasonable to claim the following as established facts:

Empathic accuracy improves with increasing acquaintanceship.

Empathic accuracy also improves following immediate, veridical feedback about the target person's actual thoughts and feelings.

Perceivers' levels of empathic accuracy tend to be stable across different target persons.

Highly inaccurate perceivers tend to have poorer-quality relationships and more personal adjustment problems than highly accurate perceivers.

On the other hand, there is no consistent support for the following apparently fictional beliefs:

There are empathic superstars who can read other people's minds with perfect accuracy.

Women, in general, have greater empathic ability than men.

Longer-married couples are more accurate in reading each other than are newlywed couples.

Telepathy (ESP or psi) is the basis of our everyday mind reading ability.

### Practical Applications

The research on empathic accuracy promises to have many practical applications, including the following:

The screening and selection of potential counselors and therapists, physicians and caregivers, diplomats and negotiators, police and social workers, teachers, and salespersons

Empathy training for people in all of these professions that can be tailored to the specific target group(s) they serve

Empathy training for people with significant empathic deficits, such as abusive men and at-risk children and adolescents

Mutual empathy training for those in various types of distressed relationships.

*William Ickes*

*Marianne Schmid Mast*

*See also* Empathy; Inference

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of another person's current experience. Use of the word in English is relatively new, appearing at the beginning of the 20th century, often in discussions of art. Its origins are traced to the German word *Einfühlung*, which translates literally as "feeling into" (as in projecting oneself into something else). Besides generating research within the field of social psychology, the study of empathy has also figured prominently in client-centered psychotherapy.

Much has been made of the distinction between *empathy* and *sympathy*, but the two terms are often used interchangeably. When a distinction is made (particularly in philosophical contexts), empathy is often defined as understanding another person's experience by imagining oneself in that other person's situation: One understands the other person's experience as if it were being experienced by the self, but without the self actually experiencing it. A distinction is maintained between self and other. Sympathy, in contrast, involves the experience of being moved by, or responding in tune with, another person. Another common distinction is to use sympathy when referring specifically to the emotional side of empathy.

### Emotional and Cognitive Empathy

Within social psychology, empathy may refer to an emotional or cognitive response—or both. On the emotional side, there are three commonly studied components of empathy. The first is feeling the same emotion as another person (sometimes attributed to emotional contagion, e.g., unconsciously "catching" someone else's tears and feeling sad oneself). The second component, personal distress, refers to one's own feelings of distress in response to perceiving another's plight. This distress may or may not mirror the emotion that the other person is actually feeling. For example, one may feel distress, but not specifically depression, when another person says he or she is so depressed he or she wants to kill himself; similarly, one feels distress, but not actual pain, when one sees someone fall. The third emotional component, feeling compassion for another person, is the one most frequently associated with the study of empathy in psychology. It is often called *empathic concern* and sometimes *sympathy*. Empathic concern is thought to emerge later developmentally and to require more self-control than either emotional contagion or personal distress, although these earlier components (along with the ability to imitate) probably lay the groundwork for later, more sophisticated forms of empathy.

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## EMPATHY

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### Definition

Empathy has many different definitions, some with multiple parts. However, most definitions share the idea of one person's response to his or her perceptions

Empathic concern merits special attention for its role in triggering prosocial and helping behaviors. Research consistently finds a positive correlation between how much empathic concern individuals report feeling for another person (or group of people) and their willingness to help those people, even when helping requires some sacrifice (e.g., time, effort, or money). Many of the most noble examples of human behavior, including aiding strangers and stigmatized people, are thought to have empathic roots (although humans are not the only species that helps others in distress). Research on empathic helping has prompted an animated (and perhaps never-to-be-resolved) debate about whether empathic helping is truly altruistic (motivated by an ultimate goal to benefit the other person) or whether it is motivated by selfish rewards, such as reducing one's own distress caused by seeing another person's situation, saving one's kin (and thus some portion of one's genes), or securing public respect or the promise of reciprocal help in the future. Attempts to decide whether the helping behavior is selfless or selfish are complicated by the fact that self-interest and benefits to the other person may overlap.

The other side of empathy, the cognitive side, centers on the ancient philosophical "other minds problem": Our thoughts are ours alone, and we can never directly access the contents of another person's mind. Cognitive empathy refers to the extent to which we perceive or have evidence that we have successfully guessed someone else's thoughts and feelings. The spectrum of cognitive empathy includes very simple tasks such as visual perspective taking (e.g., standing in one's living room and imagining what a person outside can see through the window) and extends up to very complex mental challenges, such as imagining another person's guess about what a third person believes (e.g., "I think Fiona still believes that Seth doesn't know about what happened in Taiwan"). Whereas greater emotional empathy is associated with more intense emotions, greater cognitive empathy (often called *empathic accuracy*) entails having more complete and accurate knowledge about the contents of another person's mind, including how that person feels. Thus, cognitive empathy still requires sensitivity and knowledge about emotions. However, cognitive empathy generally does not include any reference to caring about the other person, thus allowing for the possibility of a kind of Machiavellian cognitive empathy that can be used to harm others (e.g., "know thy enemy"). This concept runs counter to most, if not all, conversational uses of the term *empathy*.

Cognitive empathy is intimately linked to the development of a theory of mind, that is, understanding that someone else's thoughts may differ from one's own. In a typically developing child, a coherent theory of mind emerges between ages 3 and 5 (although rudiments of this skill, such as following another person's gaze to understand what she is looking at, appear earlier). Theory of mind deficits is one major symptom of autism, a psychological disorder that usually appears early in life (other psychological disorders or brain injuries can also produce empathy deficits).

Exactly how people accomplish cognitive empathy has produced some debate. The simulation view postulates that people imagine themselves in the other person's place, a view that meshes nicely with false consensus effects and other egocentric phenomena studied in social psychology. The theory view argues that people develop theories about human thought and behavior that they then use to predict and explain other people's actions, explaining humans' ability to tailor their perspective taking to a particular other person. Successful perspective taking probably frequently requires drawing on both strategies.

## Measuring Empathy

A variety of methods have been developed to measure empathy and its various components. Many are self-report measures (i.e., people subjectively rate the extent to which they think they have traits or feelings related to empathy), but researchers have also created innovative and more objective measures, particularly for measuring empathic accuracy and counselors' empathy toward clients in therapy. Physiological measures (e.g., skin conductance, heart rate) and the coding of facial expressions are often used to assess emotional empathy. Most recently, researchers have used brain-imaging techniques to explore the brain areas and pathways that are activated when one is emotionally responding to another person's experience or trying to cognitively represent what that person is experiencing. These techniques have led to hypotheses about mirror neurons. These brain cells (initially found in monkeys) respond the same way when an action is performed by the self and when similar actions are observed being performed by another person (thus, possibly suggesting a neural basis for empathy's most primitive mechanisms).

Outcomes in empathy studies vary depending on which components of empathy are being assessed (e.g., factors that increase empathic concern may not also

affect empathic accuracy). The study of sex differences in empathy provides an example of the complexities of empathy: A prevalent gender stereotype exists that women are more empathic than men. Results consistent with this stereotype have been found when collecting self-report measures of empathic concern, but the pattern is less clear when using more objective measures, and sex differences generally are not found with measures of empathic accuracy except under certain conditions. Furthermore, although evidence has been found for stable empathic traits in people, empathy is perhaps better conceptualized as something that emerges from a complex interaction between (a) characteristics of the target of empathy and that target's situation and (b) the traits, experiences, and motivation of the empathizer, all embedded in a larger cultural context. Subjective perceptions of all of these variables, such as the perceived similarity between the empathizer and the target of empathy, are at least as important as objective reality in determining the experience of empathy.

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*See also* Altruism; Empathic Accuracy; False Consensus Effect; Projection; Theory of Mind

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## EMPATHY–ALTRUISM HYPOTHESIS

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### Definition

The empathy–altruism hypothesis states that feelings of empathy for another person produce an altruistic motivation to increase that person's welfare. In the

empathy–altruism hypothesis, the term *empathy* refers to feelings of compassion, sympathy, tenderness, and the like. Altruism refers to a motivational state in which the goal is to increase another person's welfare as an end in itself. (Altruistic acts are what are ordinarily called “good deeds.”) Note that this definition of *altruism* is different from the typical usage of the term, which is usually defined to mean an act of helping that involves considerable personal costs to the helper. Overall, the empathy–altruism hypothesis has generated a large body of research that answers important questions about why people help and fail to help, and offers insights into the roles played by different types of motives underlying human social behavior.

### Background and Importance

The empathy–altruism hypothesis arose out of a long-standing debate in Western philosophy and psychology about whether humans possess the capacity for altruism. For centuries, it was assumed that all human behavior, including the helping of others, is egoistically motivated. The term *egoism* refers to a motivational state in which the goal is to increase one's own welfare as an end in itself. Although there is little doubt that egoism can be a powerful motivator of helping behavior, some researchers have questioned whether all human behavior is motivated by self-interest. Specifically, some have suggested that people may help because they feel empathy for another person's welfare, which may lead to altruism. Those who have argued that empathy may be a source of altruism include naturalist Charles Darwin, philosophers David Hume and Adam Smith, as well as psychologists Herbert Spencer, William McDougall, Martin Hoffman, and Dennis Krebs. Social psychologist C. Daniel Batson formulated the empathy–altruism hypothesis as a revision and extension of the ideas developed by these philosophers and psychologists.

### Evidence and Alternative Explanations

The empathy–altruism hypothesis predicts that those feeling high levels of empathy for a person in need will be more likely to help than will those feeling less empathy. This prediction is well supported by research. However, a number of egoistic alternative explanations have been proposed to explain these findings. For example, those feeling high levels of empathy may feel more distress and, consequently, may be more likely to help because they are egoistically motivated

to reduce their own distress. Another possibility is that those feeling high levels of empathy are more likely to help because they are more egoistically motivated to avoid feeling bad about themselves or looking bad in the eyes of others should they fail to help. Similarly, those feeling high levels of empathy may be more likely to help because they are more egoistically motivated to feel good about themselves or to look good in the eyes of others should they help. Determining whether these and other egoistic explanations can explain the high rates of helping among those feeling high levels of empathy has generated much scientific debate and empirical research. With few exceptions, evidence from dozens of experiments over the past 30 years has provided support for the empathy–altruism hypothesis over all the available egoistic explanations and, by extension, for the claim that humans are indeed capable of altruism.

### Implications

In addition to investigating the nature of the motivation associated with empathy, researchers studying the empathy–altruism hypothesis have discovered a number of other interesting phenomena. For example, those feeling high levels of empathy tend to experience more negative mood than those feeling low levels of empathy when their attempt to help the person for whom empathy is felt is unsuccessful. These findings suggest that feeling high levels of empathy for others may lead to negative outcomes for those feeling empathy when altruistic goals are unattainable. Other findings show that those feeling high levels of empathy tend to behave unjustly or are willing to harm the welfare of a group to which they belong when such behavior will benefit a person for whom empathy is felt. These findings demonstrate that, at least under certain conditions, altruism can undermine other prosocial objectives, such as maintaining justice or working for the common good.

Although altruism at times may be harmful to those feeling empathy, it does appear to be very beneficial to those individuals for whom empathy is felt. For example, research shows that individuals who feel high levels of empathy will actually avoid helping the person for whom empathy is felt in the short term when doing so promotes the long-term welfare of that individual. These findings suggest that altruistically motivated individuals may be more sensitive to the needs of those for whom empathy is felt compared to individuals who are not altruistically motivated to

help. Finally, leading individuals to feel empathy for members of stigmatized or disadvantaged groups appears to produce not only a tendency to help members of those groups, but also promotes positive attitudes toward the groups as a whole. These findings suggest that empathy may be useful for reducing prejudice and discrimination.

The available research offers strong support for the claim that humans are indeed capable of altruism. Even though altruism appears to be beneficial to individuals for whom empathy is felt, it may lead to negative outcomes for the altruistically motivated person in some circumstances. Also, altruism may lead helpers to benefit the person for whom empathy is felt at the expense of others. Although the debate over human altruism may not be completely resolved any time soon, the empathy–altruism hypothesis nonetheless presents an intriguing and complex picture of human motivation worthy of continued scientific attention.

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*See also* Altruism; Compassion; Empathy; Group Dynamics; Helping Behavior; Intergroup Relations; Prosocial Behavior; Stigma

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## ENCODING

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### Definition

Encoding is the process by which we translate information collected from the outside world by our sensory organs into mental representations. We tend to think of our eyes, ears, and other senses as analogous to video recorders—faithfully translating the outside world into mental products inside our head. However, encoding involves construction of what must be out there in addition to faithful duplication of what is indeed out there. While there are various reasons for this constructive process, the most important reason is

that information from the environment can often be interpreted in multiple ways, and the mind must choose the most likely meaning to enable us to respond appropriately. The mind solves this problem by relying on context to adjust the incoming information so that it conforms to the most likely interpretation of what is being seen, heard, tasted, and so forth.

As an example of this constructive process, think back on a time when someone said something to you that you didn't completely hear. You might have asked the person to repeat the statement, only to realize that you did not need the statement to be repeated. You might have berated yourself for asking for clarification too quickly, thinking that you actually heard the person the first time. In all probability, however, you did not hear the complete sentence when it was first spoken but were able to reconstruct it very rapidly after the fact. You could achieve this later reconstruction because once the entire utterance was complete, you had more information at your disposal to clarify what was originally heard. As a consequence, your mind could now replay it for you properly, without the added noise or confusion that caused you not to hear it the first time.

This example illustrates how constructive encoding can allow us to make sense of a world that might otherwise be too noisy or confusing. Nevertheless, constructive encoding has its pitfalls as well. Because most constructive processes at encoding are unconscious and inaccessible, we are often oblivious to their effects and tend to believe that what we see and hear represents objective reality. In actual fact, people interpret information based on their personal experiences and idiosyncratic understanding of the world. Thus, two people can walk away from the same event and occasionally hear or see different things, particularly if the people come from different cultural backgrounds. Despite these potential costs of constructive encoding processes, it is worth keeping in mind that the goal of encoding is to create a clear and accurate representation of reality, and evidence suggests that people are very good at this process most of the time. Indeed, people can sometimes form reasonably accurate representations of others after viewing just a few seconds of behavior.

*William von Hippel  
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*See also* Attention; Memory

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## ENDOWMENT EFFECT

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*See* MERE OWNERSHIP EFFECT

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## ENTITATIVITY

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In his or her social world, a person continually encounters collections of individuals in various social contexts. Sometimes a person perceives these other people to be a meaningful group; other times, as a mere aggregate of persons. What determines when a person sees other people as meaningful groups, and what are the consequences of perceiving people as a tightly knit group versus a loose collection of individuals?

In 1958, Campbell theorized about the nature of groupness, which he called *entitativity*. He proposed that groups could be considered meaningful entities if their members were similar and in close proximity and if they shared common goals and common outcomes. At an intuitive level, it seems obvious that individuals who are similar in some respect (e.g., skin color or nationality), in close proximity (e.g., neighbors), and who share a common fate (e.g., members of a basketball team) would be more likely to be perceived as a meaningful group. Yet empirical support for these ideas was not provided until decades after Campbell's original suppositions.

Although the factors proposed by Campbell seem important for perceiving groupness, there is such a diverse array of groups in one's social world that a more systematic differentiation and understanding of what entitativity means for each group seemed necessary. Research by Lickel and his colleagues in 2000 addressed this issue. Participants in their study rated a variety of different groups on different stimulus cues thought to be related to entitativity. Statistical analyses revealed that the extent to which the members were a meaningful group (entitative) was most closely

related to the extent of interaction among group members, how important group membership was to them, whether the members shared similar goals and outcomes, and the extent of similarity among members.

When participants were asked to sort the groups into as many different categories as they wished, it was found that participants consistently sorted the various groups into four specific types, and each was characterized by a specific pattern of the aforementioned cues. The first group type, *intimacy groups*, consisted of family members and other small groups whose members interacted a lot and are very important to the members. The next type, *task groups*, comprised committees, coworkers, and other smaller interactive groups that exist to get a job done. The third group type, *social categories*, consisted of groups such as gender, racial, and national groups, which are large and whose members are similar but do not have extensive interaction. Finally, *loose associations* are made up of people who go to the same school and other groups that are large in size, easy to join or leave, and typically not as important to their members. In addition to the cues that characterize each group type, Lickel and his colleagues also found that the group types vary in level of perceived entitativity. Intimacy groups are perceived to be highest in entitativity, followed by task groups, social categories, and loose association groups.

As a person maneuvers through his or her social worlds, how might these factors influence the way the person perceives groups? Later research has shown that perceivers *spontaneously* categorize people into these group types and are more likely, for example, to confuse members of a task group (e.g., a jury member) with another task group member (e.g., a coworker) than to confuse a task group member with a social category member (e.g., a Presbyterian). These within-group-type errors occur with each of the group types, suggesting that perceivers organize information about group members based on the type of group to which they belong.

Once a person categorizes people into groups, there are a number of consequences for the way he or she processes information and forms impressions about the groups. Unlike individuals, about whom a person routinely seeks to form meaningful and coherent impressions, group members are generally thought to be less entitative targets. If a person sees an individual person acting in a rude way, he or she might assume that the person is rude. In contrast, if a person

sees a member of a group behaving in a rude way, he or she would probably be less likely to assume that the group as a whole comprises rude individuals. Research has shown that perceivers engage in more *integrative processing* when considering individual targets in contrast to group targets. That is, perceivers are more likely to infer dispositional qualities, assume consistent actions over time, and attempt to resolve any inconsistencies in the behavior of individual, in contrast to group, targets.

Yet groups vary in their level of perceived entitativity. If perceivers engage in integrative processing of entitative targets (such as individuals), then the same processing should occur for highly entitative groups. In one representative study, researchers varied the entitativity of individual or group targets and found that participants did engage in more integrative processing for both entitative individual and group targets and less integrative processing for groups and individuals that were described as low in entitativity.

A consequence of engaging in more integrative processing of highly entitative groups is that perceivers will spend more time thinking about information presented by groups that are high, in contrast to low, in entitativity. In fact, research has demonstrated that perceivers are more likely to be persuaded by highly entitative groups than by groups low in entitativity. These results were attributed to an increase in elaboration of strong messages when presented by high entitativity groups. In contrast, less attitude change was found when messages were weak or presented by groups low in entitativity.

Another consequence of integrative processing is that once a person perceives a group to be highly entitative, he or she is more likely to see individual group members as similar to each other and hence as essentially interchangeable. Attributes learned about one group member are assumed to be characteristic of other group members as well. This generalization across group members is important because it is a basis for stereotyping the group. Research has also shown that perceivers make more extreme or polarized judgments about highly entitative targets.

The groups that people encounter in their social world are diverse and ever changing. Yet from this sea of diversity, they perceive meaningful, entitative groups in their midst. Regardless of the type of group, perceptions of entitativity allow people to categorize aggregates of individuals into meaningful units. In this way, they are able to process information more

effectively and to better maneuver through the complex social world in which they live.

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*See also* Fundamental Attribution Error; Group Identity; Groups, Characteristics of; Person Perception; Social Categorization

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## ENVIRONMENTAL PSYCHOLOGY

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Why is it so traumatic to be confronted with a burglary in one's own home? Why, in spite of a wide consensus concerning the necessity to protect our environment, do so few people really engage in conservation behaviors? Why, in the same city, are there clean and secure neighborhoods and nearby run-down and dangerous ones? Why do people insist on returning to their destroyed homes after a natural disaster in spite of the dangers? Why is living in cities seen as so stressful? Why are natural environments so restorative? All these questions can be answered only by

looking at the relationship the individual has with the environment in which he or she lives; these are the concerns of environmental psychology. It is therefore not surprising that the discipline emerged in the 1970s, as a response to questions about the architectural layout of psychiatric wards and the fit between building design and users' needs.

### Definition

There are a number of important defining characteristics of environmental psychology. Environmental psychology deals with the relationships between people and their physical and social settings. Environmental psychology studies individuals and groups in their physical and social context, by giving a prominent place to environmental perceptions, attitudes, evaluations, and representations and accompanying behavior to address the nature and impact of these interrelations. Environmental psychology studies environment–behavior relationships as a unit, rather than separating them into distinct elements. Environmental psychology investigates the psychological processes that facilitate understanding of the meaning that environmental situations have for people acting individually or in groups and how people create and use places. In dealing with the relationship between the individuals and groups and their life-space, environmental psychology considers not only the environment as providing humans with all that they need to survive but also the spaces in which to appreciate, understand, and act to fulfill higher needs and aspirations.

Environmental psychology focuses on both the effects of environmental conditions on behavior and how the individual perceives and acts on the environment. The point of departure of analysis is often the physical characteristics of the environment (e.g., noise, pollution, planning and the layout of physical space) acting directly on the individual or groups or mediated by social variables in the environment (e.g., crowding). But physical and social factors are inextricably linked in their effects on individuals' perceptions and behavior.

### Why an Environmental Psychology?

Although environmental psychology can justly claim to be a subdiscipline in its own right, it clearly has an affinity with other branches of psychology such as cognitive, organizational, and developmental psychology. But it is most closely allied to social psychology.

Examples of where environmental psychology has been informed by, and contributed to, social psychology are intergroup relations, group functioning, performance, identity, conflict, and bystander behavior. However, social psychology often minimizes the role of the environment as a physical and social setting, and treats it as simply the stage on which individuals and groups act rather than as an integral part of the plot. Environmental psychology adds an important dimension to social psychology by making sense of differences in behavior and perception according to contextual variables, differences that can be explained only by reference to environmental contingencies. Furthermore, social psychology finds it difficult to explain why there is such a poor relationship between attitudes and behavior. Often it is only by reference to the individual's relationship to the environment that a plausible explanation can be made of the presence or absence of behavior in accordance to one's attitudes: The environment facilitates or impedes certain behaviors, and it is within specific contexts that cognitions, emotions, and behaviors take place and gain meaning. It is hardly surprising that people throw garbage on the streets when there are no waste bins and when all the evidence is that no one cares for the environment.

Since environmental psychologists consider that behavior gains meaning only when it takes place in the natural setting, the discipline mainly functions in an inductive way; that is, it studies people in their real context (e.g., shopping mall, neighborhood, parks, city streets). As a consequence, it is often considered as being applied psychology. Besides using surveys by means of interviews or questionnaires and classic behavioral observations, the discipline also relies on

a wide range of specific methods like mental mapping, simulations, commented trailing, and behavioral cartography.

Although there are strong links to other areas of psychology, especially social psychology, environmental psychology is unique among the psychological sciences because of the relationships it has forged with the social (e.g., sociology, human ecology, demography), environmental (e.g., environmental sciences, geography), and design (e.g., architecture, planning, landscape architecture, interior design) disciplines. Environmental psychologists routinely work with architects and planners, environmental scientists, and even professionals such as archaeologists.

### What Is the Scope of Environmental Psychology?

Environmental psychology, because of its very focus, has been and remains above all a psychology of space, to the extent that it analyzes individuals' and communities' perceptions, attitudes, and behaviors in explicit relation to the physical and social contexts within which people and communities exist. Notions of space and place occupy a central position. The environment can be our city, office, factory, school, hospital, where we shop or work, where we take our leisure—be it a national park or city park, our neighborhood, home, or even a small and personal space such as our bedroom. The discipline operates, then, at several levels of spatial reference enabling the investigation of people–environment interactions (at the individual, group, or societal level) at each level (see Table 1).

**Table 1** Physical and Social Aspects of the Four Levels of Environmental Analyses and Type of Control

|         | <i>Physical Aspects of the Environment</i>                     | <i>Social Aspects of the Environment</i> | <i>Type of Space and Control</i>          |
|---------|--|--|---|
| Level 1 | Micro environment (habitat, workplace)                         | Individual (family)                      | Private space (extended control)          |
| Level 2 | Proximal environment (neighborhood, spaces open to the public) | Communities (users, clients)             | Semi-public space (shared control)        |
| Level 3 | Public environments (villages, towns, cities)                  | Inhabitants (aggregates of individuals)  | Public space (mediated control)           |
| Level 4 | Global environment (natural resources)                         | Society (population)                     | Country, nation, planet (lack of control) |

Private spaces like the house, the workplace, or the office, which are not shared or shared by a restricted number of people, do not generate the same relations as semi-public or public environments like blocks of apartments, the neighborhood, parks, or green spaces shared with a community. Public environments, involving both built spaces (villages, towns, cities) as well as the natural environment (the countryside, landscape, etc.) involve relations with strangers at the societal level. Furthermore, at each of these levels people do have more or less control over the physical and social aspects of the environment. In the private sphere, the individual's control is absolute; in semi-private and public environments, it is shared with the neighborhood community. In the urban environment, control is delegated to elected or designated organizations, such as the police, the local municipality, and so forth, whereas control over global environmental features may be a matter of international negotiation. Environmental psychology analyzes and characterizes *people–environment interactions and/or transactions* at these different environmental levels. These relations can best be understood through perception, needs, opportunities, and means of control.

One of the shortcomings of so much psychological research is that it treats the environment simply as a value-free backdrop to human activity and a stage on which people act out their lives. In essence, the environment is regarded as noise. It is seen as expedient in psychological investigations and experiments to remove or reduce as much extraneous noise as possible that will affect the purity of the results. This is understandable and desirable in many situations, but when it comes to understanding human perceptions, attitudes, and behaviors in real-world settings, the environment is a critical factor that needs to be taken into account. For example, as it is not possible to understand the architecture and spatial layout of a church, mosque, or synagogue without reference to the liturgical precepts which influenced their design, so it is no less possible to understand any landscape without reference to the different social, economic, and political systems and ideologies which inform them.

Helping behavior is a good example of the influence of environmental context on the interpersonal behavior. The conclusions of numerous research studies undertaken since the 1970s consistently demonstrate that the conditions of urban life reduce the attention given to others and diminish one's willingness to help

others. Aggressive reactions to a phone box out of order are more common in large cities than in small towns. These findings have been explained by the levels of population densities, such as in large urban areas, which engender individualism and an indifference toward others, a malaise noted as long ago as 1903 by the German sociologist Georg Simmel, who suggested that city life is characterized by social withdrawal, egoistic behaviors, detachment, and disinterest toward others. The reduction of attention to others can also be observed when the individual is exposed to a more isolated supplementary stressful condition. Thus, excessive population density or the noise of a pneumatic drill significantly reduces the frequency of different helping behaviors. If politeness, as measured by holding the door for someone at the entry of a large department store, is less frequent in Paris than in a small provincial town, then this would suggest that population density and its immediate impact on the throughput of shoppers will affect helping and politeness behavior.

### One World or Many?

People often assume that other people see the environment the same way as they do. However, each person holds a unique view of the place where he or she lives and works because of what it means to him- or herself. Certain places are more meaningful than others: the restaurant in which marriage was proposed, the street where one saw a boy fatally knocked off his bicycle, the office building of one's first job. These are all intensely personal experiences and therefore map uniquely onto each person's perception and image of his or her local environment. Some experiences though are held in common—nobody can look at Ground Zero in New York without thinking of their collective experience of that day in September 2001. Of course, everyone also holds a collective perception and image of the world, but it does not necessarily have equal meaning for everybody—one might cite 9/11 again as an example of this. At a more prosaic level, some areas are attractive, some are run-down, some dangerous at night and others peaceful, some noisy and polluted.

Different groups perceive the environment in different ways for different reasons. There is a growing interest in the contrasting perceptions of different groups such as children, the disabled, the mobility-poor, and women. It is claimed, for example, that by

failing to appreciate how women see the environment, urban planners have not taken into account gender differences, with its consequences for both community planning and social and community life. When such differences occur, conflicts arise. Such conflicts may be because the perceptions and preferences of one group have not been communicated to another and so have not been acted on. Alternatively, conflicts could be due to differences in values between one group and another.

Psychologists have paid some attention to the different perceptions of planners, designers, and managers and users of the environment. For example, a study of wilderness users' and managers' perception of Minnesota's Boundary Waters Canoe Area found that both groups possessed very different perceptions of the spatial extent of the wilderness area, and both sets of perceptions were inaccurate. Canoeists saw the wilderness area larger than it actually was, while the managers saw it as smaller. In another study of the same wilderness area, it was found that managers had positive attitudes toward hunting, beaver trapping, and the use of motorized boats, whereas canoeists objected to these activities on the grounds that they would not only damage the very qualities of wilderness but also tarnish their image of what a pure wilderness is. Some people who visit national parks and other natural areas may be looking for a wilderness experience in which the presence of the hand of humans is not much in evidence. But others may only seek the illusion of naturalness, desiring modern urban comforts while seeming to get away from it all.

### Importance of Place

Place is an important concept in environmental psychology. Places not only are important physical referents with which people relate to the physical world but also become part of the way people define themselves. Research on place-identity is concerned with the acquisition, meaning, and loss of people's relationships with places that are psychologically significant to them as individuals and as members of the social groups to which they belong. It has been shown that unwanted and personally uncontrollable change in the physical environment may cause a grief or loss reaction. Such grieving may be long-lasting. The inhabitants of a village in Slovakia who had been forcibly moved in order that the valley in which the village was situated could be flooded for a reservoir were still

distressed 40 years after the event. When asked to recall their life and environment through interviews and drawing a map of the village, they were able to recall in fine detail environmental features and who lived where in the village.

When place is destroyed, personal identity is damaged. The construction of the Channel Tunnel linking England with France had a devastating impact on the villages which were destroyed to enable the tunnel entrance and approaches to be built. Although much care was taken to protect environmentally sensitive areas, the psychological effects of the impact of loss of home, community, and countryside on the local inhabitants were given less attention. This harmony between self and the environment can be detected from the inhabitants' remarks, especially those who lost their homes; the most feeling comments about displaced birds and animals came from respondents whose own homes had been demolished.

The psychological effects on people experiencing the gradual destruction of their environment on such a traumatic scale are not well understood, although they are now receiving attention from environmental psychologists.

### Policy-Oriented Discipline

Environmental psychology's strongest feature is its capacity to respond to societal problems based on solid scientific knowledge and sophisticated methods. Indeed, environmental psychology has always been an applied and policy-oriented discipline as well as a scientific subject that seeks to understand and explain human behavior in an environmental context. Consequently, it is not surprising to find that the issues at the forefront of the political and environmental agenda at the beginning of the 21st century—human rights, well-being and quality of life, globalization and sustainability—are being addressed by environmental psychologists. A healthy environment is not only an environment that is free of substances that threaten the individual's health, but it is also an environment to which individuals are attached and in which individuals feel themselves at home, indispensable conditions for sustainable citizenship.

*Gabriel Moser  
David Uzzell*

*See also* Group Performance and Productivity; Intergroup Relations

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## ENVY

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### Definition

Envy refers to the often-painful emotion caused by an awareness of an advantage enjoyed by another person. It is a complex, socially repugnant emotion made up of a mix of inferiority feelings, hostility, and resentment. Envy is different from admiration, which is delight and approval inspired by another person. Admiration can foster a desire to emulate another person's success, whereas envy breeds a competitive desire to outdo and even bring the envied person down in some cases. Envy may seem like greed, but greed involves an insatiable desire for more and more of something, rather than a desire for a particular thing possessed by a particular person. Envy is also different from jealousy. Envy involves two people and occurs when one *lacks* something enjoyed by another. Jealousy typically involves three people and occurs when one fears *losing* someone, usually a romantic partner, to a rival. Thus, we say that Cassius envied Caesar's power and prestige, whereas Othello was jealous because Desdemona appeared interested in Cassio.

### Whom and What Do People Envy?

Envy is a universal emotion, but it is not the inevitable response to another person's superiority. People envy those who are similar to themselves on attributes such as gender, age, experience, and social background. These similarities enable people to imagine what it would be like if they had the envied person's advantage. However, envy results when, in fact, the chances

of having the desired attribute seem slim, despite this similarity. Also, people envy those whose advantages are on self-relevant domains. If Salieri envied Mozart, it was because Salieri's self-worth was linked to doing well as a composer, and Mozart's superior musical talent diminished Salieri's own abilities on a domain that mattered dearly to him.

### Hostile Nature of Envy

Advantages enjoyed by other people can have powerful consequences for the self. Other people's superiority grants them better access to culturally valued resources in school, the workplace, and in romantic relationships or, indeed, in any domain where the best outcomes are determined by competition. Therefore, when another person enjoys a relative advantage in an important domain of life, a blend of negative feelings characteristic of envy often naturally follows. A major part of these feelings is hostile because hostility can serve as a necessary spur for self-assertion. In the long run, submissive reactions probably lead to losing out in the game of life.

It is important to recognize the hostile nature of envy. This hostility explains why envy is associated with so many historical cases of aggression (such as the horrific bloodletting between the Tutsi and Hutus in Rwanda), as well as innumerable literary and biblical accounts of murder and sabotage (such as the assassination of Caesar in Shakespeare's play and the slaying of Abel by Cain). Laboratory studies show this link as well. Envy, for example, has been shown to create the conditions ripe for malicious joy, or *Schadenfreude*, if the envied person suffers a misfortune.

### Suppression of Envy and Its Transmutations

People resist confessing their envy, perhaps more so than any other emotion. After all, envy is one of the seven deadly sins. People are taught to rejoice in the good fortunes of others. To admit to envy is to announce that one is feeling both inferior and hostile, which is shameful. Envy is also extremely threatening to the self, which means that people often fail to acknowledge it privately as well. Consequently, envy is likely to be suppressed or transmuted into other more socially acceptable emotions, tricking both observers and the self alike. Although the first pangs of the emotion may be recognizable as envy, because of the threat to the self that is inherent in the emotion, people

feeling envy may give it a different label for public and private consumption. They usually find ways to justify their hostility by perceiving the advantage as unfair or the envied person as morally flawed. What begins as envy can then become transformed into indignation and outrage. Over time, even the desired attribute itself may become devalued, as an attitude of sour grapes takes over. Because people feeling envy sense that open hostility violates social norms, they usually avoid acting on their hostility in direct ways. They tend to take the route of backbiting and gossiping and are primed for secret pleasure if misfortune befalls the envied person. Sometimes, their behavior will suggest the opposite of their feelings (such as effusive compliments), so that observers (and perhaps the envying people themselves) will not attribute their actions to envy.

### Envy and Unhappiness

Envy is thought to be a potent cause of unhappiness. Part of the reason is that feeling envy means that one is determining self-worth by how one compares with others. This is a likely road to discontent, because for most people, there will always be others who compare better. Ultimately, envy can poison a person's capacity to enjoy the good things in life and snuff out feelings of gratitude for life's many gifts. People who are envious by disposition appear especially likely to perceive an unflattering comparison as showcasing their inferiority and may become especially bitter and resentful. Such tendencies are hardly conducive to happiness and smooth interactions with others. Physical as well as mental health may suffer. Thus, people are well advised to find ways to curtail their envy by focusing on reasons for feeling grateful and, in general, avoiding judging themselves using standards derived from social comparisons.

*Richard H. Smith*

*See also* Emotion; Social Comparison

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## EQUALITY MATCHING

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*See* RELATIONAL MODELS THEORY

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## EQUITY THEORY

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### Definition

Equity theory posits that when it comes to relationships, two concerns stand out: (1) How rewarding are their societal, family, and work relationships? (2) How fair and equitable are those relationships? According to equity theory, people feel most comfortable when they are getting exactly what they deserve from their relationships—no more and certainly no less.

Equity theory consists of four propositions:

Proposition I. Men and women are “wired up” to try to maximize pleasure and minimize pain.

Proposition II. Society, however, has a vested interest in persuading people to behave fairly and equitably. Groups will generally reward members who treat others equitably and punish those who treat others inequitably.

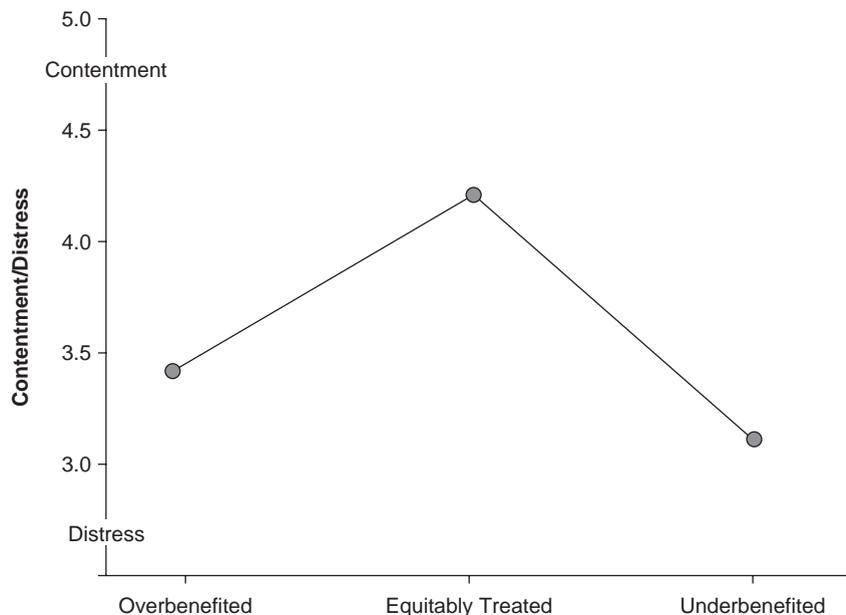
Proposition III. Given societal pressures, people are most comfortable when they perceive that they are getting roughly what they deserve from life and love. If people feel overbenefited, they may experience pity, guilt, and shame; if underbenefited, they may experience anger, sadness, and resentment.

Proposition IV. People in inequitable relationships will attempt to reduce their distress via a variety of techniques: by restoring psychological equity, actual equity, or leaving the relationship.

### Context and Importance

People everywhere are concerned with justice. “What’s fair is fair!” “She deserves better.” “It’s just not right.” “He can’t get away with that: It’s illegal.” “It’s unethical!” “It’s immoral.” Yet, historically, societies have had very different visions as to what constitutes social justice and fairness. Some dominant views include the following:

- All men are created equal.
- The more you invest in a project, the more profit you deserve to reap (American capitalism).
- Each according to his need (Communism).
- Winner take all (dog-eat-dog capitalism).



**Figure 1** The Impact of Equity on Contentment With the Relationship

Nonetheless, in all societies, fairness and justice are deemed important. This entry will consider the consequences for men and women when they feel fairly or unfairly treated. Although equity has been found to be important in a wide variety of relationships—societal relationships, romantic and family relationships, helping relationships, exploitative relationships, and work relationships—this entry will focus on the research in one area: romantic and marital relationships.

### Measuring Equity

Although (technically) equity is defined by a complex formula, in practice, in love relationships, equity has been assessed by a simple measure:

Considering what you put into your (dating relationship) (marriage), compared to what you get out of it . . . and what your partner puts in compared to what he or she gets out of it, how does your (dating relationship) (marriage) “stack up”?

- +3: I am getting a much better deal than my partner.
- +2: I am getting a somewhat better deal.
- +1: I am getting a slightly better deal.
- 0: We are both getting an equally good, or bad, deal.

- 1: My partner is getting a slightly better deal.
- 2: My partner is getting a somewhat better deal.
- 3: My partner is getting a much better deal than I am.

On the basis of their answers, persons can be classified as overbenefited (receiving more than they deserve), equitably treated, or underbenefited (receiving less than they deserve).

### Equity in Love Relationships: The Research

There is considerable evidence that in love relationships, equity matters. Specifically, researchers find that the more socially desirable people are (the more attractive, personable, famous, rich, or considerate they are), the more socially desirable they will expect a mate to be. Also, dating couples are more likely to fall in love if they perceive their relationships to be equitable. Couples are likely to end up with someone fairly close to themselves in social desirability. They are also likely to be matched on the basis of self-esteem, looks, intelligence, education, mental and physical health (or disability). In addition, couples who perceive their relationships to be equitable are more likely to get involved sexually. For example,

couples were asked how intimate their relationships were—whether they involved necking, petting, genital play, intercourse, cunnilingus, or fellatio. Couples in equitable relationships generally were having sexual relations. Couples in inequitable relationships tended to stop before going all the way. Couples were also asked why they'd made love. Those in equitable affairs were most likely to say that both of them wanted to have sex. Couples in inequitable relationships were less likely to claim that sex had been a mutual decision. Dating and married couples in equitable relationships also had more satisfying sexual lives than their peers. Equitable relationships are comfortable relationships. Researchers have interviewed dating couples, newlyweds, couples married for various lengths of time, including couples married 50+ years. Equitable relationships were found to be happier, most contented, and most comfortable at all ages and all stages of a relationship.

Equitable relationships are also stable relationships. Couples who feel equitably treated are most confident that they will still be together in 1 year, 5 years, and 10 years. In equitable relationships, partners are generally motivated to be faithful. The more cheated men and women feel in their marriages, the more likely they are to risk engaging in fleeting extramarital love affairs. Thus, people care about how rewarding their relationships are and how fair and equitable they seem to be.

### Implications

Cross-cultural and historical researchers have long been interested in the impact of culture on perceptions of social justice. They contend that culture exerts a profound impact on how concerned men and women are with fairness and equity and on how *fairness* is defined, especially in the realm of gender relationships.

Cultural and historical perspectives suggest several questions for researchers interested in social justice: What aspects of justice, love, sex, and intimacy are universal? Which are social constructions? In the wake of globalization, is the world becoming one and homogeneous, or are traditional cultural practices more tenacious and impervious to deep transformation than some have supposed?

Theorists are also engaged in a debate as to whether certain visions of social justice, (especially in romantic and marital relationships) are better than others. Some cultural theorists argue that all visions are relative and that social psychologists must avoid cultural arrogance

and ethnocentrism and strive to respect cultural variety. Others insist that universal human rights do exist and that certain practices are abhorrent, whatever their cultural sources. These include genocide (ethnic cleansing), torture, and in the area of gender and family relationships, the sale of brides, the forcing of girls into prostitution, dowry murders, *suttee* or widow burning, genital mutilation, infanticide, and discriminatory laws against women's civic, social, and legal equality, just to name just a few. In this world, in which the yearning for modernity and globalization contend with yearnings for cultural traditions, this debate over what is meant by equity and social justice is likely to continue and to be a lively one.

Elaine Hatfield  
Richard L. Rapson

*See also* Distributive Justice; Love; Marital Satisfaction; Social Justice Orientation

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## EROTIC PLASTICITY

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### Definition

Erotic plasticity refers to the degree to which the sex drive is shaped by social, cultural, and situational factors. The sex drive refers to the motivation (desire) to have sex. High plasticity indicates that the person's sexual desires are strongly influenced by social and cultural factors (including meaningful aspects of the immediate situation), and it can be reflected in changes in behavior and in feelings. Thus, someone with high plasticity might potentially learn to desire and enjoy different kinds of sexual activities and different kinds of partners. The intensity of sexual desire might also be subject to external influence.

The term *plasticity* is used in the biological sense, meaning subject to change and able to be molded into different shapes. The other meaning of plasticity, as in

being phony or artificial, is not relevant to erotic plasticity and is in no way implied.

### Context and Importance

Erotic plasticity lies at the center of one of the most far-reaching and fundamental debates in the study of human sexuality, namely, the relative influence of nature versus culture. Theory and research in sexuality in recent decades have clustered around two very different views. One is that biological factors such as evolution and genetics are centrally important in determining the sexual feelings and actions of individuals. The other view emphasizes cultural and social factors, such as socialization, political influences, and local norms. For example, theories of homosexuality have ranged from claiming there is a “gay gene,” which signifies a biological, innate tendency to become homosexual, to attempts to explain homosexuality in terms of personal experiences, such as growing up with an intrusive, controlling mother and a distant, critical father.

Low plasticity signifies that nature and biology are the main factors; high plasticity indicates a greater scope for culture and other social factors. Differences in plasticity also indicate differences in the type of causality. Biological factors such as genes influence sexual behavior by virtue of physical and biochemical processes, such as how different molecules would create tendencies to act in particular ways. In contrast, social and cultural factors depend on meaning, in the sense of how the person interprets and understands events. A great many animals engage in sexual behavior that is essentially and primarily driven by biological factors, such as hormones and genetic tendencies. Human beings are the only species for whom sex depends partly on what it means and who recognize a distinction between meaningful and meaningless sex. High plasticity indicates that sexual responses depend on meaning. Conversely, a sexual response that is mainly guided by hormones and genes would be lower in plasticity.

### Gender

There is ample evidence that women have higher erotic plasticity than men. This is not necessarily either a good or a bad thing, but it may be helpful in understanding sexual differences between men and women.

The reason for women’s greater plasticity is not known. One view is that it derives from lesser drive strength. That is, to the extent that women’s sexual desires are milder than men’s, they may be more amenable to the civilizing and transforming influence of social and cultural factors.

### Evidence

Three broad types of evidence have been used in discussing erotic plasticity, though more research tools (including a trait measure to sort individuals as to their degree of plasticity) may be developed soon.

First, high plasticity suggests that individuals will change more in their sexual feelings and behaviors as they move through different circumstances and different life stages. Thus, women are more likely than men to adopt new sexual practices throughout their adult lives (indeed, many men’s sexual tastes seem to be set at puberty). Women make more sexual changes in adjusting to marriage than do men. Sexual orientation is of particular importance: Nearly all studies indicate that lesbians have had more opposite-sex partners than have gay males, and heterosexual women are more likely to experiment with homosexual activity than are heterosexual men.

Second, high plasticity indicates being more affected by social and cultural factors, and so one can look at how much these factors change the individual. Highly educated women have sex lives that differ from those of poorly educated women, whereas the influence of education on male sexuality is considerably smaller. Degree of religious involvement predicts very different patterns of sexual behavior for women but much less for men. Girls and women are more influenced by their peer group and by their parents than are men, at least relative to sex. Meanwhile, the role of genetic factors (low plasticity) is generally found to be greater among men than women.

Third, to the extent that sexual responses depend on social and situational influences, general attitudes will show a weak relation to specific behaviors. For example, some studies have asked people whether they find the idea of homosexual sex appealing (a broad attitude) and whether they have actually engaged in any such activity in the past year (specific behavior). For men, those answers are closely related and quite consistent, such that the men who find the idea appealing try it out, and those who do not like the idea do not

perform the acts. For women, however, there is much more inconsistency between the general idea and specific behavior, possibly because the woman's response depends on very specific circumstances (such as the other person and the setting) rather than on the general attitude.

## Implications

In sex, the balance between nature and nurture may differ by gender. Women's sexuality probably depends on what it means, on learning and culture, and on other social factors, whereas male sexuality may be more strictly programmed as a biological reaction and hence may resist social and cultural influences. Sexual self-knowledge may be more difficult for women to achieve (because high plasticity keeps open the possibility of change). Women may change more easily in response to circumstances.

*Roy F. Baumeister*

*See also* Sex Drive; Sexual Economics Theory

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# ERROR MANAGEMENT THEORY

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## Definition

One of the great challenges for humans is figuring out what is going on in other people's minds. People don't always disclose exactly what they are thinking, they can behave in very ambiguous ways, and sometimes they can be downright deceptive. For example, when a woman smiles at a man, is she sexually interested in him or just being nice?

Sometimes the errors people make in judging others are systematic, meaning that they tend to be biased in one direction or another. For example, judgments might be systematically biased toward a false positive error or a false negative error. In judging others, you would make a false positive error if you believed that

a person had a particular thought or intention when the person actually did not. If you judged that the woman was sexually interested in the man, for instance, when she actually was not, you would make a false positive error. On the other hand, you would make a false negative error if you believed that a person did not have a particular thought or intention when the person actually did. If you judged that the woman was not sexually interested in the man when she actually was, you would make a false negative error.

Error management theory proposes that the direction of a bias in social judgment is tied to how costly different kinds of errors are. For example, consider how smoke alarms are designed. Failures to detect fires (false negative errors) are extremely costly, whereas false alarms (false positives) are usually just inconvenient. So, when engineers make smoke alarms, they tend to design them to be biased away from the more costly false negative error by setting a low threshold for fire detection. As a consequence, smoke alarms will tend to be systematically biased toward false positive errors (false alarms). A low threshold for fire detection will cause smoke alarms to make more errors overall, but it will minimize the cost of errors when they inevitably occur (i.e., the errors will tend to be false alarms rather than missed fires).

Error management theory proposes that the same principle of design applies to the evolution of judgment mechanisms in the human mind. Ancestrally, in many areas of social judgment, the costs of false positive and false negative errors differed. When the costs of false negatives are greater, error management theory predicts a bias toward false positives (as in the smoke alarm example); when the costs of false positives are greater, error management theory predicts a bias toward false negatives.

## Examples and Evidence

One example of a false positive bias is in men's estimations of women's sexual interest. For an ancestral man, failing to detect sexual interest in a woman resulted in a missed reproductive opportunity, which was highly costly to his reproductive success. The opposite error (believing that a woman was interested when she was not) was perhaps a bit embarrassing but probably less costly overall. Thus, error management theory predicts that natural selection designed a bias in men toward slightly overestimating a woman's sexual

interest to reduce the likelihood of a missed sexual opportunity; this leads modern men to overperceive women's sexual interest. (The same prediction does not apply to women's perceptions because women need to invest very heavily in each offspring and because reproductive opportunities tend to be easier for women to acquire.) Evidence of this bias has been gathered in many types of studies. In laboratory studies of interactions between male and female strangers, men viewing the interaction tend to infer greater flirtatiousness in the female than do women viewing the interaction. In surveys of people's past experiences, women report more cases in which men overestimated their sexual interest than in which men underestimated it, whereas men's reports of women's over- and underestimation errors do not differ. When men and women are shown romantic movies, men's subsequent tendency to see sexual interest in photographs of neutral female faces is greater than women's.

An example of a false negative bias is in women's judgments of men's interest in commitment during courtship. Women must invest heavily in each offspring produced, and therefore they tend to be very careful in choosing mates and in consenting to sex. One feature women prefer in mates is investment: a man's ability and willingness to invest time and resources in caring for a woman and her offspring. However, women must predict a man's tendency to invest from his behaviors, and therefore their judgments will be susceptible to some degree of error. Here again, there is an asymmetry in the costs of the errors in the judgment task. Judging that a man will commit and invest when he actually will not (a false positive error) could result in the woman consenting to sex and being subsequently abandoned. In harsh ancestral environments, this literally could have been deadly to the woman's offspring. The opposite error—believing that the man is not committed when he actually is (a false negative)—would typically result only in a delay of reproduction for the woman, which would tend to be less costly. Error management theory therefore predicts that women will tend to be skeptical of men's commitment, especially during the early phases of courtship. This prediction has been tested by comparing men's and women's impressions of male courtship behaviors. Relative to men, women express skepticism about a variety of male courtship tactics, including buying flowers, cooking a gourmet dinner, and saying, "I love you."

These two examples concern judgments in courtship, but the odds that the costs of the two error types are identical for any particular area of judgment are essentially zero, and therefore error management theory applies to a broad array of judgment tasks. Other biases that may be explained by error management theory include the following:

The tendency for people to overestimate the dangerousness of unfamiliar others

The tendency for people to infer that they will be caught if they attempt to cheat in certain types of social interactions, even when they know that their identity is concealed from others

The tendency for people to avoid close contact with non-contagious sick, injured, or unfamiliar others who actually pose little risk

The tendency for people to have certain positive illusions that cause them to strive to attain goals that are in fact very difficult to attain, but if they are attained lead to substantial benefits

### Implications and Importance

Psychologists often debate whether humans are rational or irrational. Those arguing that humans are irrational cite evidence of bias and errors in human judgment. Error management theory suggests that judgment strategies biased toward less costly errors are expected to evolve and are actually superior to unbiased strategies. Therefore, mere evidence of bias is not necessarily evidence of irrationality or poor judgment, as is often claimed.

There are practical implications of understanding error management biases. The Safeway supermarket chain made news in the 1990s because of their service-with-a-smile policy, which required all employees to smile and make eye contact with customers. The female employees in the chain filed complaints about this policy because they found that men tended to misinterpret their friendliness as sexual interest, leading to instances of sexual harassment. Knowledge of error management biases and the cues that trigger them may help to create better social policies.

*Martie G. Haselton*

*See also* Evolutionary Psychology; Heuristic Processing; Positive Illusions; Sexual Strategies Theory

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## ESCAPE THEORY

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### Definition

Escape theory refers to the tendency for people to engage in behaviors to avoid an unpleasant psychological reaction. Whereas the common use of the term *escape* suggests physically removing oneself from a physical location (such as escaping from prison), escape theory is used to describe behaviors that enable a person to flee from negative perceptions of the self. Escape from the self may help a person temporarily avoid a negative psychological reaction, but the behaviors that follow from a motivation to escape from the self are frequently undesirable.

### History and Background

Social psychology has a long history of examining the consequences of how people view themselves for their behavior. People construct and interpret meaning based on how well their identity falls short of, meets, or exceeds expectations that people set for themselves or that are supported by social norms. Escape theory is concerned primarily with the behaviors that follow when people recognize that some part of their identity falls short of desired standards. When people realize that a part of their identity fails to meet desired standards, they narrow the focus of their attention to the present and immediate environment to avoid meaningful thought regarding unflattering aspects of themselves.

Over the past several decades, social psychologists have demonstrated that people construct and interpret meaning at both high and low levels. High levels of meaning involve comparison of one's self against broad personal or social standards, such as how a current behavior might relate to an event that might occur in the future. Low levels of meaning, in contrast, involve a narrow, concrete awareness of the immediate present. Studying for an exam, for example, can be explained as fulfilling a long-term goal of achieving

academic and career success (high level of meaning). At a low level of meaning, studying for an exam could be explained as simple eye and muscle movements. Charles Carver and Michael Scheier proposed that people shift their level of awareness to a low level of meaning when they are confronted with parts of their identity that fail to meet socially approved standards. Other research has shown that people prefer a low level of awareness after experiencing failure or stress. Thus, past theory and research have shown that people seek to escape from the self when one or more aspects of their identity fall short of expectations.

### Six Main Steps in Escape Theory

Escape theory is organized in six main steps. First, the person has a severe experience in which he or she realizes that current outcomes (or circumstances) fall below societal or self-imposed standards. Second, the person blames these disappointing outcomes on internal aspects of the self (i.e., parts of his or her personality) as opposed to situational factors. Third, the person recognizes that current outcomes portray the self as inadequate, incompetent, unattractive, or guilty. Fourth, the person experiences negative emotions as a result of the realization that current outcomes fall short of desired expectations. Fifth, the person seeks to escape from this negative psychological reaction by avoiding high-level, meaningful thought. Sixth, the consequences of this avoidance of meaningful thought results in a lack of restraint, which may give rise to undesirable behaviors.

The steps in escape theory signify points in a causal process that are dependent on each other. The causal process will lead to undesirable behaviors only if the person proceeds through each of the previous five steps. If the person explains a recent failure as caused by situational factors (as opposed to blaming it on deficient aspects of the self), then the process will not lead to undesirable behaviors. Escape from the self should therefore be considered a relatively uncommon response to distressing or disappointing outcomes or circumstances.

### Applying Escape Theory to Behavioral Outcomes

Escape theory has been applied to several behavioral outcomes. Nearly all of these behaviors produce

immediate relief but also involve long-term negative consequences. Suicide attempts can be considered as attempts to escape from the self. Roy Baumeister showed that many suicide attempts are the result of a shift to a low level of meaning (i.e., focus on immediate environment) to avoid the negative emotions that result from not achieving a desired goal. Escape theory has also been applied to sexual masochism, or the tendency to derive sexual satisfaction from being physically or emotionally abused. People who engage in sexually masochistic behaviors often do so out of a motivation to narrow their attention to immediate, intense sensations, thereby making the likelihood of maintaining a normal sense of identity impossible. Alcohol use may also serve the function of allowing people to escape from negative thoughts about one's self by reducing the ability for people to process complex information in a high-level, meaningful manner. Instead, alcohol use typically renders people incapable of considering how their current outcomes compare to societal and self-imposed standards for desirable behavior. Other research has suggested that cigarette smoking may be understood as goal-directed behavior aimed at achieving a low level of distraction from negative thoughts about one's self.

Todd Heatherton and Baumeister have applied escape theory to binge eating. First, a person may realize that he or she is not meeting a self-imposed weight loss goal. Second, a person may explain his or her failure to lose weight as the result of being an incompetent person instead of focusing on how factors in the environment prevented him or her from losing weight. Third, the person may become intensely aware that his or her failure to lose weight reflects negatively on his or her identity of being a competent and attractive person. Fourth, the person experiences negative emotions after realizing that his or her current body weight does not meet his or her desired body weight. Fifth, the person shifts his or her level of awareness to a low level (i.e., focuses on sensations and objects in the current environment) to escape the negative psychological reaction that resulted from realizing that he or she did not meet a desired weight loss goal. Sixth, the focus on the immediate aspects of the current environment reduces the tendency for the person to consider the long-term consequences of his or her behavior. This lack of restraint increases the tendency for people to engage in typically undesirable behaviors, such as binge eating.

*C. Nathan DeWall*

*See also* Coping; Self; Self-Deception; Self-Discrepancy Theory

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## ETHNOCENTRISM

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### Definition

Ethnocentrism is the tendency to view the world through the lens of one's own culture. That is, individuals tend to judge others' behaviors, customs, beliefs, and attitudes by their own cultural standards. The phenomenon of ethnocentrism is believed to occur largely because individuals have the greatest awareness and information about their own culture, which erroneously leads them to believe that the norms, standards, and values within their own culture are universally adopted. Ethnocentrism is a general phenomenon that occurs for individuals across most cultures and societies, although the extent to which it occurs may vary.

### Background and Research

In 1906, William Graham Sumner, a professor of political and social science at Yale University, first coined the term *ethnocentrism*. Sumner defined it as the tendency to believe that one's society or culture is the center of all others and is the basis for judging other groups. Moreover, Sumner argued ethnocentrism is the tendency to believe that one's own society or culture is superior to other groups.

Since Sumner's original definition, early psychological researchers continued to define ethnocentrism similarly. In the 1950s, for instance, T. W. Adorno and his colleagues devised an ethnocentrism subscale that was a component of the larger authoritarianism construct. These researchers believed that ethnocentrism comprises both ingroup favoritism and a denigration of outgroups. Evidence for Sumner's conception of ethnocentrism comes from research that demonstrated an inverse relation between ingroup attitudes and outgroup attitudes. This research supported the idea that individuals that have a high opinion of one's own group also correspond to negativity toward outgroups. In addition, such research showed the generalizability

of negative opinions toward outgroups; that is, individuals who have negative attitudes toward one group also tend to have negative attitudes toward other groups. Thus, this early perspective equated ethnocentrism with ethnic prejudice, racism, or both.

More recently, researchers have tended to define ethnocentrism more broadly; for instance, they propose that individuals use their own cultures to judge other outgroups, but they do not necessarily have to have negative evaluations of these outgroups. For example, Marilyn Brewer and her colleagues found that individuals can hold simultaneously positive attitudes toward their own group and outgroups even when they differ on some value, attitude, or behavior. This finding has been confirmed in multiple cultural groups including those in Africa, New Guinea, North America, and Asia. Additional research on ethnocentrism has revealed that correlations between ingroup and outgroup attitudes are not always negative; rather, they vary widely. Lastly, research demonstrates that under conditions of intergroup competition, conflict, or threat, individuals may be more likely to have increased ingroup identification and outgroup hostility. As a whole, then, ethnocentrism is not necessarily equated with ethnic prejudice and racism; instead, it is the tendency to use one's group or culture as a reference in judging other groups, with this judgment resulting in negative, indifferent, or positive evaluation.

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*Juan M. Madera*

*See also* Authoritarian Personality; Culture; Ingroup–Outgroup Bias; Prejudice

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and experimentation to define the processes underlying the development, function, causative mechanisms, and evolution of behavior patterns. Originally, ethology focused on behavior patterns thought to require little or no learning for their expression. Gradually, however, as knowledge of the developmental influences underlying the expression of various behavior patterns emerged, a realization that individual experience plays an important role in the expression of species-specific behavioral patterns has come to be accepted.

### History and Modern Usage

Charles Darwin promoted the idea that humans and animals shared certain behavioral traits, an idea that was important in establishing the approach to comparative studies of behavior. Oskar Heinroth, studying ducks, and Charles Whitman, studying domestic pigeons, noted the similarities of certain behavior patterns used in courtship and deduced that these patterns were as typical of a species or race as morphological characteristics (i.e., the way they look physically). Thus arose the concept that behavior could be a heritable trait and, as genetic mechanisms became increasingly understood, that natural selection could exert its influence on behavior for survival, as it could on any other adaptation. Ethologists have long been interested in creating models of the nervous system that would explain how species-specific behavior patterns were expressed. Communicative behavior was of particular interest; hence, the mechanisms that imparted to others the ability to correctly interpret and respond to specific patterns of behavior also was of great interest. Several concepts arose out of this line of research and conceptual thinking.

The fixed action pattern was proposed by Konrad Lorenz to characterize a highly stereotyped behavior pattern that was a response to specific stimuli (*releasers*) from conspecifics. Nikolaas Tinbergen refined the releaser concept to apply to specific components of a communicative behavior (including the body parts involved in its expression), such as the red spot on a gull's bill that activated feeding behavior on the part of a chick. Some communicative gestures were found to consist of complicated interactions between signaler and receiver, such as the "dance" of honey bees studied by Karl von Frisch and others. The explosion of behavioral studies arising out of these conceptual analyses and detailed behavioral studies were recognized by the

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## ETHOLOGY

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### Definition

Ethology is the study of the biological bases of behavior. This subdiscipline of the behavioral sciences uses methods of objective observation, detailed analysis,

awarding of the Nobel Prize in physiology and medicine to Lorenz, Tinbergen, and von Frisch in 1973. Over the past 50 years or so, ethology has become difficult to segregate from sister disciplines, including neuroethology (studying the neural bases of species-specific behavior), behavioral endocrinology (studying the hormonal basis of species-specific behavior), and behavioral ecology (including the factors that promote group organization in a variety of species, including humans). Integration of the approaches and concepts of ethology with those of psychology has led to the emergence of exciting and very productive disciplines of behavioral biology and behavioral neuroscience, as well as innovative approaches to studying and understanding behavioral pathology.

*John D. Newman*

*See also* Evolutionary Psychology; Sociobiology

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## EVOLUTIONARY PSYCHOLOGY

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### Definition

Evolutionary psychology is the study of behavior, thought, and feeling as viewed through the lens of evolutionary biology. Evolutionary psychologists presume all human behaviors reflect the influence of physical and psychological predispositions that helped human ancestors survive and reproduce. On the evolutionary view, any animal's brain and body are composed of mechanisms designed to work together to facilitate success within the environments that were commonly encountered by that animal's ancestors. Thus, a killer whale, though distantly related to a cow, would not do well with a cow's brain, since the killer whale needs a brain designed to control a body that tracks prey in the ocean rather than eating grass in a meadow. Likewise, a bat, though also a mammal, needs a brain designed to run a tiny body that flies around catching insects at high speeds in the dark. Evolutionary psychologists ask: What are the implications of human evolutionary history (e.g., living in omnivorous and hierarchical primate groups populated by kin) for the design of the human mind?

### History and Background

Charles Darwin himself deserves the title of first evolutionary psychologist. In 1873, he argued that human emotional expressions likely evolved in the same way as physical features (such as opposable thumbs and upright posture). Darwin presumed emotional expressions served the very useful function of communicating with other members of one's own species. An angry facial expression signals a willingness to fight but leaves the observer an option to back off without either animal being hurt. Darwin's view had a profound influence on the early development of psychology. In 1890, William James's classic text *Principles of Psychology* used the term *evolutionary psychology*, and James argued that many human behaviors reflect the operation of instincts (inherited predispositions to respond to certain stimuli in adaptive ways). A prototypical instinct for James was a sneeze, the predisposition to respond with a rapid blast of air to clear away a nasal irritant. In 1908, William McDougall adopted this perspective in his classic textbook *Social Psychology*. McDougall also believed many important social behaviors were motivated by instincts, but he viewed instincts as complex programs in which particular stimuli (e.g., social obstacles) lead to particular emotional states (e.g., anger) that in turn increase the likelihood of particular behaviors (e.g., aggression).

McDougall's view of social behavior as instinct-driven lost popularity during the mid-20th century, as behaviorism dominated the field. According to the behaviorist view championed by John Watson (who publicly debated McDougall), the mind was mainly a blank slate, and behaviors were determined almost entirely by experiences after birth. Twentieth-century anthropology also contributed to the blank slate viewpoint. Anthropologists reported vastly different social norms in other cultures, and many social scientists made the logical error of presuming that wide cross-cultural variation must mean no constraints on human nature.

The blank slate viewpoint began to unravel in the face of numerous empirical findings in the second half of the 20th century. A more careful look at cross-cultural research revealed evidence of universal preferences and biases across the human species. For example, men the world over are attracted to women who are in the years of peak fertility, whereas women most commonly prefer men who can provide resources (which often translates into older males). As another example, males in more than 90% of other mammalian

species contribute no resources to the offspring, yet all human cultures have long-term cooperative relationships between fathers and mothers, in which the males contribute to offspring. Looked at from an even broader comparative perspective, these general human behavior patterns reflect powerful principles that apply widely across the animal kingdom. For example, investment by fathers is more likely to be found in altricial species (those with helpless offspring, such as birds and humans) than in precocial species (whose young are mobile at birth, such as goats and many other mammals).

### Modern Evolutionary Psychology

Modern evolutionary psychology is a synthesis of developments in several different fields, including ethology, cognitive psychology, evolutionary biology, anthropology, and social psychology. At the base of evolutionary psychology is Darwin's theory of evolution by natural selection. Darwin's theory made it clear how an animal's physical features can be shaped by the demands of recurrent problems posed by the environment. Seals are more closely related to dogs than to dolphins, but seals and dolphins share several physical features shaped by common problems of aquatic life (where fins and streamlined body shape assist in catching one's dinner and reduce the chance of becoming dinner for an aquatic predator). Besides overt physical features designed by natural selection, animals also inherit central nervous systems designed to generate the behaviors needed to run those bodies. The behavioral inclinations of a bat would not work well in the body of a dolphin or a giraffe, and vice versa.

Zoologists and comparative psychologists have uncovered many behavioral and psychological mechanisms peculiarly suited to the demands of particular species. For example, dogs use smell for hunting; consequently, they have many more olfactory receptors than humans and are thousands of times more sensitive to various odors. Humans, on the other hand, can see in color, whereas dogs cannot (color vision may be useful for detecting ripe fruit, something humans eat but canines don't). Bats have echolocation capacities allowing them to create the mental equivalent of a sonogram of the night world through which they must navigate at rapid speeds, searching for foods that include rapidly flying insects.

In addition to differences in sensory and perceptual capacities, natural selection has favored many open-ended learning and memory biases designed to fit the

ecological demands confronted by each species. For example, rats have poor vision and rely on taste and smell to find food at night. Consequently, they easily condition taste aversions to novel flavors but not to visual stimuli. Quail, on the other hand, have excellent vision and rely on visual cues in food choice, and they show the opposite learning bias—conditioning nausea more readily to visual cues than to tastes or smells.

### Domain-Specific Mechanisms

Evolutionarily informed research has suggested that brains are composed of a number of specialized domain-specific mechanisms. For example, birds use different memory systems and different rules for remembering species song, the taste of poisonous food, and locations of food caches. Many birds learn to sing the song of their species during a brief critical period early in life and then reproduce it perfectly during the next breeding season, without ever having practiced it. On the other hand, birds can learn the characteristics of poisonous foods in a single trial during any time of life. Following yet a different set of rules, locations of food caches are learned, updated, and erased on a daily basis. Using the same decision rules for each of these problems would be highly inefficient, and different memory systems in birds are anatomically distinct. Likewise, humans inherit different memory systems for dealing with different, sometimes conceptually incompatible, tasks, including learning language, learning to avoid poisonous foods, and remembering other people's faces.

### Searching Across Species for Broad Theoretical Principles

An evolutionary approach to behavior involves an analysis of particular recurrent problems faced by the members of a given species and a search across species for correlations between common behaviors and common environmental conditions. It can be interesting to catalog unique adaptations (such as the color bands on coral snakes or the human ability to throw objects over long distances), but evolutionary theorists have a higher goal: to uncover common principles underlying these diverse adaptations. For example, the concept of differential parental investment ties together diverse findings from a wide range of species. Briefly, as animals invest more in their offspring, they become more selective about mating decisions. If an adult fish sprays

1,000 eggs on a rock and then swims away, and can do so every few weeks, the investment in any one offspring is necessarily less than if the reproductive adult guards a nest and protects a smaller number of fry until they are capable of fending for themselves. As each offspring becomes more costly to raise, questions about the fitness of the mate become more important. In most species, the female has a necessarily higher initial investment: Eggs are much more nutritionally costly to produce than are sperm. Thus, females have more to lose and are usually more selective about choosing a mate, preferring to mate only with males who are demonstrably more fit than their competitors (as manifested in healthier appearance, more colorful displays, etc.).

Sometimes females choose males who demonstrate a willingness to make their own investment, as in birds where males help build a nest and provide resources before females will mate with them. If one sex is relatively more careful about choosing mates, members of the opposite sex must compete to prove they are better alternatives. Differential parental investment theory helps explain why male vertebrates are often more competitive, larger, and/or more colorful—because females generally make a higher investment in offspring (in mammals, e.g., this involves internal gestation and nursing). In some species, such as elephant seals and orangutans, males are much larger than females and considerably more aggressive. In species in which both sexes share in raising offspring, as in swans and penguins, the sexes tend to be less differentiated. The theory explains seeming sex-role reversals, as in phalaropes, birds in which the females are more colorful and more competitive than the males. Male phalaropes actually make the higher parental investment, because they care for the eggs while females go off in search of additional mates. As a consequence, males are relatively more selective in choosing mates, and females are in turn larger and more competitive.

Sexual selection is another broad evolutionary concept closely linked to parental investment. It refers to the process whereby the members of one sex come to have unique characteristics that assist in mating. For example, in many hoofed animals, males have horns and females do not. When features such as horns are found in males, it suggests they are related to mating and are useful in competing with other males or attracting females.

Although human males and females both share in raising offspring, the physical and behavioral differences between them suggest a history of sexual selection. For example, females have deposits of fat on their breasts and hips not found in other primates, which may be there because they advertised fertility to males. Males are taller, have larger upper body muscles, and are more likely to engage in violent competitions with other members of their sex. This suggests our female ancestors were more likely to mate with males who could physically dominate other males. Modern mate preferences fit with these ideas, though the exact nature and magnitude of the human sex differences forged by sexual selection are still being debated.

### Controversy Surrounding Evolutionary Psychology

Despite the evidence contradicting the blank slate view, many social psychologists are still uncomfortable taking an evolutionary perspective. Although most psychologists accept the obvious biological constraints on human behavior (such as that women bear and nurse children and that the human brain is uniquely designed for language), some psychologists still prefer to believe that the slate is blank or nearly blank in their own research area. Some of the reluctance to accept an evolutionary viewpoint is based on misconceptions about how evolutionary models are tested; other sources of influence are political. For example, some fear that if scientists admit there are biological influences on men's and women's motivations, this will justify inequitable treatment in the workplace. Evolutionary psychologists respond that scientific censorship is unlikely to lead to either credibility for the field or enlightened social policy. For example, if equal treatment of men and women in the workplace is based on a false premise that the sexes are identical, any evidence against that premise could be used to justify inequity. The social value placed on both sexes deserving fair treatment in modern environments ought not to depend on accepting or denying biological differences.

Some psychologists also fall prey to the naturalistic fallacy, the belief that what is natural is therefore good. The problems with this assumption are obvious if one considers that natural selection has produced viruses, predators, and nepotism. Other psychologists

understand the naturalistic fallacy but fear that the public (or at least unenlightened policy makers) will fall prey to the naturalistic fallacy if they hear about research suggesting evolutionary influences on behavior. Evolutionary psychologists generally believe that rather than suppressing scientific facts, understanding the actual mechanisms controlling behavior is the best way to change them. An increasing number of researchers are beginning to realize that humans' evolutionary past has shaped not only characteristics that are socially undesirable (such as male aggression) but also many positive features of human nature (such as familial love and the ability to cooperate with others to benefit the whole group).

### Remaining Questions

Evolutionary psychology is an exciting area because many of the questions it raises have yet to be answered. Little is known about how genetic predispositions actually affect the development of psychological mechanisms. There is good evidence that men around the world are attracted to women manifesting signs of fertility, but researchers do not know much about how those preferences develop, which brain mechanisms are involved, and how any underlying mechanisms interact with the environment. Likewise, very little is known about the dynamic processes that take place as simple innate mechanisms underlying preferences in one person play out in the context of the preferences of other people around.

Until recently, evolutionary models have been applied to a small number of topics, such as sex differences in mating behaviors and aggressiveness, and preferential treatment of kin. Recently, however, psychologists have begun to realize that this general functionalist approach has implications for all aspects of human social behavior, including impression formation, friendship, intergroup relations, and prejudice. Thus, there are probably many exciting scientific discoveries yet to be made applying evolutionary ideas to the social behaviors of human beings.

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*See also* Affordances; Cheater-Detection Mechanism; Dominance, Evolutionary; Ethology; Kin Selection; Sexual Selection; Sexual Strategies Theory; Sociobiological Theory; Sociobiology; Tend-and-Befriend Response

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## EXCHANGE RELATIONSHIPS

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The defining characteristic of an exchange relationship is that benefits are given with the expectation of receiving a comparable benefit in return or in repayment for a comparable benefit received in the past. When exchange rules are followed appropriately, each relationship member considers the exchange to be fair. Relationships between customers and storeowners often exemplify exchange relationships. For instance, a customer may pay a storeowner three dollars for a package of paper towels. Typically, relationships between employees and employers are also exchange relationships.

Exchange relationships are ubiquitous, which means they are found everywhere. Whereas many involve monetary transactions, as in the examples just given, many others do not. For instance, one set of parents with a child who plays soccer may form a car pool with another set of parents whose child plays soccer. Each set of parents agrees to provide the other's child transportation to practices in exchange for the other parents doing the same for their child. Another exchange relationship may exist between couple with a beach cottage who each year exchanges a week at that cottage for a week at another couple's condominium at a ski resort.

Exchange relationships may be short in duration (as when a person purchases something from another

at one point in time and never sees the other person again) or very long in duration (as when couples trade time in their respective vacation homes every year for 40 years). Although the motivation to follow exchange rules is typically selfish, it may be unselfish. An example of a selfish motivation is a person desiring dinner because he or she is hungry. That person then purchases the dinner from a restaurant owner. As an illustration of an unselfish motivation for following exchange rules, consider what might happen if one set of parents in the car pool could not drive 3 weeks in a row due to their car being repaired. The other set of parents might cover and even say, "Don't worry about it" to the couple with the car in the shop. However, the first couple might unselfishly insist on compensating the first set with a gift certificate to a fancy restaurant to honor the exchange agreement.

Exchange relationships are not exploitative relationships. They provide a fair way for people to obtain many goods and services that might not be available to them in close, communal relationships in which benefits are given to support the other's welfare non-contingently. Occasionally, when interpersonal trust is low, exchange rules are applied within relationships which are, normatively and for most individuals, communal in nature, such as marriages and other family relationships.

*Margaret Clark*

*See also* Communal Relationships; Justice Motive; Reciprocal Altruism; Reciprocity Norm; Social Exchange Theory; Trust

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## EXCITATION-TRANSFER THEORY

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Ever heard of overreacting? Such as when lovers, after yelling their heads off arguing, make up and experience unusually strong sexual pleasures? Or when a

disagreement escalates from silly to serious, prompts an exchange of insults, and ends with bloody noses? Or when the girl who went along to a horror movie is so terrified that she snuggles up on her companion and finds him irresistibly attractive? It seems that even the most rational people are not immune to such overreacting. The famous philosopher and mathematician Bertrand Russell, for instance, let the world know that his sexual experience was never more intense than during extreme fear, when his bedroom was lit up by exploding grenades during the Nazis' bombardment of London. There is ample research evidence that supports this unlikely enhancement of pleasure by fear. Samuel Klausner observed, for example, that newcomers to parachuting tend to experience considerable fear before jumping but also intense joy upon landing. As jumping becomes routine and fear diminishes, joy fades away along with the fear.

The facilitation of pleasure in the aftermath of fear and similarly unpleasant reactions is by no means the only transition in which an earlier emotion intensifies a following one. The intensification occurs, no matter whether the prior and the subsequent emotions are pleasant or unpleasant. For instance, prior elation can enhance ensuing distress as readily as prior grief ensuing merriment. Likewise, prior anger can enhance ensuing rage as readily as prior gaiety ensuing exuberance. Dolf Zillmann proposed a theory of excitation transfer to explain this puzzling intensification of emotions that materialize in the aftermath of other emotional experiences.

### Excitation as the Driving Force in Emotion

Excitation-transfer theory focuses on physiological manifestations of bodily arousal. All vital emotions are known to be accompanied by elevated sympathetic reactivity in the autonomic nervous system. According to the emergency theory of emotion advanced by Walter Cannon, the primary function of this reactivity is to provide energy for a burst of action to allow the organism to cope effectively with acute behavioral challenges. As coping via immediate physical action is rarely productive in contemporary situations of challenge, much of this energy provision has become defunct, if not dysfunctional. Such energizing excitatory reactivity has been retained nonetheless, mostly because of its mediation by archaic brain structures, as detailed by Joseph LeDoux and others. This reactivity still generates agitation that favors action over

inaction. Via feedback, such as heart pounding, palm sweating, or trembling hands, it fosters cognizance of the degree of bodily arousal. It ultimately signals emotional intensity and thus drives the experience and expression of emotions.

### **Cognitive and Excitatory Adjustment to Environmental Change**

The time course of cognitive and excitatory reactions to emotion-arousing changes in the environment differs greatly. Cognitive adjustment to such changes is quasi-instantaneous because of the exceedingly fast neural mediation of cognition. In contrast, the hormonal mediation of sympathetic excitation via the cardiovascular system is lethargic, and excitatory adjustment to situational changes comes about only after considerable passage of time. The latency of excitatory responding may be negligible, but the duration of excitatory reactivity is not. Once instigated, this activity runs its course even after the instigating emotional challenge has ceased to exist and, owing to rapid cognitive adjustment, another emotion has come about.

### **Emotion Intensification by Leftover Excitation**

Excitation-transfer theory is based on the apparent discrepancy in adjustment time. It addresses the consequences of persisting sympathetic excitation from an earlier instigated emotion for subsequently instigated emotions that may be different in kind. Specifically, the theory predicts that whenever particular circumstances evoke an emotional reaction at a time when portions of excitation are left over from preceding emotions, the leftover portions combine inseparably with newly instigated excitation and thus produce a total of excitatory activity whose intensity is greater than that specific to the new instigation alone. Leftover excitation may thus be considered to have artificially intensified the newly triggered emotion. In other words, the response to the new situation amounts to an overreaction.

### **An Illustration of Excitation Transfer**

Imagine a lady who steps on a snake in the grass of her backyard. Deep-rooted survival mechanisms, organized in the brain's limbic system, will be activated and make her jump back and scream. A rush of adrenaline

will have been released to elevate sympathetic excitation. Following these initial reactions, the woman is bound to construe her emotional behavior as fear and panic. She might also notice herself shaking and thus realize that she is greatly excited. However, upon looking once more at the object of her terror, she recognizes that the snake is a rubber dummy, planted by her mischievous son who enters the scene laughing his head off. This recognition, a result of instant cognitive adjustment to changing circumstances, proves her initial emotion of fear groundless and calls for a new interpretation of her experiential state. Still shaking from the scare, she is likely to feel acute anger toward her son. In her infuriation she might even lash out at him. But after fully comprehending the prank, she might consider being angry inappropriate and cognitively adjust once more, this time joining in his laughter and appraising her experience as amusement. Throughout this cognitive switching from experiential state to state, the excitatory reaction to the detected danger in the grass persisted to varying degrees. It initially determined the intensity of the fear reaction. The leftover excitation from this reaction then intensified the emotion of volatile anger and, thereafter, the experience of amusement in fits of hysterical laughter. In short, leftover excitation fostered overreactions in a string of different emotions.

### **Supportive Evidence**

Emotion-enhancing excitation transfer has been demonstrated in numerous experiments. Dolf Zillmann and his collaborators have shown, for instance, that sympathetic excitation left over from sexual excitement can intensify such diverse emotions as anger, aggression, sadness, humor, and altruism. In the reverse direction, sympathetic excitation left over from either fear or anger proved capable of enhancing sexual attraction and sexual behaviors. In the realm of entertainment, moreover, excitation-transfer theory has been used to explain the facilitation of enjoyment in the aftermath of evoked aversions. Based on the observation that leftover excitation from feelings of tension, suspense, and terror is capable of intensifying experiences of joy and elation, strategies could be devised for the ultimate enjoyment of drama by the optimal arrangement of foregoing emotion-evoking events.

*Dolf Zillmann*

*See also* Arousal; Emotion; Misattribution of Arousal

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## EXCUSE

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### Definition

An excuse involves circumstances in which people perceive that they have made mistakes and, in response to these uncomfortable situations, will say or do things to (a) make the mistakes seem not so bad, and/or (b) lessen their linkages to the mistakes. People are motivated to make excuses to preserve their images of being good and in control, and these preserved images are for both the surrounding people who may have witnessed the mistakes, as well as the actual people who made the errors. If the excuse is effective, the givers' positive images are preserved and they can continue to perform well and interact with people just as they did before the slip-ups happened.

### History

There probably have been excuses for as long as there have been people making mistakes. Nevertheless, a common view among lay people is that excuses are transparent and useless ploys. Also, the individual believes that other people use excuses but that he or she does not. Contrary to these negative views among the public at large, however, researchers have found that excuses are serious and generally effective coping mechanisms when used in moderation.

Alfred Adler first discussed the role of excuses in *safeguard mechanisms*, which are coping strategies for maintaining the positive self-images of people. Scholarly interest in excuses was kindled in the 1970s and 1980s when social psychologists began to explore the attributions that people make for why things happened to them. During this same time period, work on excuses increased when researchers' attentions shifted to what was called *impression management*, or the attempts that people make to maintain their favorable self-images—both for the external audiences of other people and the internal audience of oneself.

### Evidence

As psychologists began to study excuses, they observed what people said and did after they had made mistakes or failed in important activities. There were two common responses that people produced. First, people would say things to lessen the seeming badness of their mistakes. For example, a man who is trying to lose weight breaks his diet by having a piece of cake. He then goes into excuse-making mode as he tries to diminish the badness of this misdeed by saying, "It was only a small piece of cake." Second, people attempt to lessen their linkages to their mistakes. For example, consider a young girl who picks up her friend's doll and takes it home. Later, when caught in this theft, she says, "Patty (the playmate who owns the doll) said I could have it (this not being true)."

After observing such real-life examples of excusing, researchers set up experimental situations in which the participants would fail at ego-involving tasks. One experimental approach was to give students a classroom-like learning experience and afterward deliver feedback to one set of students that they had done very poorly (the failure condition). In comparison to another groups of students, who were told that they had done very well, these failure-feedback students were more likely to state that the task was very difficult. Such excuse making made it seem as if their bad performances really were not so bad after all because most other students also did poorly (thereby maintaining a positive image); moreover, if the task truly was so difficult, the inherent logic was that the task caused the poor performance rather than it being the responsibility of the student (thereby lessening that student's linkage to the poor performance). This "everyone would do poorly on that task" represented a "double play" type of excuse in that it preserved the positive image and lessened the student's responsibility for the failure.

There is yet other research that has examined the effects of making excuses upon excuse makers' subsequent performances. Generally, when compared to people who were not allowed to make excuses, persons who have been allowed to make successful excuses for poor performances will do better the next time they undertake the same tasks. The reasoning here is that successful excuses allow people to preserve their self-views about being effective people, and thus they can go into the next performance situations and remain focused and energized to do well. These successful excusing people are to be contrasted with people who either are not allowed to make excuses or whose excuses fail. These latter people are demoralized when they face the next similar performance situations and, accordingly, they are unlikely to do well.

Last, research shows that when a person makes a mistake or fails, there is considerable tension among the surrounding people until an excuse is offered. Therefore, if the person who actually made the mistake does not offer an excuse, the nearby people will jump in and make excuses for that person. This shows how necessary excuses are for the surrounding social context.

### Importance and Implications

Among the public at large, excuses are seen as silly and lightweight ploys that are used by other people. Contrary to this negative view, the research evidence shows that excuses assist people in coping with their fallibilities and proneness to making mistakes. One advantage of excuses is that they help people to maintain a sense of esteem and control in their lives. Without excuses, people would be faced with the terrifying possibility that they are absolutely responsible and accountable for their errors and blunders. Living in such a no-excuse world, people would fall into unmotivated states of depression. Similarly, excuses facilitate social exchanges among people. That is to say, if people knew that they could not call on excuses in their future endeavors where they might fail, they would be unwilling to take chances and try such new activities. Thus, excuses provide a social lubricant so that people can attempt new things with the understanding that others will accept their excuses. Having stated these advantages of excuses, however, it should be emphasized that such excusing is only effective when it is used in moderation and is not employed in the presence of experts who can refute the person's excuse.

C. R. Snyder

*See also* Attributions; Coping; Forgiveness; Impression Management; Self-Handicapping

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## EXECUTIVE FUNCTION OF SELF

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### Definition

The executive function of self refers to the internal capacity to choose and to direct one's own behavior. Although behavior undoubtedly is shaped by forces outside of one's control, including genetics, cultural norms, and happenstance, some behavior is consciously intended and therefore shaped in part by the person. The executive function of self is used whenever people plan, choose, or control their own actions.

An appropriate analogy is to a chief executive officer (CEO) of a complex organization or business. In business, most daily affairs proceed without the direct oversight or awareness of the CEO, yet the CEO makes key choices and is ultimately responsible for charting the course of the organization. In daily life, most individual behavior also is accomplished without executive guidance, yet the self occasionally intervenes to choose which of several possible actions to perform or to alter its habitual responses.

### Scope and Importance

The executive function is a hallmark characteristic of human selfhood and is relevant for several areas of psychology. In social psychology, research on delay of gratification, choice, and self-regulation all concern

the executive function of self. Enduring short-term pain for long-term gain requires the ability to plan for the future and to forego immediate relief or pleasure. Making a choice commits a person to one course of action and places some responsibility for the consequences on the self. Keeping cool in a crisis involves regulating fear or anxiety, or at least the appearance of them. All these behaviors require executive action. Furthermore, forces that undermine the executive function, such as distraction, fatigue, and stress, impair all of these behaviors.

Clinical psychology supplies dramatic evidence of the consequences of impaired executive functioning. For instance, major depression reflects a lack of mood control, and addictive behavior signals a lack of impulse control. Improving the capacity for executive control promises to provide powerful treatment for several psychological disorders. Evidence already exists to support the benefits of executive control in normal, healthy individuals. Personality psychologists have found that people who excel at executive control enjoy greater successes in life, including better grades, more satisfying relationships, and greater happiness than people who struggle with executive control.

In cognitive psychology, the executive function of self is studied in connection with learning and memory, planning, and the control of attention. Generally, people with high executive ability are faster learners, make better use of plans and strategies, and more ably control their attention than people with low executive ability. The executive function is also crucial for performing novel tasks and for coping with unfamiliar situations. When habits and prior learning provide only rough guides to behavior, the executive function of self intervenes to generate new responses and to steer behavior in new directions.

Developmental psychologists examine changes in executive function over time and have found that the capacity for executive control is closely related to the growth and maturation of the frontal lobes of the human brain. Moreover, damage to the frontal lobes is associated with deficits in executive functioning, including poor planning, faulty reasoning, and an inability to coordinate complex social behaviors. Perhaps the most infamous case of frontal lobe damage is Phineas Gage, a railroad worker who had a tamping iron blown through his skull in 1848. Following the accident, Gage had problems controlling his emotions and abiding by social and cultural norms, although his memory and intelligence remained intact. Researchers now

believe Gage suffered severe damage in areas of the brain involved in the executive function of self.

## Enduring Issues

The idea of willed, intentional action seems to contradict the scientific pursuit of material, especially biological or chemical, causes of behavior. Some theorists believe the notion of a willful “little person” or homunculus in the brain that controls behavior is an unsatisfying and unscientific explanation that cannot be empirically tested or verified. Other theorists accept the idea of a homunculus or internal controller while acknowledging the shortcomings of this approach. These theorists work as if a homunculus or internal controller exists and await a more precise specification of its biological foundations. Still others study the executive function of self by examining overt behavior or the subjective feeling of executive control and ignore the call to locate its biochemical basis.

Another unresolved issue concerns the measurement of the executive function of self. The executive function appears to be involved in a variety of behaviors, and there is little or no consensus regarding which single task or test best measures it. As a result, many researchers rely on multiple tasks to assess the operation of the executive function, whereas other researchers focus more narrowly on specific tasks, such as tasks that involve mainly planning or response inhibition. Each approach has its drawbacks. The broad, multitask approach seems ill-suited to specify the precise capabilities of the executive function, and the narrow, single-task approach may not capture all of its varied capabilities.

The problem of measurement contributes to another issue: whether the executive function of self should be considered a general purpose capacity, used in emotional, cognitive, and behavioral processes alike, or whether the executive function should be considered a more specific capacity, used, for example, in attention control or planning for the future. On balance, the evidence suggests that the executive function of self is a general purpose capacity used in a wide variety of behaviors. However, this conclusion may be the direct result of imprecise measurement. More precise definition and measurement of the executive function of self may help to specify its core features and clarify its scope and breadth.

*Brandon J. Schmeichel*

*See also* Ego Depletion; Self; Self-Regulation

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## EXEMPLIFICATION

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### Definition

Exemplification is defined as a strategic self-presentational strategy whereby an individual attempts to project an image of integrity and moral worthiness. A person can accomplish exemplification by presenting him- or herself as honest, disciplined, self-sacrificing, generous, or principled. When successful, a person who exemplifies integrity and moral worthiness may be able to influence other people to follow his or her example.

### History and Modern Usage

Like other self-presentation strategies, the goal of exemplification is to gain power over others by controlling the perceptions of the actor's character. The power of exemplification comes from the guilt or shame that observers experience in the face of the actor's moral and charitable actions or claims. There are many exemplifiers in history that achieved great political power by engaging in principled and self-sacrificing behavior (e.g., Gandhi and Martin Luther King). Nevertheless, exemplification is also a strategy people use in everyday interactions to win favor with an audience. Parents, for example, can use exemplification to influence their children by extolling their own virtuous behavior, or a celebrity can exemplify a generous and caring image by soliciting donations for a charity during a telethon. In each case, the target audience can be motivated to avoid or reduce their

feelings of guilt by performing the target behaviors requested by the exemplifier. And even if they do not, the exemplifier may still benefit if he or she leaves a lasting impression of integrity and moral worthiness on the audience.

Exemplification can also be a risky strategy if not executed properly. For example, exemplification is likely to fail if the audience feels “put down” by the actor; to create a positive impression, the exemplifier needs to exhibit or claim moral integrity without appearing morally superior to the audience. Moreover, research on exemplification suggests that when an exemplifier is caught in a transgression, the audience perceives the actor to be a hypocrite and self-deluded, leading to especially harsh judgments of the actor's character. Other studies suggest that upon discovering past failures to uphold moral standards, the would-be exemplifier may experience cognitive dissonance and become motivated to change the errant behavior. Thus, the use of exemplification to win favor requires that we practice what we preach, or at least maintain the impression that we do, without explicitly stating that our integrity makes us superior to others.

*Jeff Stone*

*See also* Deception (Lying); Impression Management; Ingratiation; Self-Presentation

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## EXPECTANCY EFFECTS

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### Definition

An expectancy effect occurs when an incorrect belief held by one person, the perceiver, about another person, the target, leads the perceiver to act in such a manner as to elicit the expected behavior from the target. For example, if Mary is told that a new coworker, John, was unfriendly, she may act in a more reserved manner around him, refrain from initiating conversations with him, and not include him in activities. John

might then respond to Mary's standoffish behavior by similarly not initiating conversations or activities with her, thus confirming her expectancy that he is unfriendly. Expectancy effects are thus a subcategory of self-fulfilling prophecies that occur in an interpersonal context.

## Background

Self-fulfilling prophecies have long been noted and studied by social scientists. The bank failures of the Great Depression are frequently offered as a classic example: An inaccurate rumor would circulate that a bank was about to fail. This would cause a run on the bank, with customers hurrying to withdraw their funds before the bank ran out of money. Banks, of course, do not keep enough cash on hand to cover all their deposits, so a run on the bank would eventually force it into failure, a victim of its clients' false expectancies.

Research on expectancy effects began with the work of Robert Rosenthal, who looked at experimenters' expectations. Rosenthal demonstrated that sometimes experimenters may obtain their results in part because their expectations led them to treat their experimental participants in a biased manner, eliciting the hypothesized behavior. This work led to the ultimate realization that researchers need to design their studies so as to prevent experimenter expectancy effects. Fortunately, there is an easy solution to this problem: If studies are run in which experimenters are blind to the experimental condition of the participants (i.e., if they do not know which participants are in the experimental vs. control groups), then it is impossible for them to bias their participants' responses. The double-blind experimental design remains today the gold standard of research.

Research on expectancy effects then turned to other interpersonal contexts. The classic *Pygmalion in the Classroom* study showed that students whose teachers were told were academic bloomers (but who had in fact merely been randomly labeled as such) showed significant gains in IQ over the school year compared to students who had not been labeled academic bloomers.

## Current Research

Current research on expectancy effects has moved beyond mere demonstrations that they occur to identifying and understanding the theoretical and methodological variables that moderate expectancy effects.

In other words, for what kinds of people and in what kinds of situations are expectancy effects more likely to occur?

Research examining these questions indicates that, while there are individual differences that moderate expectancy effects, such as self-esteem, gender, and cognitive rigidity, situational factors such as the relative power of the perceiver and target and how long they have known each other appear to be more important predictors of expectancy effects. An expectancy effect is more likely to occur when the perceiver is in a position of greater power than the target (such as in a teacher-student relationship) and when the perceiver and target have not been previously acquainted. The longer the individuals know each other, the less likely it is that perceivers will either form or be influenced by incorrect expectancies.

Relatedly, much of the recent research in this area has been dedicated to the question of determining how powerful expectancy effects are in naturally occurring contexts as opposed to the laboratory. Laboratory experiments typically yield expectancy effects of larger magnitude. In the real world, accuracy effects (i.e., when the expectations formed by the perceiver reflect the actual abilities or traits of the target) appear to be more prevalent than expectancy effects, which occur less often or tend to be lower in magnitude.

Another major question in this area concerns the mediation of expectancy effects; in other words, what are the behaviors by which the perceivers' expectations are communicated to the target? While the specific mediating behaviors involved depend on the context of the interaction, the vast majority can be classified as falling into the dimensions of affect or effort. *Affect* refers to the socioemotional climate that is created by the perceiver, and it involves primarily nonverbal cues associated with warmth and friendliness. Thus, a teacher who has high expectations for a student will smile more, use a friendlier tone of voice, and engage in more eye contact with the student. *Effort* refers primarily to the frequency and intensity of interactions between the perceiver and target. A teacher with positive expectations of a student, for example, will attempt to teach more material and more difficult material to that student, ask more questions, and spend more time talking with the student.

## Importance

Because inaccurate expectations can have such serious ramifications, this remains a topic of social

psychological research with considerable importance in both methodological and real-world domains. For example, knowing that experimenters' expectations can unintentionally bias their results has led to major improvements in how researchers design and conduct experiments, in psychology as well as other fields such as medicine.

Of greater social importance is understanding the role that others' expectations of a person can play in determining a person's outcomes in life, ranging from events as trivial as whether he or she gets along with a new coworker to matters of tremendous significance, such as whether he or she ultimately succeeds or fails in school. To say that expectations can have self-fulfilling consequences is therefore a message both of warning and hope. It is a message of warning because inaccurate negative expectations can doom an otherwise-capable person from achieving his or her full potential. It is also a message of hope, because positive expectations on the part of an important person in one's life—parent, teacher, employer—can help lead one to accomplishments only dreamed of earlier.

*Monica J. Harris*

*See also* Individual Differences; Nonverbal Cues and Communication; Self-Fulfilling Prophecy

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## EXPECTATIONS

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### Definition

Expectations are personal beliefs about occurrences that may take place in the future. Expectations develop from a combination of individuals' experiences and knowledge. For example, if one has the knowledge that a relative's birthday is next Saturday and experience indicates that a family get-together was held each of the past 5 years on that relative's birthday, then it is reasonable to have the expectation that a birthday celebration is likely to occur next Saturday. Expectations serve a basic function to prepare humans for action. The choices humans make are based on the expectations they hold for how their decisions will affect

themselves and the world around them at some future time. Expectations range in certainty from a small possibility of occurrence to an almost certain occurrence. Expectations can be automatic and not given much thought, for example, expecting there will be sufficient oxygen available for breathing, or they can be deliberate, such as expecting one will make a positive impression on a new acquaintance.

### Consequences

Expectations affect how people think, feel, and behave. Expectations affect our thought processes involved in attention, interpretation, explanations, and memory. People pay more attention to information that is consistent with expectations or noticeably inconsistent. Expectations guide how people interpret information; specifically, people are more likely to interpret uncertain information consistent with their expectations. People are more likely to generate explanations for an event when it is contrary to expectations rather than consistent with expectations. Finally, people are more likely to remember information that is either clearly consistent with expectations or clearly inconsistent.

Expectations affect how people feel, including attitudes, anxiety, and depression. Attitudes, or one's evaluation of an object, are a reflection of people's expectations about the object combined with the value or importance they place on the object. Negative expectations, such as expecting to fail on a task, can lead to increased anxiety and depression. In contrast, positive expectations, such as believing in one's ability to perform well on a task, can lead to decreased anxiety and depression and positive feelings.

Finally, expectations affect how people behave in many areas, such as choice of tasks, amount of effort exerted, drinking alcohol, and cooperation. In general, people behave in ways that are consistent with their expectations. For example, people choose to engage and put more effort into tasks for which they expect to succeed. Having positive expectations about drinking alcohol, such as increased social ability or sexual performance, is related to increased alcohol consumption. Expectations affect whether people will react in a cooperative or competitive manner with coworkers. If people expect their coworker dislikes them and/or is a competitive person, individuals will respond competitively. In contrast, if people expect their coworker likes them and/or is a cooperative person, individuals will respond cooperatively.

## Application

The examination of how people's expectations affect their thoughts, feelings, and behaviors has been applied to many areas of social life, including close relationships, academic performance, health-related behaviors, forming first impressions, judgments, decision making, and the development of worldviews (how one sees the world).

*Bettina J. Casad*

*See also* Confirmation Bias; Self-Fulfilling Prophecy

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## EXPERIMENTAL CONDITION

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### Definition

There are many research methods available to the psychological scientist. Some allow researchers to describe phenomena (surveys and observational studies), and another allows researchers to explain phenomena (an experiment). To explain a phenomenon, one must be able to determine cause and effect. The only research method that can do that is an experiment. Scientific experiments are based on observations when a variable has been introduced into a controlled situation. Inferences can be made about the differences between observations and then used to develop theories and to generalize to other similar situations. The controlled situation, in which variables are manipulated and effects measured, comprise the design of the experiment.

In setting up the context, the experimenter must hold as many conditions constant as possible in the situation, while manipulating a variable(s). The variable that is manipulated by the experimenter is called the independent variable (IV); it is free (independent) to be varied by the experimenter. What is being measured is called the dependent variable (DV); it “depends” on the manipulation of the independent variable. Holding conditions constant means making

sure that no relevant variable in the experiment is varied besides the IV. The experimental condition is the one in which the IV is presented. The results from this condition can then be contrasted with the results from the control condition, where the IV was not presented. The idea of controlled contrasts is central to experimental design.

### Types of Experimental Designs

There are many types of experimental designs. Experimenters may design studies that have one or several independent variables. Similarly, they may have one or several dependent variables. Other variations in experimental design include whether or not the participants are exposed to all manipulations of the IV. If they are, then it is called a *within-subjects design*. If they only are exposed to one manipulation of the IV, it is called a *between-subjects design*. The design of the experiment also includes the order of events and how participants are assigned to conditions. Designing an experiment involves a series of decisions and justifications about all of these issues.

### An Example

A researcher is interested in whether stress causes a decrease in cognitive performance. First, the experimenter must decide what the manipulation will be. The researcher could decide that the IV would be the presentation of a loud tone. This researcher would need to justify (usually through a review of previous literature) that a loud tone is stressful (and he or she would have to specifically define what “loud” meant). Next, the researcher would need to determine what the DV would be, in other words, how would cognitive performance be measured? Percent correct on a math test, or time to complete a puzzle task, could each be a DV. By controlling the presentation of an IV in the experimental condition, the researcher can see its effect on cognitive performance by comparing the findings to those in the control condition. By exerting both types of control (manipulation of the IV, holding conditions constant), any differences in the DV (i.e., differences in scores/time between participants who heard different tones) can be attributed to the manipulation of the IV (the different tones).

*M. Kimberly MacLin*

*See also* Control Condition; Experimentation; Research Methods

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## EXPERIMENTAL REALISM

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### Definition

Experimental realism is the extent to which situations created in social psychology experiments are real and impactful to participants.

### Background

The concept of experimental realism was developed in response to criticism that most social psychology experiments take place in artificial laboratory settings and thus are invalid for examining how people truly think and act. In 1968, Elliot Aronson and J. Merrill Carlsmith addressed this concern by distinguishing between reality created in experimental situations and reality encountered outside of the laboratory. They argued that experimental situations that are sufficiently engrossing to participants can elicit psychological states of interest regardless of how similar the experimental events are to everyday events.

### Experimental Realism Versus Mundane Realism

Aronson and Carlsmith distinguished between experimental realism and mundane realism. *Experimental realism* refers to the extent to which participants experience the experimental situation as intended. *Mundane realism* refers to the extent to which the experimental situation is similar to situations people are likely to encounter outside of the laboratory. Social psychologists are generally more concerned with experimental realism than with mundane realism in their research because participants must find the situation attention-grabbing and convincing in order for the experiment to elicit targeted sets of beliefs, motives, and affective states necessary to test the

research hypothesis. A study that accomplishes this can provide much important insight, independent of how much mundane realism it possesses.

For instance, in Stanley Milgram's classic investigation of obedience, participants were instructed to administer a series of electric shocks to an unseen confederate (though no shocks were actually delivered). As part of a supposed learning study, participants acted as "teachers" and were instructed by the experimenter to administer shocks of increasing intensity for every wrong response offered by the confederate. The events of this study were highly artificial; it is certainly far from normal to administer shocks to another human being under the instruction of an experimental psychologist. Yet, rather than questioning the reality of the situation, participants became extremely invested in it. Because participants took the experimental reality seriously, they responded naturally, shuddering and laughing nervously as they obeyed and administered increasing levels of shock. Due to the high impact of this study, an otherwise sterile laboratory setting was transformed into a legitimate testing-ground for examining human obedience.

### The Importance of Experimental Realism

Experimental realism is of central importance to experimental social psychology. To capture the essence of important social psychological phenomena within laboratory settings, it is often necessary to use deception to construct events that seem real, nontrivial, and impactful to participants, within the bounds of ethical considerations. When this is accomplished, participants are unlikely to be suspicious of deceptive tactics in experiments, allowing researchers to investigate the psychological variables they want to study.

*Spee Kosloff*

*See also* Ecological Validity; Milgram's Obedience to Authority Studies; Mundane Realism; Research Methods

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## EXPERIMENTATION

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### Definition

In its simplest form, experimentation is a method of determining the presence or absence of a causal relationship between two variables by systematically manipulating one variable (called the independent variable) and assessing its effect on another variable (called the dependent variable).

### Importance and Consequences

The hallmark of experimentation is that it allows researchers to make statements about causality. There are several features of experiments that facilitate such claims:

1. Experiments allow researchers to create a situation in which changes in the independent variable precede assessment of the dependent variable—making it possible to draw conclusions about the directionality of the relationship. This is important, because to establish a cause-and-effect relationship between two events, the event that one supposes to be the *cause* must precede the event that one supposes to be the *effect*.

2. Experimentation entails randomly assigning participants to experimental groups. When random assignment is employed, each participant has an equal chance of being assigned to any of the conditions in a study. This technique allows researchers to assume that the experimental groups of participants are equivalent at the outset of the study. Thus, researchers can safely attribute any observed differences in the dependent variable to the experimental manipulation without worrying about the possibility that naturally occurring differences between the groups of participants could account for these differences.

For example, suppose that a researcher wants to determine whether playing chess causes an increase in creativity among fifth graders. Imagine that the researcher decides to have two groups: one group that plays chess for an hour after school each day for 6 months and a control group that has free time for an hour after school each day for 6 months. At the start of the study, the researcher recruits a group of 80 fifth graders and allows them to sign up to either play chess or get free time. Six months later, the researcher gives all the kids a creativity test. Sure enough, the

researcher finds that the 12 kids who chose playing chess scored higher on the creativity test than the 68 kids who chose free time. Can the researcher say that chess caused an increase in creativity? No—because the kids who chose to play chess might have been more creative than those who chose free time. Thus, the group differences in creativity may have been there from the start and may have had nothing to do with the researcher's manipulation. To do this experiment properly, the researcher should randomly assign the students to a condition, so that 40 played chess and 40 had free time. By doing so, the researcher could assume that the two groups were equivalent at the start of the study, and so any differences in creativity at the end of the study could be attributed to the independent variable (in this case, playing chess vs. having free time) and not to differences in creativity that existed before the study began.

3. Experimentation allows researchers to isolate the effect of the independent variable by controlling all other elements of the environment, thereby ensuring that all of the participants in a given study undergo a similar experience, with the exception of the experimental manipulation. In the chess versus free time example, imagine that the kids in the chess group always listened to classical music while they played chess, whereas the kids in the free time group did not listen to music. At the end of the study, could the researcher be sure that the difference in creativity between the two groups was due to the game that they played? No—because whether the kids listened to classical music also may have influenced their creativity. To do the experiment properly, the two groups should be identical with the sole exception of the independent variable (chess vs. free time). In this way, the experimenter could be sure that it was really the independent variable that influenced the student's creativity and not some other factor.

Some scholars have questioned the utility of experimentation, noting that the experiments which researchers design sometimes do not resemble the circumstances that people encounter in their everyday lives. However, experimentation is the only research method that allows one to definitively establish the existence of a causal relationship between two or more variables.

Anna P. Ebel-Lam  
Tara K. MacDonald

See also Control Condition; Experimental Condition; Research Methods

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## EXPERIMENTER EFFECTS

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When scientists conduct experiments, influences and errors occur that affect the results of the experiments. Those influences and errors that occur because of some characteristics of the experimenter or because of something the experimenter did are called experimenter effects. They reduce the validity of the experiment, because the results do not really tell about the hypothesis; they show that the experimenter somehow (usually unwittingly) influenced or changed the results. For that reason, most good researchers look for ways to prevent or minimize experimenter effects. There are two major kinds of experimenter effects: noninteractional and interactional.

### Noninteractional Effects

Noninteractional effects are found in research that does not require experimenters' interaction with human or animal research subjects. There are three major subtypes of such effects:

1. Scientists observe human behavior, animal behavior, or natural events and record what is observed, but there are errors in what is recorded. These are called *observer effects*. For example, an experimenter who is responsible for counting the number of mistakes someone makes might fail to count some mistakes that would contradict the experimenter's theory.
2. Scientists look at the results of research, which may be accurate enough but which the scientist then interprets incorrectly. For example, researchers might get the opposite results of what they expected based on their theory, but after thinking about it, they may decide that the results support their theory after all. These are called *interpreter effects*.

3. Scientists intentionally report falsified results of research. For example, a researcher (such as a student worried about having a good dissertation) might produce fake data instead of collecting real observations. These are called *intentional effects*.

### Interactional Effects

Interactional experimenter effects occur when the experimenter works (or interacts) with human or animal subjects. There are several major subtypes of interactional experimenter effects:

1. *Biosocial effects* operate when the experimenter's age, sex, or race unintentionally influences the outcome of the research. Subjects may respond differently to an experimenter, depending on whether the experimenter is male or female; Asian, African American, or Caucasian; old, middle-aged, or young. In addition, the subject's age, sex, and race may influence the manner in which an experimenter behaves.
2. *Psychosocial effects* are the effects associated with experimenters' psychological and social characteristics. Examples of these characteristics include anxiety, a need for approval, hostility, warmth, or authoritarianism, all of which may affect the behavior or responses of the subjects in an experiment.
3. *Situational effects* are found in the experimental environment itself. These effects may occur because of the physical characteristics of the laboratory, the experimenter's previous acquaintanceship with the subject, or whether the subject is the first person participating in the experiment or one who participates later in the experiment.
4. *Modeling effects* occur when experimenters have tried out the experiment on themselves, and their responses to the experiment are later unintentionally communicated to their subjects, causing the subjects to behave or respond similarly to the behavior or responses of their particular experimenter.
5. *Expectancy effects*, the most frequently studied experimenter effect type, occur when the results of the experiment are in the direction that the experimenter expects them to be. This expectancy is communicated by subtle cues through various channels of nonverbal communication, such as tone of voice, facial expression, and body movement.

In an experiment running rats in a maze, if the experimenters were told that their rats were good

maze runners (bright), the rats ran the maze well. If the experimenters were told their rats were poor maze runners (dull), the rats ran the maze poorly. What the experimenters expected from their rats determined the actual behavior of the rats, although the rats had been assigned their labels of “bright” or “dull” completely at random. (It is believed that the experimenters may have communicated their expectancy to the rats by handling them more gently if they believed they were bright and handling them more roughly if they believed they were dull.) A very early study involved a horse named Clever Hans who belonged to Mr. von Osten, a mathematics instructor. Clever Hans could perform mathematical calculations by tapping his foot in response to questions. After much close observation, a scientist found that nonverbal, almost imperceptible, head movements from Mr. von Osten, or even strangers asking Hans a question, told Hans when to start tapping and when to stop.

During the 20th century and so far in the 21st, as the various experimenter effects have been recognized to be affecting experimental research, researchers in many disciplines, such as psychology, sociology, anthropology, and medicine, have devised experimental procedures and precautions to reduce experimenter effects in their research.

*Robert Rosenthal*

*See also* Expectancy Effects; Influence; Self-Fulfilling Prophecy

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## EXPERTISE

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Expertise refers to the psychological processes that underlie the superior achievement of experts, who are typically defined as those who have acquired special skills in, or knowledge of, a particular subject through professional training and practical experience. The term *expert* has a long history that can be traced all the

way back to the training of skilled craftsmen in the guilds of the Middle Ages. At that time most of the professional skills, such as shoemaking, tailoring, and weaving, were taught through an apprentice system, whereby adolescents worked for a master in return for being allowed to observe and learn the skills of the trade. When the apprentices had sufficiently learned the necessary skills enabling them to work independently, they often left the master and traveled around the country as journeymen to find work. This allowed them to further develop their skills until they had reached a level of understanding and mastery of their craft to attain expert status. Eventually they would have accumulated skills to produce master pieces, which would meet the quality standard set by masters in the guild, who would give them permission to set up their own shop and accept their own apprentices.

Over time, the terms *master* and *expert* have been extended and are today used to describe a wide range of highly experienced professionals, such as medical doctors, accountants, teachers, and scientists. Its usage has even been expanded to include any individual who has attained superior performance by instruction and extended practice, ranging from birdwatchers to pianists, golf players to chess players.

When elite ice skaters, chess players, and musicians demonstrate outstanding skill in public, their performance often looks extremely natural and surprisingly effortless. To the casual observer, these exhibitions appear so extraordinary that it seems unlikely that most other performers, regardless of the amount or type of training, will ever achieve similar performance levels. It is tempting to attribute these amazing achievements to the performer's unique innate talent, deemed necessary for such superior performance achievement. However, when scientists began measuring the experts' presumed superior powers of speed of thought, memory, and intelligence with psychometric tests, no general superiority was found; the demonstrated superiority was limited to particular types of stimuli and activities. For example, the superiority of the chess experts' memory was constrained to regular chess positions and did not generalize to other types of materials. Not even IQ could distinguish the chess masters among chess players nor the most successful and creative among artists and scientists. Recent reviews show that (a) measures of general intelligence do not reliably distinguish those who will succeed in a domain, (b) the superior performance

of experts is often specific to a domain of activity and does not transfer outside their narrow area of expertise, and (c) individual differences between experts and less proficient individuals nearly always reflect attributes acquired by the experts during their lengthy training.

The pioneering research on the thought processes at the highest levels of performance studied expert and world-class chess players. To gain insight into differences in speed and structure of thinking, the chess players were instructed to think aloud while selecting the next move for unfamiliar chess positions. The world-class players did not differ from the less skilled players in the speed of their thoughts or the size of their basic memory capacity. The superior ability of the world-class players to generate better moves was based on their extensive experience and knowledge of patterns in chess. In the first formal theory of expertise, William G. Simon and Herbert A. Chase proposed that experts with extended experience learn a larger number of complex patterns and use these new patterns to store new knowledge about which actions should be taken in similar situations.

According to this influential theory, expert performance is viewed as the result of skill acquired with gradual improvements of performance during many years of experience in a domain. With further experience and instruction, aspiring experts acquire more knowledge about the domain, so it is tempting to assume that the performance of experts improves as a direct function of increases in knowledge through training and extended experience. However, there are now many demonstrations that extensive domain knowledge does not necessarily result in superior performance. For example, the outcomes of psychological therapy do not improve as a function of the length of training and professional experience of the therapist. Similarly, the accuracy of decision making, medical diagnosis for common diseases, and the quality of investment decisions do not improve with further professional experience. More generally, the number of years of work and experience in a domain is a poor predictor of attained level of professional performance.

In a pioneering study, Benjamin Bloom and his colleagues studied the developmental history of scientists, athletes, and artists who had won international prizes for their outstanding achievements. These elite performers did not acquire their performance from regular activities within their respective domains, in

which most amateurs participate, but they were identified early and given special opportunities to study and train in the best educational environments. Their families provided substantial financial and emotional support to allow them to focus fully on the development of their performance. Bloom's influential research demonstrated the necessity for extended training in the best training environments to reach the highest levels of performance.

Subsequent research by K. Anders Ericsson, Ralf Krampe, and Clemens Tesch-Römer analyzed the effects of different types of experience on the improvement of performance. They found that in activities in which individuals had attained an acceptable level of performance, such as recreational golf and many professions, even decades of continued experience was not associated with improvements in performance. The aspiring expert performers, who were able to keep improving their performance for decades, were found to seek out particular kinds of experiences involved in deliberate practice—that is, activities designed, typically by a teacher, for the sole purpose of effectively improving specific aspects of an individual's performance. In support of the critical role of deliberate practice, expert musicians differing in the level of attained solo performance also differed in the amounts of time they had spent in solitary practice during their skill development, which totaled around 10,000 hours by age 20 for the best experts, around 5,000 hours for the least accomplished expert musicians, and only 2,000 hours for serious amateur pianists. Many subsequent studies have found that the accumulated amount of deliberate practice is closely related to the attained level of performance of many types of experts, such as surgeons, radiologists, musicians, dancers, chess players, and athletes.

The recent advances in our understanding of the concepts, knowledge, and skills that mediate experts' superior performance come from studies in which experts are instructed to think aloud while they complete tasks that are representative of essential activities in their domains. Other advances come from researchers who record where the experts are looking while they perform the same type of tasks. Finally, important advances result from attempts to build computer programs (expert systems) that are capable of regenerating the performance of human experts.

These studies that monitor the experts' cognitive and perceptual processes have found that the differences

between experts and less skilled individuals are not merely a matter of the amount and complexity of the accumulated knowledge; they also reflect qualitative differences in strategies, organization of knowledge, and representation of problems. During the extended development of their performance abilities, experts acquire domain-specific memory skills that allow them to use long-term memory (long-term working memory) to dramatically expand the amount of information that can be kept accessible, while the experts plan and reason about alternative courses of action in a situation. The superior structure of the experts' mental representations allow them to adapt to changing circumstances as well as anticipate future events, so the expert performers can respond with impressive speed without any innate neurological advantage. The same acquired representations have been found to allow experts to have the ability to monitor and self-regulate their own performance so that they can keep improving their own performance by designing their own training.

In this way, experts' superior skills are primarily acquired, and expertise is developed through mental and physical adaptations to the demands of the task domains.

*K. Anders Ericsson*

*See also* Achievement Motivation; Automatic Processes; Learning Theory; Memory

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## EXTRAVERSION

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### Definition

Extraversion is one of the most studied traits in personality psychology. Some form of the trait has been included in almost every comprehensive model of personality. At the broadest level of description, extraversion reflects the extent to which a person is interested in and enjoys social interaction. However, this broad trait also encompasses a number of more specific facets. For instance, each of the following facets has been included in at least one major model of extraversion: impulsivity, assertiveness, activity level, the tendency to engage in excitement-seeking behaviors, the experience of positive emotions, and feelings of warmth toward others. Given the relative diversity of these characteristics, it should be no surprise that psychologists disagree about which of these narrower facets is the defining feature of extraversion (or whether a defining feature even exists). Modern personality psychologists strive to resolve this debate and to understand the psychological and physiological processes that underlie this trait.

### Models of Extraversion

The history of extraversion research is as long as the history of psychology itself. Precursors of the trait can be found in the writings of the ancient Greeks, though many psychologists trace the origin of modern extraversion research to Carl Jung. Jung believed that individuals varied in their orientation to the external world. Extraverts were thought to be characterized by strong and immediate reactions to the objective features of the environment. Introverts, on the other hand, were thought to be more tuned in to the internal, subjective feelings that objects in the world create. Thus, extraverts were thought to be adept at dealing with the changing external environment (and perhaps somewhat impulsive), whereas introverts were thought to be less adaptable and more prone to introspection.

Hans Eysenck built on the work of Jung (and others) and attempted to identify the processes that might underlie these extraverted thoughts and behaviors. Initially, Eysenck, like Jung, thought that extraverts were defined by their impulsivity and their tendency to react to changing external circumstances. He posited that individual differences in this characteristic were

due to differential levels of excitation and inhibition. Specifically, Eysenck believed that extraverts were characterized by weak and slowly developing excitation, as well as strong and quickly developing inhibition. Thus, extraverts conditioned (or learned) slowly and got bored with repetitive tasks quickly. As a result of these underlying processes, extraverts were poorly socialized and craved changing conditions.

This initial model was found to be insufficient, and Eysenck quickly replaced it with a model based on individual differences in arousal. According to this revised model, extraverts were characterized by relatively low levels of arousal, whereas introverts were characterized by relatively high levels of arousal. Because too little or too much arousal impairs performance and is subjectively unpleasant, extraverts and introverts should seek out different types of environments. Extraverts should choose and enjoy highly arousing situations like parties or risky activities, whereas introverts should choose and enjoy more sedate activities likely spending time alone or interacting with a relatively small number of friends. Eysenck tested his model by examining extraverts' and introverts' performance in conditions that varied in their level of stimulation.

Soon after Eysenck proposed his arousal model, Jeffrey Gray developed a revised theory that was based on more detailed models of psychophysiological systems in the brain. This revised model shifted the underlying explanatory mechanism from individual differences in arousal to individual differences in sensitivity to reward. Gray believed that extraverts were highly sensitive to rewards, whereas introverts (particularly neurotic introverts) were highly sensitive to punishment. Thus, extraverts should learn better when given rewards for good performance, whereas introverts should learn better when punished for poor performance. Furthermore, extraverts were thought to be more strongly motivated to approach rewards than introverts. Recent research has focused on the role of dopamine in this reward-seeking behavior.

At the same time that Eysenck and Gray were developing their psychophysiological models of extraversion, other personality researchers were using factor-analytic techniques to determine whether a small number of basic traits could subsume and account for the many different characteristics that personality researchers had studied. For instance, researchers from the lexical hypothesis tradition posited that all important individual differences in personality would be

encoded in language. Therefore, factor analyses of personality descriptors should be able to uncover any basic personality traits that exist. Other researchers set out to factor-analyze existing questionnaire items to see whether a small number of traits underlie the large number of characteristics that psychologists had studied in the past.

Over the years, these factor-analytic studies have consistently supported the idea that five broad dimensions (the Big Five) underlie much of the individual differences in personality. The first and largest factor that emerges from these analyses has been given a variety of labels including "confident self-expression," "surgency," "assertiveness," and "power." Yet even with these different names, most personality psychologists agree that this first factor usually resembles extraversion. Thus, extraversion is an important part of modern five-factor models of personality.

### Correlates of Extraversion

Not surprisingly, extraversion has often been linked with social outcomes, including the amount of time that a person spends with others, the number of friends that a person has, and the extent to which a person enjoys social activities. Extraverts tend to score higher than introverts on all of these measures. However, because extraversion is a broad trait, it has also been linked with a variety of other outcomes. For instance, because of their greater impulsivity, extraverts are more likely than introverts to engage in risky behaviors (including some risky health behaviors). On the other hand, extraverts tend to be slightly more productive than introverts at work and are more likely to be involved in community activities, perhaps because of their social skills and social interest. Extraverts have also been shown to be happier than introverts and less susceptible to certain types of psychological disorders.

*Richard E. Lucas*

*See also* Arousal; Personality and Social Behavior; Personality Judgments, Accuracy of; Risk Taking; Social Psychophysiology

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## EXTRINSIC MOTIVATION

### Definition

Extrinsic motivation is the desire to do something because of the rewards and reinforcements it brings. In other words, one would probably not do the behavior if one didn't get something, later, for doing it. Extrinsic motivation is often contrasted with intrinsic motivation, in which behavior occurs because the experience of doing the behavior is reward enough, independently of any separable consequences that may follow.

### Background and History

Extrinsic motivation is consistent with the tenets of operant behaviorism, which say that behavior occurs because it has been reinforced—that is, a person has received some tangible and separable reward, consequence, or compensation for doing that behavior in the past, and expects the same to occur in the present. Experimental research commencing in the 1970s showed that inducing extrinsic motivation by rewarding a person for doing a previously enjoyable activity can undermine the person's subsequent intrinsic motivation to do that activity, a finding that helped to weaken behaviorism's influence within psychology. Although inducing extrinsic motivation via rewards can have some positive performance effects (e.g., evoking greater effort, a greater quantity of output, and more rote learning), there is a risk because it can also lead to reduced enjoyment, creativity, mental flexibility, and conceptual learning.

### Four Types of Extrinsic Motivation

In contemporary psychology, extrinsic motivation is an important feature of E. L. Deci and R. M. Ryan's self-determination theory. In the past 15 years, this theory has differentiated the extrinsic motivation concept, now specifying four different types of extrinsic motivation. External motivation exists when people act primarily to acquire anticipated rewards or to avoid anticipated punishments. Introjected motivation exists when people act to avoid guilt and self-recrimination. Identified motivation exists when people act to express a personally important value or belief. Integrated motivation exists when people act to express an important

value or belief that is part of an elaborated network of principles and commitments. For example, people might recycle primarily because it is mandated by law (external motivation), because they would feel bad about themselves if they didn't (introjected motivation), because they believe in recycling (identified motivation), or because recycling is an expression of a consolidated conservation ethic and worldview (integrated motivation).

Notably, all four of these motivations are considered extrinsic because, in each case, behavior is undertaken not for its own sake but rather as a means to some other end. Still, the four motivations are said to vary on their degree of internalization, that is, the extent to which the end has been incorporated into the self. External motivations are not at all internalized, introjected motivations are partially internalized, identified motivations are mostly internalized, and integrated motivations are completely internalized. Importantly, this conceptualization entails that some extrinsic motivations (i.e., identified and integrated motivations) can be undertaken with a sense of autonomy and self-determination despite their non-enjoyable status. In this way self-determination theory acknowledges that "not all extrinsic motivations are problematic" while also addressing the societal benefits that occur when people internalize non-enjoyable but essential behaviors (such as voting, tax paying, diaper changing, etc.). In addition, this formulation allows the theory to address the social conditions that promote internalization—in particular, people are more likely to internalize extrinsic motivations when authorities are autonomy-supportive, that is, when they take subordinates' perspectives, provide choice, and provide a meaningful rationale when choice has to be limited. Finally, this formulation allows the theory to address important personality-developmental issues concerning maturity, role acceptance, and wisdom.

In sum, extrinsic incentives can certainly be powerful motivators of behavior. However, they should be used judiciously, because there are numerous ways in which they can backfire. Ideally, social contexts will help people to internalize their extrinsic motivations, so that the necessities of life can be well handled.

*Kennon M. Sheldon*

*See also* Intrinsic Motivation; Overjustification Effect; Self-Determination Theory

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## EYEWITNESS TESTIMONY, ACCURACY OF

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Every year in North America at least 75,000 people are identified from police lineups and subsequently prosecuted. There are hundreds of documented cases in which mistaken eyewitness identification has led to false imprisonment. Although it is impossible to know how often eyewitnesses make mistakes, it is known that mistakes are made. For example, of approximately 8,000 sexual assault cases in which DNA was tested by the U.S. Federal Bureau of Investigation, the suspect was exonerated approximately 25% of the time. In most of those cases, eyewitness identification was the primary way in which suspects were identified. Furthermore, of 140 cases in which people have been falsely imprisoned and subsequently exonerated, more than 80% involved mistaken eyewitness identification. Not surprisingly, improving the accuracy of eyewitness evidence has been a focus of legal psychologists for many years.

### History of Research on Accuracy of Eyewitness Testimony

For many years, psychologists have been trying actively to understand how and why eyewitnesses make mistakes. Hugo Munsterburg published his groundbreaking volume on the topic, titled *On the Witness Stand*, in 1906. This book, based on basic memory research, detailed how eyewitnesses were prone to a number of errors and did not have the perfect memories the legal system often assumed. Although Munsterburg's book stimulated a great deal of discussion after it was published, it was largely

dismissed by the legal system because it did not describe research that had been done specifically on eyewitnesses to crimes.

### Contemporary Research

Hundreds of more recent studies have explored the accuracy of eyewitness identifications. The basic distinction these researchers have made is between *system variables*, factors the legal system can control, and *estimator variables*, factors the legal system cannot control. With system variables, one can construct the situation so that errors may be avoided. For example, a biased lineup instruction from the police (e.g., “The guy is in the lineup, all you have to do is pick him out”) will lead to more eyewitness errors than will an unbiased instruction (e.g., “The criminal may or may not be present in the lineup”).

An example of an estimator variable is the race of the criminal relative to the witness. Research has shown a consistent decrease in eyewitness accuracy if the witness and the suspect are of different races. Because this decrement is greater when the majority group member identifies a minority, relative to when a minority attempts to identify a majority group member, some researchers have suggested familiarity with the other group may be the cause of the increased error. Other researchers have suggested that different racial groups focus on different facial features. However, a definitive cause has thus far eluded researchers. Importantly, there is little the legal system can do to alleviate this problem. Thus, many researchers have argued it may be best to focus on system variables, as these are the factors that the legal system will be able to change.

### Guidelines for Investigators

Although research in the field has been around for 35 years, it is only recently that practitioners have begun to embrace the findings and change their procedures to avoid errors. In 1999, the U.S. Department of Justice published a landmark set of recommendations on the treatment of eyewitness evidence, titled *Eyewitness Evidence: A Guide for Law Enforcement*. Then attorney general of the United States, Janet Reno called together the relevant stakeholder groups and asked them to come up with an empirically validated guide for law enforcement that the whole group could

support. The final group consisted of 33 members: 17 police officers, 4 district attorneys, 6 public defenders, and 6 eyewitness researchers. The *Guide*, jointly developed by the legal community and researchers, may represent the most comprehensive and potentially influential work of its type ever developed.

The purpose was to provide step-by-step procedures for law enforcement in dealing with eyewitnesses. These procedures were designed to minimize the risk of contaminating eyewitness evidence and reduce the likelihood of mistaken identifications. One set of procedures, based on the empirically validated “cognitive interview” technique, was designed to improve how police interviewed witnesses. Specifically, law enforcement officials were encouraged to establish rapport with the witnesses; encourage witnesses to give complete answers; ask only open-ended, nonleading questions; and caution people against guessing about what they had witnessed. As for the lineup process used by police, the *Guide* recommends the use of single suspect lineups (i.e., one suspect with all others being known innocent fillers); ensuring the use of unbiased lineup instructions; and avoiding post-identification suggestions and feedback to witnesses.

In addition, researchers in the group wanted the *Guide* to recommend the sequential lineup procedure (where photos are shown one at a time) as preferable to show-up (one photo) and simultaneous (where the photos are all shown at the same time) lineups. Sequential lineups have dramatically reduced error rates compared to other types of lineups. In addition, the researchers wanted to recommend double-blind

procedures such that neither the officer conducting the lineup nor the witness is aware of the identity of the suspect, a procedure that further reduces false identifications. However, other members of the group were reluctant to include these two elements in the *Guide* as they might not be feasible for some police departments. Interestingly, many law enforcement agencies that have adopted the *Guide* report little difficulty implementing these procedures.

Thus, it is clear that the psychological research on eyewitness identification evidence has had a great deal to contribute to the legal system. Indeed, this area is an excellent example of how researchers and practitioners can work together to ensure a better outcome for society. However, though the eyewitness literature has provided a great deal of insight, there remain many questions that need to be answered.

*Steven M. Smith*

*See also* Applied Social Psychology; Expectancy Effects; Memory

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## FACIAL EXPRESSION OF EMOTION

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### Definition

Human beings and some other animals have remarkable control over their facial muscles. *Facial expressions of emotion* are patterned movements of the muscles in the face that correspond with internal, affective states.

### Importance

Communication is clearly important to effective social interaction. Whereas humans are able to communicate with one another verbally, they also are able to communicate nonverbally through body language and facial expressions. Facial expression of emotion is an important aspect of communication, and our bodies and brains seem wired to engage in such communication.

Two aspects of the nervous system highlight the biological readiness to engage in communication through facial expressions. First, human beings appear to have brain regions specifically dedicated to processing information about others' faces. Remarkably, these brain regions are active and developing even in human infants. This suggests that humans are born with a propensity and ability to attend to and process information about other human faces. Second, each human brain has two cortical regions containing a map of one's own body. The somatosensory cortex is the part of the brain that interprets which body part or parts are receiving tactile information at any given time. The

more sensitive a particular body part is, the more somatosensory cortex is devoted to it. The motor cortex is the brain region responsible for directing muscle commands to various parts of the body. The more control one has over a particular body part, the more motor cortex is dedicated to that body part. The face is disproportionately represented in both of these cortical regions. That is, there are greater portions of somatosensory and motor cortex dedicated to the face than one might expect based on the size of the face relative to the rest of the human body. All of this suggests that facial expression of emotions serves an important role and that our bodies are equipped to readily communicate through such expression.

### Cultural Considerations

Considering the communicative importance of facial expression of emotion, one might speculate that expressions of emotion are universal across cultures—that is, that all human beings make similar facial expressions when experiencing similar emotions and that observers from all cultures can interpret what any given person is feeling based on his or her facial expression. Indeed, Charles Darwin first championed this idea, arguing that facial expressions are species specific rather than culture specific. There is considerable evidence for this point of view.

Human beings are able to recognize facial expressions of at least six emotions with remarkable accuracy: happiness, surprise, fear, anger, sadness, and disgust. Impressively, this has been demonstrated even

in cultures with no prior contact with Western societies (suggesting that the research participants did not learn these emotional expressions from various media). Furthermore, when members of preliterate cultures were asked to make various facial expressions, Americans were able to recognize which emotion they were expressing. Accuracy of judgments of facial expression is good when the target being judged is a still photograph of an expression. The accuracy of such judgments improves when people are allowed to judge the facial expression in action.

The universality of facial expressions of emotion (and the interpretation of those expressions) suggests that they are innate rather than learned behaviors. Supporting this conclusion, people with congenital blindness produce similar facial expressions to people with sight. Furthermore, facial expressions of certain primates appear very similar to those of human beings. This evidence supports Darwin's contention that facial expressions are evolved behaviors that serve an important communicative function.

Despite these cultural similarities, there also are differences in facial expression of emotion across cultures. First, people are approximately 10% more accurate at interpreting facial expressions of members of their own cultural group than they are of interpreting those from members of different cultural groups. However, it is important to remember that people are still quite accurate when judging members of other cultural groups. Second, different cultures and subgroups within cultures have different rules about the appropriateness of various expressions of emotion. For example, Americans tend to display anger much more readily than do Japanese people. People might therefore express emotion differentially across cultures. Third, recent research has identified an interesting cultural difference in how people interpret the emotional expressions of others. In this research, participants viewed a picture of a social scene and were asked to identify what emotion a particular person in the photograph was experiencing. Participants from Western countries used only the target person's facial expression in making these judgments. Participants from Japan were more likely to use the entire context (i.e., the facial expressions of others in the scene) when making these judgments. For Americans, a smile always indicated happiness. For Japanese participants, a smile sometimes indicated happiness and other times indicated a smirk.

## Expression Versus Experience of Emotion

Researchers have debated the role of facial expressions of emotion for quite some time. Some argue that facial expression is a part of emotional experience, whereas others argue that facial expression simply reflects an internal state. Presently, there is no evidence to determine which of these perspectives is correct. One thing that is clear, however, is that facial expressions and emotion are strongly related to one another. Research has demonstrated that facial expressions can actually create emotional experience. Studies have demonstrated this by unobtrusively causing people to display a smile or a frown (by pronouncing different phonemes or by holding a pencil in the mouth) and then looking at the effects on mood. Smiling induced more pleasant moods, and frowning induced more negative moods. Facial expressions may cause emotion by creating physiological changes in the body. It is also possible that they cause emotion through a self-perception process in which people assume they must be happy (or sad) because they are smiling (or frowning). Of course, in the real world, people's emotions are typically caused by factors besides their facial expressions. That expressions and experience of emotion are so closely related is an intriguing finding, however.

*Steven M. Graham*

*See also* Cultural Differences; Culture; Emotion; Nonverbal Cues and Communication; Self-Perception Theory; Sociobiology

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## FACIAL-FEEDBACK HYPOTHESIS

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The facial-feedback hypothesis states that the contractions of the facial muscles may not only communicate what a person feels to others but also to the person him- or herself. In other words, facial expressions are believed to have a direct influence on the experience of affect. This hypothesis goes back to Charles Darwin,

who wrote that the expression of an emotion intensifies it, whereas its repression softens it. A second origin of the facial-feedback hypothesis is William James's theory of emotion, which states that the bodily changes follow the perception of an exciting fact and that the feeling of these bodily changes is the emotion.

Although Darwin and James differ in their view of the role of the eliciting stimulus, they agree that the behavior that accompanies an emotion exerts a causal influence on its experience. In particular, the skeletal muscles were identified as important contributors. While Darwin has assigned the facial muscles a special role as means of expression and has meticulously described their evolutionary significance (e.g., frowning), James's account is based on more global units of behavior (e.g., running away).

To test the causal influence of facial expressions on the experience of affect, three different procedures have been employed. In some experiments, participants were explicitly instructed to adopt an emotionally relevant facial expression. In another set of studies, the emotional meaning of the expression was not mentioned. Instead, the experimenter would point at the muscles that were supposed to be contracted. In yet a third method, facial expressions were induced by a procedure that required the contraction of specific muscles for a purpose that was void of any emotional meaning. For example, participants were told to hold a pen with either their teeth or their protruded lips to either induce or inhibit a smiling expression by extracting the zygomaticus muscle (one of the main muscles involved in making the mouth into a smile) or its antagonist. In a related study, golf tees were fixed on people's foreheads, which they had to move together by contracting the corrugator (frowning) muscle.

All procedures were successful in causing affective consequences either in people's self-reported mood, in specific emotions, or in the evaluation of emotional stimuli, like cartoons. However, the three facial-induction methods afford different theoretical interpretations. Specifically, the more likely it is that the induction of the facial expression is linked to the recognition of its emotional meaning, the more likely it is that people may infer their affective state on the basis of their expression. For example, they may draw the inference that if they smile, they must be amused. This mechanism is an extension of Bem's self-perception theory, which assumes that if internal cues are weak or ambiguous, people infer their attitudes

from their behavior. Similarly, they may infer their emotional states from what they do. However, the fact that affective consequences can be obtained from facial expressions even if their emotional meaning is disguised suggests that more direct mechanisms may be operating as well.

While self-perception theory may account for the cases in which the meaning of the expressions is apparent, other models are necessary to explain the direct impact of the facial action. On a physiological level, it has been argued that facial expressions may regulate the volume and particularly the temperature of the blood that flows to the brain and therefore influence cerebral processes. It was suggested that an emotional event may cause peripheral muscular, glandular, or vascular action that changes the emotional experience. Another explanation that is based on evidence from the neurosciences comes from a study that identifies specific cortical activities that are connected to different facial expressions. Specifically, it was found that the facial expression of emotions that are linked to approach (e.g., joy) were associated with greater left frontal brain activity while avoidance emotions (e.g., fear and anger) were linked with greater right frontal activation.

From a more psychological perspective, the effects of facial feedback can be understood as the result of a *motivational orientation*. As an example, one theory assumes that behaviors that are involved in approach facilitate the processing of positive information, whereas behaviors that are involved in avoidance facilitate the processing of negative information. Applied to facial expressions, this implies that a smiling expression will facilitate the processing of a cartoon and therefore intensify its affective impact. This also explains why, in many studies, the mere adoption of an expression has by itself had no emotional effect.

The importance of facial feedback has been recognized in domains that go beyond the emotional experiences. For example, it has been found that positive or negative sentences are understood more easily if, outside of their awareness, people were led to adopt a facial expression that corresponded to the valence of the sentence. In one study, research participants had to hold a pen in the smiling pose while watching photos of either White or Black people. As a consequence, implicit racial bias was reduced. Also, the importance of facial feedback has been recognized as a mediator of empathy and prosocial behavior.

Finally, it should be noted that certain facial expressions require effort to be maintained, which may influence the experienced fluency in information processing. The experience of fluency was found to serve as a basis for other feelings and judgments, like those of familiarity and fame. For example, it has been found that judgments of fame are often based on the feeling of familiarity that is elicited by a name. More recently, it was demonstrated that having participants furrow the brow while reading the names reduced the fame that was associated with the names. This was presumably the case because the experienced effort undermined the feelings of familiarity and, as a consequence, the judged fame.

*Fritz Strack*

*See also* Approach–Avoidance Conflict; Emotion; Self-Perception Theory

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## FALSE CONSCIOUSNESS

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### Definition

False consciousness is defined as the holding of false or inaccurate beliefs that are contrary to one's objective social interests and that contribute to the maintenance of oppression or unjust inequality in society. According to this usage, the disadvantaged (e.g., poor people, the working class, women, and oppressed minorities) possess false consciousness when they genuinely come to believe that they are inferior, deserving of their subordinate role in the social hierarchy, or entirely incapable of taking action against the causes of their misery. Members of advantaged

groups are said to possess false consciousness when they genuinely come to believe that they are superior, deserving of their privileged role in the hierarchy, or that what is good for them is good for everyone. Extensive sociological and psychological evidence reveals that people often do hold seemingly false beliefs that justify and perpetuate their own (and others') misfortune and oppression.

### Historical Background

The concept of false consciousness originates with the early writings of Karl Marx, although it was his collaborator, Friedrich Engels, who coined the term. Marx emphasized the illusory character of ideology and the way in which ideology functions to obscure and to justify oppression and dominance in capitalist societies. Through institutional control over religion, education, culture, the media, and political and economic institutions, dominant elites in society were seen as capable of spreading ideas and values that served their own narrow interests and perpetuated their hegemony. Thus, according to Marx and Engels, the political consciousness of most members of the working class was theorized to be "false," in the sense that it reflected the dominant group's biased interests rather than their own. At the same time, Marx believed optimistically that the oppressed would eventually recognize the falseness of prevailing ideas and take action against the sources of their oppression.

### Social Psychological Research on False Consciousness

Contemporary scholars, influenced by Marxian ideas in sociology, have suggested that Marx may have underestimated the extent to which psychological processes play a role in leading people to accept, rationalize, and adapt to unjust circumstances. An extensive body of research in social psychology has demonstrated that members of disadvantaged (as well as advantaged) groups often engage in defensive bolstering of the status quo (i.e., system justification). In so doing, they appear to actively imbue the existing social order with legitimacy and stability. At least six types of false consciousness beliefs have been identified by scholars and researchers:

1. Denial and failure to perceive injustice and disadvantage

2. Fatalism, or the belief that protest is futile and social change is impossible to achieve
3. Rationalization of unequal distributions of social roles and divisions of labor in society with the use of stereotypes and other social judgments
4. The tendency to falsely blame victims for their own misfortune or to otherwise deflect blame for human suffering away from the social system itself
5. Identification with and idealization of “the oppressor,” or the tendency to harbor preferences in favor of members of dominant groups
6. Active resistance to social change and the desire to stick with the status quo even when new alternatives would produce better outcomes

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*See also* Ideology; Just-World Hypothesis; System Justification

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case. For example, if I enjoy eating chocolate ice cream cones, I will tend to overestimate the percentage of other people like me who also enjoy eating chocolate ice cream cones relative to the percentage that do not.

This effect is likely to occur most often when considering opinions, beliefs, and behaviors that are important to us. Thus, consider another example: If you believe a particular favorite television program is funny, you will tend to overestimate the number of other people like you who also believe that program is funny relative to those who do not.

### Background and Evidence

The false consensus effect was first described by social psychologists in 1977. In one of the first research projects demonstrating the effect, researchers approached college students as they walked across campus and asked the students to advertise a restaurant by wearing a large sign that said, “Eat at Joe’s.” As you might expect, some of the students agreed to wear the sign, while others did not. All the college students were later asked how many other students they estimated would make the same decision they did (either to wear the sign or not to wear the sign).

The false consensus effect was demonstrated when two results occurred: First, the students who agreed to wear the sign reported they believed that more than half of the other students on campus (62%) would also agree to wear the sign. However, the students who did not agree to wear the sign reported they believed that more than half of the other students on campus (67%) also would not agree to wear the sign. Thus, both groups of students, those who agreed and those who disagreed to wear the sign, overestimated how many other students would behave just as they did.

### Why It Occurs

One reason why this effect is likely to occur is that the people with which we regularly come into contact (such as our friends or classmates) are often like us in some ways. Thus, sometimes we use our knowledge of those similarities to make judgments or estimations of additional ways in which our friends, classmates, or other people, might be similar to us. Not to mention the fact that it is often easier for us to remember instances in which other people agreed with us about something rather than disagreed with us.

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## FALSE CONSENSUS EFFECT

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### Definition

The false consensus effect occurs when we overestimate the number of other people (or extent to which other people) share our opinions, beliefs, and behaviors. Thus, sometimes individuals tend to believe that others are more similar to them than is actually the

It is also possible that our believing that other people are similar to us can serve to boost our self-esteem. So assuming that others share our opinions, beliefs, and behaviors helps us feel good about ourselves and our opinions, beliefs, and behaviors.

### Implications

This effect demonstrates a type of bias to which individuals fall prey in their typical thinking, thus often referred to as a type of cognitive bias. Unfortunately we fall prey to a number of such biases. This is problematic when we consider how often in our daily lives we make judgments about others, either privately within our own thoughts or in conversations with others. Because such judgments are likely to influence additional thoughts about these people, as well as our behavior toward them, it could easily be the case that we have beliefs about others that are incorrect and then possibly behave toward them in ways that are inappropriate.

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*See also* Attribution Theory; Availability Heuristic

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## FALSE UNIQUENESS BIAS

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### Definition

False uniqueness bias refers to the tendency for people to underestimate the proportion of peers who share their desirable attributes and behaviors and to overestimate the proportion who share their undesirable attributes. Typically, this bias has been assessed

by collecting estimates that people make about the proportion of peers who have positive or negative traits/behaviors with the actual proportions who report these traits and behaviors. False distinctiveness is indexed by comparing the percentage of peers whom participants estimate act the same as they do with the actual sample statistic. Several studies have shown that people underestimate the proportion who also behave in a socially desirable way—an indication of false uniqueness. For example, persons who regularly engage in physical activity tend to underestimate the actual proportion of other people who exercise. For undesirable attributes and behaviors (such as smoking cigarettes), people overestimate the proportion of peers who behave the same way they do.

### Explanation

This bias is thought to be the result of a self-enhancement or self-protective motivation: By underestimating the number of other people who behave desirably, the person can feel distinctively positive. On the other hand, perceiving one's undesirable behaviors or attributes as more common than they actually are can create a feeling of "safety in numbers," and help to justify irresponsible practices.

Such self-serving biased estimates presumably are the product of constructive social comparison, that is, projections made up in the head. Although Leon Festinger's classic social comparison theory focused on the effects of the actual relative standing of others on self-evaluations of abilities and opinions, people also cognitively construct standards in self-serving ways. George R. Goethals found, however, that people were less self-serving and more realistic in their estimates when the attribute was well defined. Thus, people are less likely to think that they are smarter than they are better in a moral sense. This is because it is easier to distort the norm for such things as being helpful or fair; intelligence has more reality constraints.

### Relation to Other Social Perceptual Biases

False uniqueness can be distinguished from two other biases concerning social norms. False consensus refers to the tendency to attribute one's own opinion or behavior to others. In this case, the estimates of behavioral subscribers are compared to the estimates of the same

behavior by nonprescribers. For example, marijuana smokers report more people smoke marijuana than do nonsmokers. Unlike false uniqueness, false consensus is not assessed with respect to the actual consensus. Another difference is that in false consensus, the self-serving bias always takes the form of an overestimation of one's own behavior. But when non-marijuana smokers exaggerate the use of marijuana (compared to actual reports), they are exhibiting false uniqueness.

Another related bias is pluralistic ignorance whereby people erroneously think their private opinions and behaviors are different from everybody else's, even though everyone's public behavior seems to be same. For example, people who lived in a small religious community, which condemned card playing and alcohol, assumed that everyone concurred because no one publicly engaged or spoke in favor of these practices (for fear of embarrassment or social censure). In actuality, quite a few people in this community behaved in these ways when their curtains were drawn. Unlike the other biases which seem to be self-serving, pluralistic ignorance emphasizes the individual's distinctiveness and even alienation from others. It appears to persist because people are reluctant to let down their public façade.

### Implications

False uniqueness permits the individual to think he or she has exceptional positive traits and behaves better than most other people. This perception may support general feelings of self-worth, but it also might contribute to overconfidence and lead to negative impressions of peers.

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*See also* False Consensus Effect; Pluralistic Ignorance; Social Comparison

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## FALSIFICATION

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### Definition

One cannot prove whether a theory or hypothesis is true. One can only prove that it is false, a process called falsification. Falsification is a tool that distinguishes scientific social psychology from folk social psychology, which does not use the process of falsification.

### History and Theory

From the beginning of the 20th century, various philosophers and scientists tried to define the best way to do science, mostly dealing with such questions as “How can you move from observations to laws?” or “How can you choose a universal theory from any number of possible theories?” Here, the philosopher Karl Popper provided the idea that no real-world theory can be considered scientific if it does not admit the possibility of a contrary case. This means that it has to be possible to make an observation that can falsify the theory. For example, the statement “all swans are white” would be falsified by observing a black swan (or admitting the possibility of a black swan somewhere in existence).

A scientific theory consists of several statements that are linked together in a logical manner. If the statements are proven false, then it becomes unreasonable to support the theory any longer. Therefore, of the old (falsified) theory is replaced by a newer (unfalsified) theory. Some researchers try to avoid the falsification of their theory by adding further statements, which account for the anomaly.

For Popper, the falsifiability of a theory is a criterion to distinguish science from nonscience. Consequently,

researchers can never finally prove that their scientific theories are true; they can only confirm or disprove them. Each time a theory survives an attempt to falsify it, it becomes a more believable theory. To advance the science, one has to replace the falsified theories with new theories. These new theories should account for the phenomena previously falsified.

### Criticisms and Modern Application in Social Sciences

Several philosophers and various researchers have criticized the falsification principle. In social sciences, where tests are very sensitive, many observations may be argued to be fallible and wrong. Hence, it is easy to make an argument against the falsification of a theory, by referring to observational errors.

In contrast to Popper, some philosophers see the development of additional statements that defend the old theory as a natural process. Other scholars later reformulated the falsification principle. Some argued that the shift from one theory to another could not be performed due to falsification of the many statements of a theory, but that a whole change of the paradigm was needed among the scientists, who share ideas about the same theory.

Falsification has been widely used in the social psychology. Current social science is multiparadigmatic. Generating several hypotheses on the same phenomenon is seen as additional help for researchers to overcome the subjective resistance of rejecting their theory.

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*See also* History of Social Psychology; Logical Positivism; Research Methods

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## FAST AND FRUGAL HEURISTICS

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### Definition

Fast and frugal heuristics, as defined by Gerd Gigerenzer, Peter M. Todd, and the ABC Research Group, are simple, task-specific decision strategies that are part of a decision maker's repertoire of cognitive strategies for solving judgment and decision tasks. Fast and frugal heuristics are simple to execute because they limit information search and do not involve much computation. Unlike many decision-making models in the behavioral sciences, models of fast and frugal heuristics describe not only the outcome of the decision-making process but also the process itself: Fast and frugal heuristics comprise simple building blocks that specify how information is searched for (search rule), when information search will be stopped (stopping rule), and how the processed information is integrated into a decision (decision rule).

The term *heuristic* is of Greek origin meaning “to find out” or “to discover.” This notion of heuristics differs from approaches that define heuristics as rules of thumb or as irrational shortcuts that result in decision biases. Fast and frugal heuristics yield decisions that are ecologically rational rather than logically consistent.

### Examples

A decision maker's repertoire of cognitive strategies includes a collection of simple heuristics. As a hammer is ideal for hammering in nails but useless for sawing a board, so the heuristics are designed to solve particular tasks. For example, there are specific heuristics for choice tasks, estimation tasks, and categorization tasks. Following are two prominent examples of fast and frugal heuristics: the recognition heuristic (RH), which exploits a lack of knowledge, and the Take the Best heuristic (TTB), which deliberately ignores information. Both heuristics can be applied to choice tasks and to situations in which a decision maker has to infer which of two objects has a higher value on a quantitative criterion. Examples include inferring which of two stocks will perform better in the future, which of two cars is more reliable, or which of two job applicants is better suited for an open position.

### ***The Recognition Heuristic***

The RH has been studied extensively with the often-used inference problem of deciding which of two cities is more populated. In 2002, Daniel G. Goldstein and Gigerenzer asked students in the United States and Germany the following question: Which city has more inhabitants, San Antonio or San Diego? Given the differences in background knowledge about American cities, one might expect that American students would do much better on this task than German students. In fact, most of the German students did not even know that San Antonio is an American city. How did the two groups perform on this task? Astonishingly, Goldstein and Gigerenzer found the opposite of what one would expect: Whereas about two thirds of the American students correctly inferred that San Diego has more inhabitants than San Antonio, all of the German students got this question correct. How could this be? The German students who had never heard of San Antonio had an advantage. Their lack of recognition enabled them to use the RH, which, in general, says, “If one of two objects is recognized and the other is not, then infer that the recognized object has the higher value with respect to the criterion.” The American students could not use the RH because they had heard of both cities; they knew too much.

The RH is a powerful tool. It allows for fast decisions and yields reasonable decisions in many environments because recognition is often systematic rather than random. Domains in which the RH works well include sizes of cities, performances of tennis players in major tournaments, or productivity of authors. Conversely, the RH does not work well when, for instance, cities have to be compared with respect to their mayor’s age or their altitude above sea level.

### ***The Take the Best Heuristic***

If the RH is not applicable because a decision maker recognizes both objects in a choice task or because recognition is not correlated with the criterion, a heuristic that considers cue information can be applied. The TTB is a cue-based heuristic that does not require any information integration to make an inference but bases decisions on single cues. For instance, when inferring the size of a city, the decision maker could consider cues such as whether a city has an airport, an opera house, or a major exposition site. TTB’s

search rule specifies searching for the cues in the order of their validity. The validity of a cue is defined as the probability of making a correct inference under the condition that the cue discriminates; that is, one object has a positive and the other object a negative cue value. According to TTB’s stopping rule, the information search is stopped as soon as a cue is found that discriminates, so that if the most-valid cue discriminates, only one single cue is considered. Otherwise the next-most-valid cue will be considered. Finally, according to TTB’s decision rule, TTB infers that the object that is favored by the cue that stopped the information search has the larger criterion value. If no discriminating cue is found, TTB makes a random guess.

### **Empirical Evidence**

Studies on fast and frugal heuristics include (a) the use of analytical methods and simulation studies to explore when and why heuristics perform well and (b) experimental and observational studies to explore whether and when people actually use fast and frugal heuristics. Systematic comparisons with standard benchmark models such as Bayesian or regression models have revealed that the performance of fast and frugal heuristics depends on the structure of the information environment (e.g., the distribution of cue validities, the correlation among cues). In many environments, fast and frugal heuristics can perform astonishingly well—especially in generalizing, that is, when making predictions for new cases that have not been encountered before. Empirical studies indicate that humans use fast and frugal heuristics especially when under time pressure, when information search is costly, or when information has to be retrieved from memory. Recent studies have investigated how people adapt to different environments by learning. In 2006, Jörg Rieskamp and Philipp E. Otto found that people apparently learn to select the heuristic that performs best in a particular environment. Moreover, Torsten Reimer and Konstantinos Katsikopoulos found that people also apply fast and frugal heuristics when making inferences in groups.

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*See also* Availability Heuristic; Decision Making; Ecological Rationality; Heuristic Processing; Representativeness Heuristic

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## FEAR APPEALS

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### Definition

Fear appeals, or fear-arousing communications, are communications that emphasize negative consequences of specific behaviors to motivate behavior change. Fear-arousing communications usually consist of two parts, namely, a fear appeal that stresses the severity of, and personal vulnerability to, a threat and a recommended protective action capable of reducing or eliminating the threat.

### Context and Importance

Fear appeals are widely used in health promotion. They come in many guises, from the obligatory health warnings on cigarette packs to essays about the deleterious effects of obesity. With an estimated 40% of premature mortality from the 10 leading causes of death in the United States due to modifiable lifestyle factors, the use of fear appeals in health promotion has become an accepted means of improving the health of populations. The basic assumption guiding the use of fear appeals is that the more one succeeds in making individuals concerned about the negative consequences of health-impairing actions, the greater will be the likelihood of behavior change. In line with this principle, several countries are now considering adding gory pictures to the written warnings on cigarette packs.

### Theories

Over the years, several theories have been proposed to explain how fear appeals work. According to early

drive-reduction models, exposure to threatening information arouses fear, which motivates individuals to reduce it. Greater fear will result in more persuasion, but only if the recommended action is perceived effective in avoiding the danger. Because of weak support for this theory, later models abandoned the assumption that the intensity of the fear determines the acceptance of (effective) action recommendations. According to Leventhal's parallel response model, the emotional response to the risk information is considered largely irrelevant for the actions taken to reduce the risk. Cognitive appraisal of the risk information stimulates two parallel responses, namely, *danger control* and *fear control*. Danger control is a problem-solving process, which involves the choice of actions capable of averting the danger. In contrast, fear control entails an individual's attempt to control the unpleasant affect evoked by fear arousal. Since fear control might often use denial strategies to reduce fear, it can interfere with danger control.

Protection motivation theory is an important attempt to identify the determinants of danger control. This theory differentiates between threat appraisal and coping appraisal. *Threat appraisal* is an evaluation of personal vulnerability to, and severity of, a threat and of the rewards associated with health-impairing behavior. *Coping appraisal* involves evaluation of response efficacy, self-efficacy, and of the costs of health-enhancing behavior. These two forms of appraisal are assumed to interact with one another: The motivation to protect oneself will be strongest when the threat is appraised as serious, and coping is appraised as effective. In her extended parallel response model, Witte suggested that when coping is appraised as ineffective, individuals will mainly engage in fear control.

The stage model of processing of fear-arousing communications is the most recent fear-appeal theory. In line with earlier theories, the stage model differentiates between threat appraisal and coping appraisal. If individuals feel vulnerable to a severe health risk, this threatens their belief that they are healthy, arouses defense motivation, and stimulates the motivation to carefully examine the presented information. Defense motivation results in biased processing of information. In appraising the threat, defense-motivated individuals will attempt to minimize it. If this strategy proves unsuccessful, because the threat seems real, individuals will accept that they are at risk. In this case, the processing of the action recommendation will be biased, but in a positive direction. They will now be motivated to find the recommended action

effective, because then they can feel safe. Defense motivation will lead to a positive bias in the processing of an action recommendation and consequently heighten the motivation to accept it. Furthermore, while severity of a threat will improve an individual's evaluation of the protective action, individuals are unlikely to adopt such an action, unless they feel personally vulnerable.

### Evidence

Empirical research on fear appeals has resulted in a body of evidence that high fear messages are generally more effective than low fear messages in changing individuals' attitudes, intentions, and behavior. More specifically, it has been found that all main components of fear-arousing communications have a positive effect on measures of persuasion: Higher levels of severity of a threat, perceived vulnerability to a threat, response efficacy, and self-efficacy of a recommendation all contribute to changes in attitudes, intentions or behavior. However, whereas most factors affect individuals' attitudes, research shows that the most important factor in changing individuals' intentions and actual behavior is perceived vulnerability: Individuals adopt recommended actions mainly when they feel vulnerable to a health risk.

### Implications

The emphasis of health education has frequently been on the severity of negative health consequences and the effectiveness of the recommended action. However, although these factors affect attitudes, they fail to have much impact on behavior. Thus, however severe a health risk and however effective the recommended action, unless one persuades individuals that they are vulnerable, they are unlikely to take protective action. Health education campaigns should stress an individual's vulnerability to a health risk and not merely vividly depict the severity of the risk. In stressing personal vulnerability to negative consequences of certain behaviors, fear-arousing communications can be an effective way of changing individuals' health-impairing behaviors.

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*See also* Health Psychology; Persuasion

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## FEEDBACK LOOP

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The feedback loop concept has several sources, and there are several different ways to think about it. One way is to think about the meaning of cause and effect. People often think about variable A causing outcome B to happen, and that being the end of it—a straight line from cause to effect. The logic behind feedback processes is that that picture often is too simple. Sometimes variable A causes outcome B, but outcome B then turns around and exerts an influence (directly or indirectly) on variable A, the original cause. This, in turn, causes variable A to make something else happen with respect to outcome B. In this circumstance, there is not a straight line of cause and effect, but a closed loop. Causality occurs all around the loop.

Another way to approach the concept is to think about so-called self-regulating systems and how they work. A self-regulating system tries to keep some condition fixed, even in the face of various kinds of disturbances from outside. For example, a heating and cooling system with a thermostat acts to keep the temperature of a house confined to a narrow range, corresponding to the thermostat's setting. How does it do that? The thermostat is a device that senses current air temperature and compares it to a set point. If air temperature gets noticeably higher than the set point (deviates from it far enough), the thermostat sends a message to activate the air conditioner part of the system. That's not the end, though. The thermostat keeps on checking current air temperature, and when the temperature returns to the set point, it allows the air

conditioner to turn off. In a system that is sophisticated enough, deviations in either direction trigger the appropriate response (if the air temperature falls too low, the message goes not to the air conditioner but to the heater).

The component elements of this system are illustrated in Figure 1. There is some sort of sensing or perception of current conditions (an input), some sort of reference value or set point, some way of comparing the perception to the reference point, and some way of making things happen (an output). As suggested at the beginning of this discussion, what happens in the output can have an effect on current conditions, which causes the perception of current conditions to change. This in turn creates a ripple of causal influence to run through the system again—and again and again, each time the output changes the current conditions.

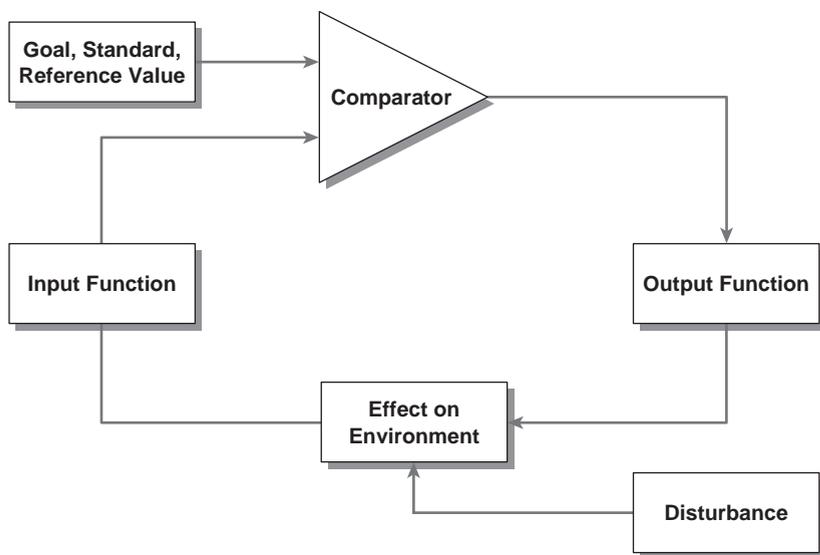
Of course, the output isn't the only thing that can change current conditions. Unexpected disturbances of various sorts can also change the existing state of affairs. For example, weather outside will influence the temperature of the air in the room; so will filling the room up with people for a party. Both of these disturbances influence the current conditions perceived by the thermostat and thus the behavior of the system.

Engineers use this sort of thinking to design mechanical and electronic systems, but the same sort of reasoning can be applied easily to self-regulation in a living system. As a simple extension of the example

just used, if you are outside on a very warm day, your body heats up. The temperature regulator in your body detects that you are getting warmer than normal body temperature and calls for perspiration, which cools you back down. If a cold breeze chills you, the temperature regulator calls for your body to shiver, which generates heat. This process is an example of what is called *homeostatic self-regulation*. Alternatively, in either of these cases, a more elaborate output could occur, which involves bigger chunks of behavior than sweating and shivering. That is, if you get too warm, you might take off your jacket or even go indoors where the air conditioner is on. If you get too cold, you might put your jacket on or go someplace where there's a toasty fireplace.

Now let's take this reasoning a couple of steps further. One step is to make the reference point be a moving target (e.g., your home's temperature control system might be programmed to raise the set point at night and lower it during the day). Another step is to make the whole thing be about behavior. Imagine that people's goals for what they want to do today (or this week, or in their lives in general) are reference values for feedback loops. Put these steps together, and you get a person who looks at existing conditions, compares them to the desired goal, and takes steps to make the existing conditions come into closer conformity to the goal, even as the goal keeps changing and evolving. For example, your goal is to buy a present for a friend, so you have to leave your house (one goal within the broader one) and get into your car and drive to a store (another goal) and find what you want (another one) and pay for it and bring it home. The person keeps making changes to bring the experienced condition into conformity with the next step in the path needed to reach the overall goal. It could be a concrete goal, such as seeking out and buying a present, or a more abstract goal, such as forming and maintaining a close relationship with someone. In either case, the same basic processes are involved. Some believe that these are the processes that underlie purposive behavior.

A good deal of complexity is added by the fact that people are often interacting with other people, all of



**Figure 1** Schematic Depiction of a Feedback Loop

whom have goals. Sometimes acting to make the conditions you experience closer to what you want entails having other people also experience a match between what *they* see and what *they* want. Sometimes you discover that it's hard to make existing conditions match what you want, because doing that creates problems for other people's goals. A lot of events can be understood in terms of what would need to happen to make various people's perceptions match their goals.

One more twist that can make everything more difficult: Although it is easiest to understand the feedback concept from looking at a system that has all the elements shown in Figure 1, strictly speaking it isn't necessary for all those elements to be there. In particular, it is possible for loops to be created in which no set point is explicitly represented. Something about the overall circumstances causes changes in the output to shift back and forth in such a way that the input remains relatively stable (or is held within limits). Typically this involves a response from the environment that is somehow coordinated with the output, so that a particular output creates circumstances that cause further output to be less necessary, and a reduction in output causes circumstances to shift back so that further output is necessary again. With respect to the most recent behavioral example, sometimes a person has a goal to make something happen, and sometimes that very thing happens predictably with no goal being involved.

More concretely, you may set a goal for yourself of studying about 2 hours per evening. Alternatively, you may be nervous about your courses if you aren't studying in the evening and bored after you've studied for a while, with the result that you tend to study for about 2 hours each evening. In the latter case, there would be no goal specifying how much to study. This second case is sometimes referred to with the phrase *self-organization*. It can be very hard to tell which case exists at any given time.

Another commonly used example of a self-organizing feedback loop (which also illustrates the fact that the feedback concept can be applied at various levels of abstraction) is an ecosystem made up of (for instance) an island colony of rabbits and a food source. The size of the food source controls the size of the colony by determining how many animals can live on it. The population converges on the value that is the system's carrying capacity. If the population gets too large, some animals starve and the population falls. If the population falls below that value, there is surplus food and the

population rises. There is no explicit reference value for population size, though, and this loop does not have the goal of stabilizing the size of the colony. Stabilizing the size of the colony is simply a consequence of the relations among the processes that form the loop. In cases such as this, it is reasonable to refer to the *function* of the loop, but not to the *purpose* of the loop.

Feedback loops are not about particular kinds of social psychological phenomena. But they can be seen as embedded in many kinds of social psychological phenomena. Easy examples are conformity, dissonance reduction, and social comparison. Feedback processes may be the underlying elements in far more phenomena than most people realize.

Charles S. Carver

*See also* Goals; Self-Regulation

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## FIGHT-OR-FLIGHT RESPONSE

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### Definition

In 1929, Walter Cannon proposed ways in which the human body and nervous system, and those of other species, evolved to cope with immediate threats to their well-being and safety. These threats elicit strong emotions and prepare the body (e.g., increase in blood pressure, release of sugar for use by muscles) for a vigorous and immediate behavioral response to the threat—that is, either fighting or fleeing. The emotions Cannon focused on were fear and anger or rage. The emotion of anger suppresses fear, and the accompanying physiological changes prepare the individual for combat. The behavioral engagement in physical fighting was largely discussed as male-on-male combat, either in the context of war, a one-on-one contest, or during sporting events. Fear often results in similar physiological changes but, in contrast to anger, prepares the individual to avoid potential injury, often by fleeing the threatening situation.

## Analysis

The basic features of Cannon's argument appear to be correct, although some of the emotional and physical effects of threats are subtler and can be longer lasting than originally proposed. Moreover, his proposal was largely focused on males and fighting, but nonetheless other scientists and the general public often extended the fight-or-flight response to include females. In 2000, S. E. Taylor and her colleagues proposed that women, and females of some other species, are more likely to behaviorally respond to threats by tending to children and befriending other women rather than by fighting or fleeing. Of course, women will fight or flee under some conditions, but they may not have the same evolved fight-or-flight response as men. Tending to children is based on the finding that parenting is more common among females than males in most species, including humans. Befriending is focused on maintaining a network of social support to help with tending when threatened and to provide a more general source of support to cope with mild day-to-day stressors. Taylor et al.'s tending-and-befriending proposal adds an important dimension to Cannon's 1929 work and highlights differences in the ways in which women and men often respond to threatening or stressful situations. Of course, men often tend to children and can develop a network of friends that provide support in threatening situations, but men may not have the same evolved tend-and-befriend response as women, as David C. Geary and Mark Flinn noted in 2002.

*David C. Geary*

*See also* Coping; Stress and Coping; Tend-and-Befriend Response

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## FOCALISM

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### Definition

Focalism (sometimes called the focusing illusion) is the tendency for people to give too much weight to one particular piece of information when making judgments and predictions. By focusing too much on one thing (the focal event or hypothesis), people tend to neglect other important considerations and end up making inaccurate judgments as a result.

### Evidence

Focalism has been shown to bias judgments in two different domains.

### *Affective Forecasting*

The first domain is that of affective forecasting, or the prediction of future feelings and emotions. People tend to overestimate the impact of positive and negative events on their future happiness, a phenomenon known as impact bias. One cause of the impact bias is a tendency to focus too narrowly on the positive or negative event itself and neglect the extent to which other, nonfocal events will also affect future thought and emotion. When predicting how they will feel several days after their team wins an important game, for example, college students focus too much on the prospect of victory itself, and neglect to consider all of the other events—a quarrel with a friend, that upcoming organic chemistry test, or a visit from their parents—that will occupy their attention in the days following the game.

Focalism in affective forecasts also explains why both Californians and Midwesterners incorrectly believe that people living in California are happier in general. When comparing life in California to life in the Midwest, people focus too much on one obvious difference between the two regions—climate—and fail to consider all of the other, more important ways in which living in the Midwest is comparable to, or even better than, living in California. It is true that Californians are more satisfied with their own region's climate than are Midwesterners. But climate is not all that important in determining how happy people will be with their lives in general. Having fulfilling

relationships, rewarding work, and a comfortable standard of living are much more important determinants of well-being.

Some researchers have proposed that focalism may also help explain why people tend to underestimate the happiness of individuals living with disabilities such as paraplegia. According to this idea, when imagining life as a paraplegic, people focus too much on the ways in which paraplegia would change their lives for the worse and neglect to consider all of the positive aspects of their lives that would stay the same. Several investigations have failed to find support for this hypothesis, however. It seems instead that people underestimate the happiness of those with paraplegia because they underestimate the human ability to adapt to new circumstances, even negative ones.

### **Social Comparison**

The second domain in which focalism operates is that of social comparison. When comparing their own traits, abilities, or futures to those of others, people overweight information about the self and underweight information about the targets of their comparisons. People judging whether they are more or less likely than their peers to experience a variety of life events, for example, focus too much on their own likelihood of experiencing these events and fail to consider the likelihood that their peers will also experience these events. This leads them to overestimate their relative chances of experiencing common events and underestimate their relative chances of experiencing rare events, producing unrealistic optimism for certain kinds of events (common positive and rare negative events) but unrealistic pessimism for others (common negative and rare positive events). This same kind of focalism operates in comparative judgments of skill and ability, in which people judge as above average their own ability to perform easy tasks, such as operating a computer mouse, while judging as below average their own ability to perform difficult tasks, such as juggling. Finally, focalism contributes to the tendency for people to overestimate the extent to which shared benefits and shared adversities will uniquely affect their own performance in competitive contexts. When estimating their chances of winning a poker game that includes wildcards, for example, people focus too much on how wildcards could help their own hands and not enough on how

these same cards can also help their opponents' hands. As a result, people are likely to bet more in games in which wildcards are included, even though the inclusion of wildcards affects all players' chances equally.

### **Cultural Differences**

Susceptibility to focalism varies across cultures. In comparison to North Americans and Western Europeans, Asians are more likely to think holistically, to pay attention to the big picture. This suggests that people in Asian cultures will be less likely to suffer from focalism in their judgments, and research supports this hypothesis. Asians are less likely to focus on a single focal event (such as a change in weather) when predicting their happiness at a later date, and they are less likely to mispredict their future happiness as a result.

### **Debiasing**

How can focalism be reduced? The method of debiasing depends on the type of focalism affecting one's judgments. For predictions about one's future happiness in the wake of a positive or negative event, focalism can be reduced by making a list of all of the other events that will be competing for one's attention in the future. For social comparisons, focalism can be reduced by shifting attention away from the self and toward the comparison target. Instead of being asked to judge their own skills in comparison to their peers, for example, people can be asked to judge their peers' skills in comparison to their own. This technique leads people to focus more on what they know about their peers and produces less self-focused judgments as a result.

*Karlene Hanko*

*See also* Confirmation Bias; Social Comparison

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## FOOT-IN-THE-DOOR TECHNIQUE

### Definition

The *foot-in-the-door* is an influence technique based on the following idea: If you want someone to do a large favor for you, get him or her to do a small favor first. The power of the foot-in-the-door stems from its ability to start with a small, innocuous request and move on to a large, onerous request.

### Evidence

In one of the first scientific tests of the foot-in-the-door, psychologists Jonathan L. Freedman and Scott C. Fraser began with a very small request: They had a researcher go door to door in the California suburb of Palo Alto and ask homeowners to put a small sign in their windows that said “Be a safe driver.” Why would anyone say no to such an innocuous request? After all, who’s against safe driving? Little did these homeowners realize, though, that saying yes to this small request would make them much more receptive to a large request 2 weeks later.

The large request was made by a different researcher who approached each house and asked the homeowner’s permission to put a large, ugly sign on the lawn that said “Drive Carefully.” Freedman and Fraser knew that most homeowners wouldn’t want a large, ugly sign on their lawns because when they made this request to a different set of homeowners, only 17% said yes. But when they made this request to the homeowners who had agreed 2 weeks earlier to put the small “Be a safe driver” sign in their windows, 76% said yes. The foot-in-the-door caused an increase in compliance of over 400%!

### How the Foot-in-the-Door Works

Psychologists have put forth a number of theories about how the foot-in-the-door works. One of the more popular theories suggests that when a person complies with the small request, the compliance changes the person’s self-image. For example, when a homeowner in Freedman and Fraser’s study agreed to display the small “Be a safe driver” sign, he or she might have started seeing herself as someone who cares a lot about road safety. And a person who cares a lot about road safety would probably be willing to

put a large “Drive Carefully” sign on his or her lawn, even if it’s not the most attractive of signs.

Because the foot-in-the-door technique is so powerful, Dr. Robert Cialdini, one of the foremost researchers on social influence, rarely signs petitions, even for positions he supports. Cialdini knows that today’s petition can turn into tomorrow’s donation—and we probably won’t even realize why we so readily gave that donation.

### A Real-World Example

One recent example of a large-scale use of the foot-in-the-door technique was the Internet-based fundraising effort run by Howard Dean during his campaign for the Democratic nomination for the 2004 U.S. presidential election. Prior to Dean’s campaign, politicians typically raised money by soliciting large donors. Dean tried something different. Instead of seeking the relatively rare American willing and able to donate thousands of dollars to a campaign, Dean sought the much larger number of Americans willing to donate \$25, \$50, or \$100.

Dean’s approach had a number of benefits. First, as Dean and his primary opponents discovered, with lots of donors, small donations can add up to a large campaign fund. Second, once people have donated \$25, Dean could contact them again with a request for another \$25 (or, perhaps, \$50 or \$100). Getting the first donation is the tough part. Getting the second donation is much easier. Once someone donated once, that person was not just an American but also a financial supporter of the Dean campaign. And when a person sees him- or herself as a financial supporter of the Dean campaign, that person will be a lot more likely to comply with a request for another donation.

*Brad J. Sagarin*

*See also* Attitude Change; Door-in-the-Face Technique; Influence; Persuasion; Reciprocity Norm

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## FORCED COMPLIANCE TECHNIQUE

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### Definition

The forced compliance technique is an experimental procedure whereby people are induced to behave in a way that is inconsistent with their attitudes, beliefs, values, or other thoughts about an issue. The procedure was initially developed for studying how inconsistency between behavior and attitudes can motivate people to change their position on a topic. According to psychological theory, when people behave in a way that is inconsistent with other important cognitions, they experience a state of discomfort similar to hunger or thirst. To reduce the discomfort, they are motivated to restore consistency by changing some of the relevant cognitions. The intriguing aspect of the forced compliance paradigm is that because the inconsistent behavior is often impossible to take back, the path of least resistance for restoring consistency is to change preexisting attitudes or beliefs so that they are consistent with the behavior. Thus, being forced to comply with a request to commit a discrepant act can cause people to justify or rationalize the inconsistent behavior.

### The Technique

The forced compliance technique basically requires that people do or say something that is against importantly held attitudes or beliefs. For example, in the original version of the forced compliance technique, participants first worked for an hour on a very boring task (e.g., turning spools on a board). They were then asked if they would help the experimenter by telling the next participant that the task was very interesting and enjoyable. To control the level of discomfort, participants were offered either \$1 or \$20 for telling the next participant that the boring task was fun. Thus, participants were induced or forced to comply with a request to mislead a stranger about the nature of the experimental task.

After delivering the misleading information to the waiting student (who was actually a confederate), participants completed a survey for the psychology department about their experience in the study. As predicted, participants who were paid only \$1 for lying about the task rated the task as more enjoyable than did participants who were paid \$20 for telling the same fabrication. That is, participants were feeling

discomfort from the inconsistency between the thoughts “The task was boring” and “I told someone the task was enjoyable.” However, the discomfort for the participants in the \$20 condition was reduced because they had an additional thought that was consistent with their behavior: They were paid a large sum of money to mislead the waiting person. In contrast, the discomfort for the participants in the \$1 condition remained high because, though sufficient to force the participants to comply with the request, the small \$1 payment was insufficient to provide a clear justification (i.e., a consonant cognition) for their dishonesty. Participants in the \$1 condition had to find another way to reduce their discomfort, and since it was impossible to take back the lie, changing their behavior was not an option. Instead, participants altered their view of what they had done by changing their attitude toward the boring task. Thus, participants in the \$1 condition reduced their discomfort by coming to believe that the task was actually not boring after all—it was enjoyable!

The original study had a tremendous impact on the field of psychology, in part because it revealed a reverse incentive effect—larger rewards were associated with less positive attitudes toward an object—a clear challenge to the idea that the more someone is rewarded for a behavior, the more they like it. It inspired research labs around the world to further explore the reverse incentive effect and its implications for understanding human social behavior.

Follow-up research on the reverse incentive effect led to several evolutions in the forced compliance technique. Today, the most widely used version requires participants to write a counterattitudinal essay in which they state a position on a topic that is inconsistent with their own. In the first study to use the essay-writing approach, students at Yale University wrote an essay in support of the aggressive actions taken by the New Haven Police against students on campus. Students at Yale were strongly opposed to the police response, but they were induced to write an essay supporting the police action for \$0.50, \$1, \$5, or \$10. Participants then reported their attitudes toward the police action, and the data revealed the same reverse incentive effect: The less they were paid for their essay, the more positive their attitudes were toward the police actions. Presumably, the less they were paid, the more discomfort participants experienced about stating a position that was inconsistent with their beliefs. However, since they could not take back what they had written,

participants reduced their discomfort by changing their attitudes toward the issue.

Research on the forced compliance technique revealed several factors that influence the level of discomfort and attitude change that follow from inconsistent behavior. For example, attitude change is greater when participants believe that they chose, and were not forced, to engage in an inconsistent act and when participants perceive that the act has led to negative consequences that they could have foreseen. Other research challenged the discomfort interpretation of the attitude change effects observed in the forced compliance technique. Some researchers proposed that a logical conclusion about the behavior, and not a motivation to restore consistency, was the most credible explanation for the reverse incentive effects. Others argued that the observed attitude change effects were not real changes; they only represented attempts to present oneself in a positive light to the experimenter. However, both alternative interpretations were later dismissed in research showing that arousal was present when participants stated a position outside of what they could accept, and that participants changed their attitudes even when the experimenter had no way to know what they had said.

Researchers continue to investigate the psychological processes that contribute to the changes observed following forced compliance. Recent research has examined variables that determine whether people are motivated to change their attitudes to fit their inconsistent behavior, such as individual differences in self-esteem, cultural background, and other personality factors that influence how people perceive an inconsistency. Other research has looked at how individuals respond when an important leader or peer behaves in a way that is inconsistent with important attitudes and beliefs held by the observer. The forced compliance technique continues to be an important tool for investigating how discrepancies between behavior and belief influence an individual's perceptions of reality.

*Jeff Stone*

*See also* Cognitive Dissonance Theory; Self-Perception Theory

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## FORENSIC PSYCHOLOGY

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*Forensic psychology* is a term used to describe a broad and growing range of research topics and applications that address human behavior in the legal system. Forensic psychologists participate as scientists, trial consultants, advocates, critics, expert witnesses, and policy advisers. In so doing, they work not only in research laboratories and mental health clinics but also in police stations, courtrooms, prisons, juvenile detention facilities, and other legal settings.

Although there is a great deal of overlap, there are two types of forensic psychologists: research scientists and clinical practitioners. Trained in the principles and methods of basic psychology, forensic researchers study a wide range of issues, such as group dynamics as it applies to how juries deliberate and make decisions; the processes of perception and memory as they influence eyewitness identifications and testimony; the processes of persuasion as they apply to police interrogations and the confessions they produce; cognitive development as it applies to the testimony, accuracy, and suggestibility of children; personality testing as it applies to the criminal profiling of serial bombers, rapists, arsonists, and other types of offenders; and the use of the polygraph and other measures of bodily arousal for use as lie detector tests.

Clinically oriented forensic psychologists are mental health professionals trained primarily in assessment, diagnosis, treatment, and counseling. Working in criminal, civil, and family law, they are involved not only in conducting research but in making important judgments in specific cases, such as whether offenders were legally responsible or insane while committing their crime; whether defendants are competent or incompetent to stand trial; whether prisoners are dangerous psychopaths or worthy of release on parole; whether a parent is fit to have custody of a child; whether young children have been physically or sexually abused; whether victims of rape have suffered trauma, making it difficult for them to come forward; and whether plaintiffs in civil lawsuits have

suffered emotionally as a result of an accident, injury, discrimination, or harassment.

Three problems illustrate what forensic psychologists do and how their work is used in the legal system. The first concerns the limits of eyewitness memory. As a result of recent advances in DNA technology, it is now possible to match suspects to samples of blood, hair, saliva, or semen found at a crime scene, enabling authorities to both identify criminals and absolve the innocent. Many prisoners have thus been exonerated, or found innocent, of the crimes for which they were convicted. Astonishingly, these cases reveal that eyewitness memory errors are by far the most common problem, appearing in three out of four DNA exonerations.

What factors diminish an eyewitness's memory, and can it be improved? Over the years, researchers have identified a number of problems. For example, research shows that people find it more difficult to recognize members of a race other than their own; that the sight of a weapon reduces a witness's ability to identify the perpetrator; that witnesses tend to pick from a lineup any person who stands out relative to the others. Making it doubly difficult for juries, research shows that eyewitnesses often report being highly confident in their memories, even when mistaken. To improve eyewitness performance, the U.S. Justice Department in 1999 published a set of research-based guidelines for police. Among the recommended methods were that police should ask questions that are open-ended rather than leading; that police should present witnesses with lineups that contain a single suspect and at least five others who generally fit the witness's description; and that witnesses should be instructed that the perpetrator may or not be presented in the lineup. Helping to improve eyewitness performance in these ways, forensic psychologists who study social influences on human perception and memory play a valuable role in the legal system.

The DNA exoneration cases also reveal a second, highly counterintuitive, social psychological phenomenon: that innocent people sometimes confess to crimes they did not commit. Seeking to understand why an innocent person would ever confess, researchers point to a multistep set of police interrogation techniques. First, suspects are removed from familiar surroundings and put into a small, barely furnished interrogation room. The purpose is to isolate suspects, increasing their anxiety and incentive to escape. Next, interrogators confront suspects with unwavering assertions of guilt, interrupting all denials and perhaps deceiving

them about the evidence. Once suspects feel trapped, interrogators will then show sympathy and understanding and morally justify, or even excuse, the offense. In short, police interrogation is a process of influence that can get innocent people to incriminate themselves by increasing the stress of denial, plunging them into despair, and then minimizing the perceived consequence of confession. Particularly for people who are highly vulnerable (such as juveniles and those who are cognitively impaired), this process may coerce a false confession.

A third illustration of forensic psychology in action can be found in trials in which the defendant pleads not guilty by reason of insanity. In 1981, John Hinckley Jr. shot and wounded President Reagan. Hinckley was a disturbed young man, a loner who harbored a delusional relationship with actress Jodie Foster. But was he insane? What about Jeffrey Dahmer, a serial killer and cannibal who killed and dismembered 17 men between 1978 and 1991, or Andrea Yates, the mother who drowned her five children, one by one, in a bathtub—were they sane or insane? Insanity is a legal concept. Although definitions vary, defendants are generally not held responsible for a criminal act if, as a result of a mental disorder, they do not know the wrongfulness of their conduct or cannot control their actions in accordance with the law. In each of these cases, forensic psychologists tested and interviewed the defendants and then testified in court about their mental states. In each case, the expert testimony was admitted to assist a jury in its decision making (Hinckley was found not guilty by reason of insanity and committed to a mental hospital; Dahmer was convicted and sent to prison; and Yates was initially convicted and sent to prison, but later her conviction was overturned, and in a second trial, she was found not guilty by reason of insanity and committed to a mental hospital).

*Saul Kassin*

*See also* Eyewitness Testimony, Accuracy of; Group Dynamics; Memory; Persuasion

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## FOREWARNING

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### Definition

A forewarning is a warning of an impending influence attempt. Forewarnings include such phrases as, “and now a word from our sponsors,” that precede ads designed to persuade listeners. Consistent with the old adage, “forewarned is forearmed,” psychologists have discovered that forewarning often leads to resistance, which is decreased persuasion in the direction of the influence attempt. However, under certain circumstances, forewarning can temporarily lead to acquiescence, which is greater attitude change in the direction of the influence attempt. Research typically compares those who are forewarned to those who are not, relative to the processing they engage in and the resulting attitudes.

### Background and History

The initial investigation on the topic showed that forewarning leads to greater resistance following an influence attempt. According to Jane Allyn and Leon Festinger, forewarnings engage a defensive motivation, particularly for those who are committed to their viewpoint. When high school students were forewarned that a speaker would be arguing against allowing teenagers to drive, students reported more negative attitudes after the speech compared to those who were not forewarned. So when people expect a message that is dissonant with their attitude, this arouses feelings of suspicion and hostility, resulting in resistance. Subsequent research shows that resistance following forewarning can take the form of increased generation of arguments against the proposal, called counterarguing, or increased thoughts in favor of the person’s own attitude, called bolstering.

Other research has shown that, under certain circumstances, forewarning can lead to greater acquiescence. This occurs in the form of temporary shifts in attitudes that occur prior to receiving the message itself. According to William McGuire and Susan Millman,

the expectation of an influence attempt leads people to feel vulnerable and potentially gullible. To avoid this potential threat to their self-esteem, people are motivated to shift their attitudes preemptively in the direction of the influence attempt. So when the persuasion attempt comes, they avoid facing the reality that the message persuaded them a lot. This sort of preemptive shift is not possible in the case of forewarnings that specify the topic but not the direction of the attempt. Robert Cialdini and others suggested that forewarnings that do not indicate the direction of the attempt could lead people to report more moderate attitudes prior to the message. Although they are not necessarily aware of doing so, expressing a more moderate stance helps people present themselves in a more positive light, as more flexible and broad-minded. Taken together these findings suggest that when the focus is on ensuring that the self is viewed positively, forewarning can lead to greater acquiescence prior to the actual influence attempt.

### Current Status

In a recent review, Wendy Wood and Jeffrey M. Quinn were able to distinguish when forewarning is likely to lead to increased resistance as opposed to increased acquiescence. In doing so they distinguished between the impact of forewarning prior to and following the actual influence attempt.

The impact of forewarning on attitudes prior to receiving an influence attempt can be either increased resistance or increased acquiescence, depending on the type of processing that occurs. Contemporary models of persuasion, such as the elaboration likelihood model (ELM) by Richard E. Petty and John T. Cacioppo, hold that there is a critical distinction between more thoughtful processing and less thoughtful processing of issue-relevant information. The results of forewarning for attitudes prior to the actual message itself are consistent with this distinction. When the topic is important to an individual, then forewarning will lead to resistance based on thought, such as bolstering the current attitude. On the other hand, if an individual is less concerned about the topic and more concerned about how he or she appears to him- or herself, the individual will acquiesce prior to the message and engage in little thought about the issue. According to the ELM, less thoughtful processing results in attitudes that are less consequential. Consistent with this view, these acquiescence effects are temporary, disappearing following either the receipt or cancellation of the influence

attempt. Thus, the impact of forewarning prior to a message is likely to be greater resistance when thoughtful processing of information related to the issue occurs, but it is likely to be acquiescence when less thoughtful processing occurs and the focus is on ensuring that the self is viewed positively.

Research to date indicates that forewarning leads to greater resistance following the influence attempt. In general, forewarning biases thoughts counter to the direction of the influence attempt, either through increased bolstering of the prior attitude or increased counter-arguing of the persuasive message. This overall effect of resistance following forewarning suggests that those who show acquiescence prior to the message nevertheless engage in more resistance in response to the message itself than those who do not receive forewarning. Processing of the message itself overwhelms the impact of concerns for whether the self is viewed favorably. Thus, while forewarning can at times lead to temporary acquiescence prior to the message, it generally leads to greater resistance once the message is actually presented.

### Application

Research on forewarning suggests that advertisers should avoid making their persuasive intent clear prior to the message itself, particularly when thoughtful processing is likely. On the other hand, commercials that only introduce the critical product or topic toward the end may be more persuasive because they circumvent resistance triggered by forewarning.

*Jamie Barden*

*See also* Attitudes; Elaboration Likelihood Model; Persuasion; Resisting Persuasion

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## FORGIVENESS

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### Definition

Forgiveness refers to the act of decreasing negative feelings toward someone who has hurt or offended the self. Sometimes forgiveness entails replacing negative

feelings with positive feelings. However, many researchers believe that the reduction of negative emotions is sufficient.

Scholarly definitions of forgiveness often do not align with definitions held by the lay public, and these different definitions have created confusion. Thus, many researchers who study forgiveness start their writings by describing what forgiveness is not. To forgive someone does not mean forgetting or downplaying an offense. It does not mean behaving in a weak or timid manner, failing to hold offenders accountable or pretending that no offense occurred. People can forgive without trusting their offenders or choosing to have close relationships with them. Forgiveness is best understood as an internal process: a change in emotions, motivations, and attitudes that often leads to behavioral changes.

### Background

Prior to the mid-1990s, psychologists devoted almost no attention to the topic of forgiveness. Forgiveness was seen as intimately tied with religion and spirituality, and many scientists considered these topics to be off limits for empirical research. However, with the recent advent of the positive psychology movement, the study of forgiveness and other virtues has become a rapidly growing area within social psychology. Within the past decade, research on forgiveness has increased dramatically. Social psychologists have studied forgiveness using the perspectives of social exchange theory, self-regulation, and close relationship research, to name just a few.

### Injustice, Anger, and Forgiveness

Angry feelings are a natural response to injustice. When people treat one another unfairly, they create what scholars call an *injustice gap*, a gap between the way that things are and the way that things would be if everything were fair. If people believe that they have been treated unfairly, they often ruminate about the offense, replaying it in their minds and becoming more angry. However, if the injustice gap can be closed in some way, anger tends to dissipate. Offenders can close the injustice gap themselves by apologizing or making restitution. Victims may also take matters into their own hands by seeking revenge, pursuing legal action, or confronting offenders with wrongdoing. Regardless of whether people take steps to restore justice, they may eventually decide to forgive the offense.

One might think of forgiveness as bridging the injustice gap. Obviously, bridging a small gap is easier than bridging a large gap. And, indeed, many studies show that forgiveness is easier when the sense of injustice gap is small, that is, when minor offenses are quickly followed by apologies, restitution, or both. Forgiveness is also more likely in close, committed relationships. When people value a relationship, they are more willing to make the effort to bridge the gap. But what if the gap remains large? What about damage that cannot be repaired, such as the murder of a loved one? What about heinous offenses by strangers, particularly those who remain unrepentant or even smug about their crimes? Without question, the task of forgiveness is extremely difficult in such cases.

### Costs and Benefits of Forgiving

Why would people want to attempt forgiveness, knowing that it can be so difficult? Many people see forgiveness as a principled decision. Regardless of its pragmatic costs or benefits, they see forgiveness as an important personal value, perhaps even as a moral, spiritual, or religious imperative. It is crucial to note, however, that people may choose unforgiveness for principled reasons as well. They may believe that forgiveness is wrong in certain situations—if the other party is unrepentant, for example, or if the offense is seen as unforgivable. Or, at the level of personal values, a person might hold a grudge because the goal of forgiveness is secondary to other goals involving justice, self-protection, or social dominance.

Although principles are important in guiding human behavior, pragmatic factors also exert a powerful influence. Research has demonstrated several pragmatic benefits of forgiveness. One major benefit is that forgiveness can help to heal relationships. Even in close, caring relationships, people inevitably hurt and offend each other from time to time. Thus, if people never make the sacrifices required to forgive one another, they will find it difficult to sustain close relationships over time. A second benefit of forgiveness is emotional: When people forgive, they free themselves from the emotional burdens of bitterness, resentment, and hatred. This experience of releasing negative emotions can be powerful and transformative, especially if it is accompanied by positive emotions, such as love, gratitude, or a sense of growth. A third benefit relates to physical health: Reductions in chronic anger and hostility may also help forgivers to

maintain healthy cardiovascular and immune systems. There are many good reasons, then, to consider forgiveness as an option.

What about the costs of forgiving? Some of the costs that people associate with forgiveness do not involve forgiveness *per se*; rather, they are linked with behaviors that people commonly associate with forgiveness. For example, people often confuse forgiving with unassertiveness. In an effort to avoid confrontation, unassertive people may minimize serious offenses, accept more than their share of blame, and behave as though no offense occurred. Unfortunately, when people fail to assert themselves, not only do they leave the door open for future exploitation but they may also indirectly harm the offender, in moral terms, by not holding him or her accountable for the offense. Some offenders, particularly those with anti-social or egotistical tendencies, are quick to blame others. If paired with unassertive partners who quietly tolerate mistreatment and readily accept blame, aggressive partners will find it easy to continue a pattern of exploitation.

A closely related problem occurs when forgiveness is confused with reconciliation or trust. Abuse situations are a prime example. It is crucial for abuse victims to understand that they can forgive their abusers without placing themselves in jeopardy by remaining in close contact. Before attempting to forgive, victims often need to protect themselves from their abusers in some way, perhaps by asserting their legal rights, seeking powerful allies, or creating a safe distance.

The previously mentioned examples were based on misconceptions of forgiveness. But even if one uses a textbook definition of forgiveness, one that focuses on a positive emotional shift, forgiveness can still entail costs. One cost is that forgiveness requires people to release angry feelings, and anger carries its own rewards. Anger can energize people, helping them to feel righteous, proud, and strong. It can also spur them to take action to correct injustices. When people let go of anger, then, they may be losing something that has served a valuable function for them.

Another cost of forgiving has to do with the social benefits of being seen as a victim. When people are seen as victims, they often gain sympathetic attention. In fact, one of the primary ways that people fuel grudges is by engaging in vengeful gossip about how their offenders mistreated them. In such situations, third-party listeners often contribute their own negative information about the offender, which may help

the victim to feel supported while contributing to an increasingly negative, demonized view of the offender. Many people are reluctant to give up this potential for social support by stepping out of the victim role.

Perhaps the greatest risk of forgiving has to do with the softening of attitudes that forgiveness entails. Anger is a self-protective emotion. When people allow their attitudes toward another person to become more positive, it can be natural for them to begin trusting the other person again, opening themselves up to the possibility of a continued relationship. Although reconciliation is not part of most textbook definitions of forgiveness, there is no denying that it is often a natural consequence. In many situations, increased openness is adaptive, opening the door for a healed relationship. But if the offender is someone who is ready to exploit others, it could be dangerous to see this person in a highly optimistic light. When offenders seem untrustworthy, offended parties may benefit from learning how to resolve their feelings of hatred or bitterness while still maintaining a cautious, self-protective stance toward the offender.

### Individual Differences

Research suggests that people tend to be more forgiving if they are agreeable and get along easily with others. In addition, people are more likely to attempt forgiveness if they identify with a religious or spiritual belief system in which forgiveness is a core value. Neurotic individuals, who are prone to focus on negative events, often have difficulty forgiving. Forgiveness is also difficult for persons who have a sense of entitlement, meaning that they see themselves as superior to others and are highly invested in defending their rights.

### The Process of Forgiving

Assuming that a person does want to try to forgive, how might the process unfold? Granted, some people may forgive without being aware of doing so, perhaps because the offense was minor or because they have become practiced at forgiving. But in most cases of serious offense, forgiving requires deliberate effort. The description that follows focuses on cases in which people consciously work toward forgiving.

In most forgiveness interventions, the first step is to honestly assess the harm that was done, along with one's feelings about the offense. As described earlier

in this entry, forgiveness does not imply excusing, minimizing, or forgetting offenses. Such strategies may work well for minor offenses, such as being cut off in traffic. However, for more serious offenses, it is important to pinpoint the injustice and try to understand one's emotional responses to it. Many people need encouragement to acknowledge their angry feelings. For example, individuals who are unassertive or low in self-esteem often need to learn that they have a right to be angry when treated unfairly. In contrast, those who see themselves as bold or dominant may find it easy to admit anger but hard to admit fear or hurt feelings.

Because anger can be an important signal of injustice, it is often appropriate to take steps to assert or protect oneself to reduce the odds of being harmed again. Those who forgive will often experience a softening of feelings about the offense or the offender. As such, it is important that people feel safe and strong before they begin to reduce their negative feelings. Authentic forgiveness is rooted in self-respect. In contrast, a lack of self-respect may lead to unassertive responses or a shame-based desire to lash out at one's offender.

Once they have clearly identified the injustice and are operating from a position of strength and confidence, offended parties can make a reasoned decision about whether to try to forgive. In cases of serious offense, it may take weeks, months, or even years before a person will even consider the prospect of forgiving. As people face forgiveness decisions, it is important to note that forgiveness is an act involving both the will and the emotions. Although people can make an intentional decision to forgive, their emotions may not immediately change. Forgiveness requires people to regulate strong emotions, which in turn requires considerable self-control. Strong negative emotions may also require some time to subside. Nonetheless, there are some techniques that people can use to facilitate forgiveness.

Ironically, forgiveness is sometimes facilitated by confronting one's offender. Such confrontations tend to be most successful when delivered in an atmosphere of mutual safety and respect. If people can specify what the other person did that hurt or offended them, they may receive a sincere apology. This outcome is not guaranteed, of course. But if the offender does offer a sincere apology or an attempt at amends, the process of forgiving will be easier. Many offenses are two-sided. Therefore, as part of their exchange with

the offender, people may also find that they need to apologize for some wrongdoing of their own. If they start the interaction with their own apology, they may find that their willingness to humble themselves will make the other party more willing to apologize.

Several studies suggest that forgiveness is rooted in empathy. Forgiveness will be easier if people can consider the situation from the offender's perspective. For example, they might try to generate good reasons why the offender behaved in this way: Has the offender been mistreated by others in similar ways? Was there a misunderstanding that may have led to the offense? Could the offense have stemmed from the offender's fear or shame rather than from cruelty? To the extent that people can empathize with those who have hurt them and try to understand the offenders' motives, people will find forgiveness easier.

Nonetheless, sometimes people have no idea why another person mistreated them. Or, worse yet, they may be very clear that the other person was truly being malicious. In such cases, forgivers may need to use other means to empathize. For example, they might reflect on a time when they behaved cruelly themselves, particularly if it was a case in which they were forgiven or shown mercy. Or they might focus on the common humanity that they share with the offender. Studies have shown that people find it easier to forgive when they frame offenses as universals ("Human beings do cruel things to one another") rather than focusing on the specific offense against the self ("My brother did a cruel thing to me").

After trying to assert themselves and to empathize with the offender, people may still find that they are left with feelings of bitterness or resentment that they need to release. Some people find imagery useful as part of this release process. For example, they might envision themselves severing a rope that is tying them to their negative emotions. Or they might first envision their negative feelings as a burden that is weighing them down and then visualize themselves setting down the burden and walking away from it. People often report a sense of emotional release, peace, or relief associated with such attempts to release negative emotions.

When people have released their negative emotions, they often believe that the process of forgiving is complete. However, angry feelings commonly recur even after sincere attempts to forgive. An offense might be repeated, for example, or the initial offense

might have ongoing consequences that continually remind the forgiver of the damage. Because anger often recurs, people often find it necessary to repeat the forgiveness process.

*Julie Exline*

*See also* Anger; Empathy

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## FREE WILL, STUDY OF

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Free will is a controversial idea in social psychology. Researchers have begun to talk about it and study it, including ordinary people's beliefs about it, but there are many social psychologists who insist that all such beliefs are mistaken. As a field of scientific research, social psychology is almost certainly unable to prove whether free will exists or not. But social psychology can study how people make choices, when they feel themselves to be free versus less free, how action is initiated and controlled, how people react when their freedom is taken away, and what the consequences are of believing versus disbelieving in free will.

### Definition

Free will is a concept inherited from philosophy and even theology, so it is not one that scientists have been

able to define as they wish. That definitional problem has contributed to the controversies about it, because different people use the term to refer to different things.

The core idea behind free will is that people can choose to act in different ways. The opposite belief is determinism, which holds that every action is fully caused (determined) by prior events.

Think of something you did recently, even perhaps picking up this entry to read. Is it possible that you could have done something differently? Or was it an inevitable result of forces and pressures operating on you, including both the current situation and past experiences and lessons? You may have felt as though you made a decision to read this, but then again that feeling might be an illusion. Strict determinists think that it was inevitable that you read this and that you really could not have done anything else. In contrast, if you have free will, then you might well have done something different.

The “will” part of free will presents additional problems for some philosophers and psychologists. It implies that there is such a thing as a will, as a part of the human mind, possibly located somewhere in the brain. Many experts believe that the will is just a metaphor or a convenient way of talking about human mental processes, rather than being something real. Those experts hence reject the term *free will* and prefer to talk about *freedom of action*. Some of them think that freedom is real and the will is not real. For most, however, the issue is whether freedom really exists, and the “will” part is not the controversial part.

### Opposition to Free Will

Social psychologists who reject the idea of free will have several main reasons for doing so. One is a simple act of faith. Many psychologists believe that, as scientists, they must believe that there is a cause for everything and that determinism is the only suitable assumption for scientific research. Most agree that determinism cannot be proven true, but they believe that it is necessary for scientists to assume that it is true. Some regard free will as an obsolete religious idea. B. F. Skinner, the famous behaviorist, wrote a book called *Beyond Freedom and Dignity*, in which he called upon people to abandon their silly (as he saw it) belief in freedom of choice and accept that everything everyone does is a product of reinforcement history (i.e., previous rewards and punishments for similar behaviors)

and learning, plus a few innate biological patterns. Skinner studied the behavior of rats and found that a few general principles could explain rat behavior. He thought human behavior followed the same principles, perhaps in a slightly more complicated way but in no less determined a fashion.

In psychology, there are several lines of evidence that call into question people’s belief in free will. Certainly almost all show that human behavior is caused by something, including the sorts of rewards and punishments that Skinner studied. That very fact of causation can be taken as evidence against free will. More dramatically, work by Sigmund Freud claimed to show that people’s behavior is often guided and shaped by unconscious processes and forces, so that what they consciously think they are doing might be mistaken. For example, Freud suggested that a man who criticizes, condemns, and attacks homosexuals might consciously believe that homosexuality is bad, but underneath he may have an unconscious attraction to homosexuality, and so he defends himself against his own homosexual feelings (which he cannot accept) by insisting that homosexuality is evil.

More generally, recent research has shown that many nonconscious processes affect behavior strongly. Mostly these do not have a strong resemblance to the kind of unconscious dynamics that Freud wrote about. Instead of a dungeon into which socially unacceptable thoughts are banished, the new theories depict the unconscious as more like the support staff of an important executive, performing many helpful activities behind the scenes. Research has shown that people are affected by many stimuli that they never realize consciously (such as subliminal advertising—flashing an image so fast that one does not consciously see it but unconsciously registers and responds to it). In one famous study, research subjects had to solve word puzzles in which they unscrambled sets of words to make short sentences. By random assignment, some of the participants solved sentences that invoked the idea of being old, such as the words *retirement*, *sunshine*, and *Florida*. When the participants left the experiment, the researchers secretly timed how fast they walked to the elevators. The participants who had been “primed” with the idea of being old walked more slowly than other participants. Such causes do not indicate any free will. The conscious decision about how fast to walk did not involve any deliberate decision to walk slowly, but their behavior was affected by these nonconscious processes.

The operation of such effects is one important factor that makes experts question the idea of free will. It is certain that many times when people believe they are freely, consciously deciding what to do, in reality they are affected by things outside their awareness.

Even when people think they control and initiate behavior, they are sometimes mistaken. Work by Daniel Wegner, summarized in his book *The Illusion of Conscious Will*, has shown that people are often mistaken about whether they caused something to happen. He has run many cleverly designed experiments in which people are or are not responsible for some event, and yet they consciously have an opinion about it that can be shown to be wrong. Have you ever played with an Ouija board? Many people like to think that the movement of the Ouija board pointer is guided by ghosts or spirits and that people are not conscious of moving the pointer themselves, but in reality they do move it themselves. Ouija boards are one illusion of free will.

### Support for Free Will

Against the skeptics, some researchers believe that people do actually make choices and have some degree of freedom. The deterministic view that there is no free will is unproven and unprovable, as noted. Moreover, it is contrary to everyday experience (in which people feel that they are making choices in which more than one outcome is possible). Also, psychological data usually do not show 100% inevitable causation; rather, most psychology studies simply show a difference in the odds of some response. By that view, the way psychological causes work is simply to change the odds a bit rather than to activate a response that is inevitable. That leaves ample room for free will, at least in theory.

Other support for free will comes from recent evidence that willpower is more than a metaphor. Self-control and choice are central to most discussions of free will, and they do seem to use up some psychological resource that could be called willpower.

Other support comes from simply recognizing the importance of choice and freedom in human life. If freedom is entirely an illusion, why have there been so many wars, revolutions, and strivings to gain it? Why do people struggle so over making decisions? Why do people react so negatively when their freedom is taken away?

### Common Beliefs

Another research approach is to study the effects of believing in free will, because some people believe in it more than others. Delroy Paulhus has developed a personality trait scale that sorts people according to whether they believe in free will or not. It is possible to give that questionnaire to people, score it, and then bring people into the laboratory to see how they behave. People who believe in free will may act differently from people who reject the idea.

Another approach is to manipulate that belief. Kathleen Vohs and Jonathan Schooler have developed several procedures to increase or decrease belief in free will, such as by having some participants read an essay that says science has supposedly proven that free will is a false idea and that brain processes are a complete cause and explanation for all behavior. They have found that these beliefs make a difference. For example, when people are discouraged from believing in free will, they become more willing to cheat and perform other antisocial behaviors. Other work has shown that losing the belief in free will makes people more aggressive and less helpful to others. Apparently the common belief in free will promotes a sense of personal responsibility and social obligation, and so people treat each other better to the extent that they believe in free will.

### At a Crossroads

The topic of free will has come to the forefront of social psychology research because of its profound implications and its relevance to several, very different lines of thought and investigation. It seems likely that the next 10 years will yield important new advances in how psychologists understand the way people act and how they talk about the idea of free will.

*Roy F. Baumeister*

*See also* Automatic Processes; Consciousness; Dual Process Theories; Ego Depletion; Reactance

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## FRUSTRATION–AGGRESSION HYPOTHESIS

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For a good many students of human behavior, the main reason why people become aggressive is that they have been frustrated. William McDougall, one of the first psychological theorists to be explicitly labeled a social psychologist, espoused this idea at the beginning of the 20th century. He maintained that an instinct to engage in combat is activated by any obstruction to the person's smooth progress toward his or her goal. Sigmund Freud had a similar view in his early writings. Before he developed the notion of a death instinct, he proposed that aggression was the primordial reaction when the individual's attempt to obtain pleasure or avoid pain was blocked. This general conception, widely known as the frustration–aggression hypothesis, was spelled out much more precisely in 1939 by John Dollard, Leonard Doob, Neal Miller, and several other psychologists, all at Yale University. This particular analysis will focus on highlighting many of the theoretical issues involved in determining the role of frustrations in the generation of violence.

### The Frustration–Aggression Hypothesis and Its Modifications

The Yale group took care to define *frustration* clearly, not as an emotional reaction but as a condition interfering with the attainment of an anticipated goal. Aggression, in turn, was regarded as a behavioral sequence whose goal was the injury of the person to whom it was directed. The team then went on to contend not only that every frustration produces an urge to aggression but also that every aggressive act presupposes the existence of frustration. Few psychologists today accept both parts of this broad-ranging formulation. Moderating the first proposition in the Yale group's sweeping analysis, in 1948 Neal Miller acknowledged that people prevented from reaching an expected goal might well have a variety of reactions, not only aggressive ones. Nevertheless, he argued that the nonaggressive responses to the frustration will tend to weaken, and the instigation to aggression strengthen, as the thwarting continues. The second part of the formulation, stating that all aggression is ultimately traceable to some prior interference with goal

attainment, is largely disregarded these days. It is now widely recognized that an attack can at times be carried out in hope of fulfilling some nonaggressive desire, such as for greater approval by one's social group. And so, rather than having been thwarted frequently, some highly aggressive people might have learned that their assaults are likely to bring nonaggressive rewards.

### Critiques of the Frustration–Aggression Hypothesis

The 1939 monograph quickly captured the attention of many other social scientists and prompted the publication of a number of critiques basically insisting that an interference with goal attainment produces an aggressive urge only under special circumstances. Many of these objections have essentially been taken up nowadays by appraisal theorists, those psychologists who maintain that what specific emotion is experienced in a given situation depends virtually entirely on just how the situation is understood (appraised). In the case of anger (and presumably affective aggression as well), some of these writers contend that the goal blockage has to be perceived as a threat to the ego if it is to generate an inclination to aggression. Appraisal theorizing has also frequently proposed other restrictions—for example, that there will not be a desire to hurt some target unless an external agent is regarded as responsible for the thwarting, and/or the interference is perceived as improper, and/or the obstruction can be removed (i.e., the situation is controllable).

### Investigations of the Relation Between Frustration and Aggression

The controversy surrounding the frustration–aggression hypothesis has spurred a truly impressive number of investigations. Many (but certainly not all) of the laboratory tests have yielded supporting results. Taking only a very few examples, in one experiment reported more than two generations ago, children expecting to see an enjoyable movie were suddenly frustrated because the motion picture projector had supposedly unexpectedly broken down. When these youngsters played a game with another child soon afterward, they were more aggressive to their peer than were the nonthwarted controls, even though this person was clearly not responsible for their disappointment and the

projector breakdown had not been an ego threat. In yet another study conducted some years later, the college-age participants were asked to complete a jig-saw puzzle in the presence of a supposed other student. In one condition the participants were unable to assemble the puzzle in time because of the other individual's disturbance, whereas in another condition they couldn't do the job because, unknown to them, the puzzle actually was insoluble. When all the participants were later able to administer electric shocks to this other student, supposedly as a judgment of his performance on an assigned task, those who had been obstructed by him were most punitive. But even those whose frustration had been internally caused were more aggressive to the other (and presumably innocent) individual than were their nonfrustrated counterparts. Even more intriguingly, much more recent research indicates that even young infants display angry reactions (in their facial expressions) when they are frustrated by the nonfulfillment of a learned expectation. It is as if there is an inborn tendency for thwarted persons to become angry and disposed to aggression.

Generally speaking, the entire body of this research indicates that anger and emotional (affective) aggression can occur even when the situational interpretations stipulated as necessary by appraisal theory are not made. Violence may well be more likely when the goal blockage is regarded as socially improper and/or deliberately intended by some external agent, but this may be because these appraisals heighten the instigation to aggression and not because they are necessary.

### **Extensions and Apparent Exceptions**

All this is not to say, however, that an interference with goal attainment will invariably lead to anger and an attack on some available target. Some research initiated by the Yale group shows how general can be the basic idea that people become aggressive when they are unable to satisfy their desires—and also the inconsistencies that can be seen at times. Employing statistics from the southern United States at the time when this region's economic prosperity was greatly dependent on its chief crop, cotton, Carl Hovland and Robert Sears demonstrated that before the 1930s, sudden drops in the value of cotton were also marked by a rise in the number of Blacks who were lynched. Unexpected financial losses, presumably interfering with the attainment of economic satisfactions, had evidently generated an increased number of assaults

on an especially disliked group. Partly confirming the Hovland-Sears findings, Donald Green, Jack Glaser, and Andrew Rich reported that there was a relatively small but significant tendency for some measures of economic hard times in the South to be linked to an increased number of lynchings of Blacks in that region in the period the original researchers had studied. But they also noted that economic fluctuations were not related to variations in the number of Blacks lynched in the South after the 1930s. Furthermore, they also observed that changes in economic conditions in New York City had no influence at all on the number of hate crimes against gays, lesbians, and Blacks from the late 1980s to the mid-1990s.

All in all, even if frustrations do generate an instigation to aggression, it is clear that this inclination is not necessarily always manifest in an open assault on an available target. Inhibitions prompted by the fear of punishment or by one's own internal standards obviously may block the urge. In the Green, Glaser, and Rich research, whatever violent impulses the economically hard-pressed people might have had in New York City or in the U.S. South after the 1930s, their aggressive inclinations could well have been restrained by expectations of social disapproval, threat of legal punishment, or both. Much of the public conceivably might also have learned to respond to their privations in nonaggressive ways, in this case by calling for governmental help. And then too, it could also be that the stimulus characteristics of the available target affect the probability that the affectively generated instigation to aggression will be translated into an overt assault. Those persons, such as Blacks or Jews, who are greatly disliked by the thwarted people, or who are strongly associated with other victims of aggression, may be especially likely to be the targets of displaced aggression.

### **A Revised Frustration–Aggression Hypothesis**

However, even when one contends that factors such as these might mask the inclination to aggression, one must still wonder why there are so many occasions when failures to obtain an expected satisfaction clearly do not produce an aggressive reaction. In Leonard Berkowitz's revision of the frustration–aggression hypothesis, he proposed that it is not the thwarting per se that generates the aggressive urge but the strong displeasure produced by the goal interference. People sometimes are not angered by their inability to reach an

expected goal simply because they're not very unhappy at this failure. And similarly, from this perspective, several of the appraisals sometimes said to be necessary for anger generate hostility primarily because these interpretations are often exceedingly aversive. Someone's deliberate attempt to keep a person from fulfilling his or her desires is much more unpleasant than an accidental interference with his or her goal attainment, and thus, is much more apt to stimulate the person to aggression. This analysis regards the frustration-aggression hypothesis only as a special case of a much more general proposition: Decidedly aversive occurrences are the fundamental generators of anger and the instigation to aggression.

*Leonard Berkowitz*

*See also* Aggression; Anger

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## FUNDAMENTAL ATTRIBUTION ERROR

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### Definition

The fundamental attribution error describes perceivers' tendency to underestimate the impact of situational factors on human behavior and to overestimate the impact of dispositional factors. For instance, people

often tend to believe that aggressive behavior is caused by aggressive personality characteristics (dispositional factor) even though aggressive behavior can also be provoked by situational circumstances (situational factor).

### History

The term *fundamental attribution error* was created in 1977 by social psychologist Lee Ross. However, research on the fundamental attribution error goes back to the 1950s when social psychologists Fritz Heider and Gustav Ichheiser started to investigate lay perceivers' understanding of the causes of human behavior. Interest in the fundamental attribution error experienced a peak in the 1970s and 1980s when a general notion within social psychology was to discover shortcomings in human judgment.

Notwithstanding its widely accepted significance for social psychology, the fundamental attribution error has also been the subject of controversies regarding its general nature. On the one hand, critics argued that the fundamental attribution error does not occur for everyone under any circumstances, which challenges the adequacy of the label *fundamental*. On the other hand, critics claimed that there is no unambiguous criterion that could specify the real causes of human behavior, thus challenging the adequacy of the term *error*. Irrespective of these controversies, the fundamental attribution error is generally regarded as a very important phenomenon for social psychology, as it often leads to surprised reactions to research findings demonstrating a strong impact of situational factors on human behavior.

### Evidence

From a general perspective, evidence for the fundamental attribution error comes from three different lines of research. First, numerous studies have shown that people tend to infer stable personality characteristics from observed behavior even when this behavior could also be due to situational factors. For example, students may infer a high level of dispositional anxiety from a fellow student's nervous behavior during a class presentation, even though such nervous behavior may simply be the result of the anxiety-provoking situation. This tendency to draw correspondent dispositional inferences from situationally constrained behavior is usually called the *correspondence bias*. In the present example, the fundamental attribution error can contribute to the correspondence bias when

perceivers do not believe that giving a class presentation is anxiety provoking. Thus, perceivers will infer that the presenter must be an anxious person, even though most people would show the same level of behavioral anxiety during a class presentation.

A second line of research on the fundamental attribution error is concerned with surprised reactions that are often elicited by social psychological findings. Consistent with social psychology's notion that human behavior is strongly influenced by situational factors, several studies have shown that everyday people often do not help other individuals in an emergency situation when other people are present, that everyday people are willing to administer life-threatening electric shocks to other individuals upon request by an experimenter, and that everyday people engage in sadistic, torturing behavior simply because they are assigned to a superior social role. These findings have provoked surprised reactions not only among lay people but also among professional psychologists. One reason for these reactions is that perceivers tend to underestimate how simple changes in the situation can lead everyday people to engage in immoral behavior.

A third line of research on the fundamental attribution error is concerned with cultural differences in lay perceivers' explanations of human behavior. A large number of cross-cultural studies have shown that people in Western societies tend to explain human behavior in terms of stable personality characteristics, whereas people in East Asian societies tend to explain human behavior in terms of situational factors. For example, a school massacre may be described in terms of the abnormal personality of the perpetrator in Western cultures, whereas the same massacre may be described in terms of the perpetrator's situation in East Asian cultures. This difference is assumed to have its roots in a more general difference between Western and East Asian worldviews. Whereas Western societies tend to stress the independence and uniqueness of each individual (individualism), East Asian cultures tend to stress the connectedness and the relation of the individual to the social context (collectivism). This difference, in turn, leads to a stronger focus on characteristics of the individual in Western cultures and to a stronger focus on characteristics of the individual's situation in East Asian cultures.

### Correspondence Bias

The fundamental attribution error is often associated with another social psychological phenomenon: the

correspondence bias. The correspondence bias refers to perceivers' tendency to infer stable personality characteristics from other people's behavior even when this behavior was caused by situational factors. Originally, the terms *fundamental attribution error* and *correspondence bias* were used interchangeably to refer to one and the same phenomenon, namely, perceivers' tendency to underestimate the impact of situational (relative to dispositional) factors on human behavior. However, recent research has shown that the correspondence bias can also be due to factors that do not imply an underestimation of situational factors. Rather, perceivers sometimes commit the correspondence bias because they consider situational factors to have a strong impact on human behavior. Drawing on these findings, many researchers in the field now distinguish between the fundamental attribution error and the correspondence bias, viewing them as two different (though sometimes related) phenomena. Specifically, the term *fundamental attribution error* is now used to describe people's tendency to underestimate the causal impact of situational factors on human behavior and to overestimate the impact of dispositional factors. In contrast, the term *correspondence bias* is used to describe people's tendency to infer stable personality characteristics from observed behavior even when this behavior could also be due to situational factors (which may or may not be due to an underestimation of situational factors).

### Explanations

From a general perspective, explanations of the fundamental attribution error have focused on (a) cognitive mechanisms, (b) motivational influences, and (c) general worldviews.

With regard to cognitive mechanisms, it has been argued that actors usually have a higher perceptual salience than situations. As such, observed behavior often forms a perceptual unit with the actor, but not with the situation in which it occurs. This mechanism leads to different outcomes for actors who generally see the situation they are responding to but do not see themselves engaging in a particular behavior. This explanation is supported by research showing that only observers tend to attribute a stronger impact to dispositional as compared to situational factors, whereas actors tend to attribute a stronger impact to situational as compared to dispositional factors.

With regard to motivational influences, it has been argued that the fundamental attribution error implies

a general tendency to see human behavior as controlled by the individual rather than by situational factors. Specifically, lack of personal control over one's actions would imply that individuals may not be responsible for their actions, thus undermining the social and legal basis of many modern societies. As such, people are sometimes motivated to downplay the impact of situational factors on human behavior to protect the general notion of personal responsibility.

Finally, it has been argued that the fundamental attribution error has its roots in an individualist worldview that sees each individual as independent and unique. This explanation is derived from cross-cultural research, showing that people in collectivist cultures attribute a stronger weight to situational factors than do people in individualist cultures.

*Bertram Gawronski*

*See also* Actor–Observer Asymmetries; Attributions; Attribution Theory; Bystander Effect; Correspondence

Bias; Milgram's Obedience to Authority Studies; Stanford Prison Experiment

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## GAIN–LOSS FRAMING

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### Definition

Gain or loss framing refers to phrasing a statement that describes a choice or outcome in terms of its positive (gain) or negative (loss) features. A message's framing does not alter its meaning. For example, the gain-framed message "One fourth of people will survive the attack" is semantically equivalent to the loss-framed message "Three fourths of people will perish in the attack." Framing does not refer to whether a communicator portrays a choice or outcome as good or bad. Instead, it refers to whether an option or possibility is communicated in terms of its positive or negative consequences.

In one type of gain–loss framing, *different-consequences framing*, one states a statistic of the likelihood or quantity of either the positive or the negative outcome. For example, one might describe the probability that safety-belt wearers would live (gain frame) or die (loss frame) if they are involved in a highway accident. With *same-consequences framing*, one describes what is gained by taking, or lost by failing to take, an action. For example, a weight loss company could frame their advertisements focusing on either the benefits of slimming down to a healthy weight (gain frame) or the things one would miss out on by remaining overweight (loss frame). For both types of framing, the frame does not alter the content communicated; with no additional knowledge, one can express a gain- or loss-framed message using the opposite frame.

### Context

The way a choice or appeal is framed can affect the behavioral decisions of the message recipients. A standard assumption in traditional economic theories is that if the exact same content is described to people in a different way (using a different frame), this will not affect their judgments or decisions. This assumption is the principle of descriptive invariance. However, a wealth of evidence demonstrates that the framing of a message or choice does matter. The contrasting effects of gain and loss frames suggest that the descriptive invariance principle does not accurately describe human judgment.

### Framing Effects and Prospect Theory

In the most famous demonstration of gain–loss framing, research participants were confronted with the Asian Disease Problem. According to the problem, an Asian disease is going to cause an outbreak in the United States and is expected to kill 600 people. There are two plans—one certain, one risky—that can be taken to try and contain the disease. Described using a gain frame, the certain plan would allow 200 lives to be saved, while the risky plan would provide a one-third chance of saving all 600 lives and a two-thirds chance of saving no lives. Under the loss frame, the certain plan would lead to the certain loss of 400 lives, and the risky plan would provide a one-third chance of no lives lost and a two-thirds chance of all 600 lives lost. While each plan offers the same outcome regardless of the way it is framed, a clear majority of people select the certain plan in the gain frame, but the risky plan in the loss frame.

Most researchers use prospect theory to explain such different-consequences framing effects. According to the theory, people tend to be risk averse (want to avoid risk) in the domain of gains, but risk seeking in the domain of losses. Most people would rather take a sure \$100 instead of a riskier 50–50 chance at \$200, reflecting risk aversion for gains. But someone who receives \$200 and then must either take a certain loss of \$100 or a 50–50 chance of losing nothing or everything will most likely take the risky alternative. By framing the exact same offer in terms of losses, people prefer the riskier alternative that offers a chance of not losing anything.

Same-consequences framing effects are explained according to a different aspect of prospect theory, *loss aversion*. Loss aversion says that losses loom larger than gains. For example, most people would not be willing to flip a coin for an even chance of winning \$100 or losing \$100, because a potential loss is worse than a potential gain of the same amount. Capitalizing on loss aversion, persuasive messages aimed at changing behavior tend to be more effective when framed in terms of what one loses by not taking an action (loss frame) as opposed to what one gains by taking an action (gain frame). In an applied study, credit card companies identified customers who had not been using their credit cards recently and tried to persuade customers to switch from using cash or checks to using their credit cards. Compared with customers who were told how using credit cards offered unique benefits not shared by cash or checks (gain frame), customers who were told about all they would lose by not using their credit cards (loss frame) were subsequently more likely to resume using their cards. Consistent with the notion that losses are more attention-capturing or pack a bigger punch, those who received the loss-framed message were better able to recall the content of the persuasive appeal several months later.

### Health Applications

Gain–loss framing effects have guided the construction of health-promotion appeals. One crucial distinction in designing such messages is whether they seek to promote preventive measures or to encourage early detection of a medical condition. In promoting healthful preventive measures (e.g., applying sunscreen), gain framing seems to be more effective. In encouraging early detection (e.g., breast self-examination), loss

framing produces more behavioral compliance. Of particular importance, the effects of gain–loss framing continue beyond the time of message exposure, predicting preventive and early detection behaviors as far as 4 months into the future. As future research discovers what, in addition to prospect theory, accounts for framing effects, practitioners will be better able to predict whether gain or loss frames would be superior for any given framing task.

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*See also* Bad Is Stronger Than Good; Behavioral Economics; Decision Making; Loss Aversion; Prospect Theory; Risk Appraisal; Risk Taking

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## GAMBLER'S FALLACY

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If a coin were flipped and it came up heads, would it be more likely to come up tails the next time? If a baseball player normally gets a hit 30% of the time but has no hits after three tries, is he “due” for a hit, in the sense that he is more likely than usual to get one the next time? The temptation to say “yes” to such questions is based on the gambler’s fallacy.

### Definition

The gambler’s fallacy, also known as the negative recency effect and the reactive inhibition principle, refers to a common mistake in human judgment. It is the belief that, for random independent events, the lower the frequency of an outcome in the recent past, the greater is the likelihood of that outcome in the future. The belief is false because it is based on the assumption that chance is self-correcting, so that a shift in one direction indicates an impending shift in the opposite direction.

## Background

The term was first coined by Amos Tversky and Daniel Kahneman in 1971 and is one of several examples of the representativeness heuristic identified by the researchers. The representativeness heuristic refers to an error in judgment such that the more a proposed outcome appears representative of a pattern, the more likely people believe it is to occur. Relative to the gambler's fallacy, certain sequences of events appear more random than others and are thus judged to be more probable.

## Analysis

For example, suppose an unbiased coin were flipped five times, each time landing on heads. Those falling prey to the gambler's fallacy, reasoning that tails is due, would predict that the next coin toss would more likely result in tails than heads. The outcome of the next coin toss, however, is independent of any previous coin tosses. The probability of the coin landing next on tails would be equal to that of it landing on heads.

One of the clearest examples of the gambler's fallacy can be seen at the roulette wheel in a casino. Some roulette players record the outcome of each spin of the wheel, with the implicit belief that they are able to discern a pattern. If red numbers have been called more frequently in the recent past, gamblers often place their next bets on black, and vice versa. Assuming the wheel is not rigged, however, there is no logical support for this behavior.

The gambler's fallacy should not be confused with its opposite, the hot hand fallacy. This heuristic bias is the mistaken belief that, for random independent events, the *more* frequently an outcome has occurred in the recent past, the greater is the likelihood of that outcome in the future. This bias in judgment was named after basketball fans' perceptions of players with "hot hands." A player is said to have a hot hand if he or she makes several baskets in a row. On that basis, fans endorsing the hot hand fallacy believe the player's chances of making the next basket to be higher than usual. Fans readily endorse this belief even though previous successful shots have nothing to do with a player's chance of making the next basket.

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*See also* Hot Hand Effect; Law of Small Numbers; Representativeness Heuristic

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## GENDER DIFFERENCES

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There are differences between men and women, but most scientific studies show that gender differences in psychological characteristics are small. Men and women do not have radically different brains, personality traits, cognitive skills, or behaviors. There are some differences on average, but men and women are not the black versus white opposites that many people believe. (Even the phrase *opposite sex* encourages this view.)

There have been numerous media reports about just how different men and women are. The former president of Harvard, Lawrence H. Summers, said that women are not naturally inclined toward science. The media report that adolescent girls have extremely low self-esteem. A best-selling book claims that *Men Are From Mars, Women Are From Venus*. However, men and women are not from different planets, or even different continents here on Earth. The size of most gender differences is more consistent with men being from Minnesota and women being from Iowa.

Referring to psychological gender differences as small means that the effects are between 1/4 and 1/2 of a standard deviation (a statistical term; 1/4 of a standard deviation is a small difference, 1/2 is moderate, and more than 3/4 is large). So that means that gender explains less than 5% of the variation among people in most psychological characteristics. In comparison, the gender difference in height, for example, is almost two standard deviations, so gender explains 50% of the variation among people in height. Yet there are many women who are taller than many men. That said, what does research say about the differences that exist? This entry will review four major areas of difference: cognitive abilities, personality traits and self-esteem, attitudes, and behavior.

## Cognitive Abilities

Stereotypes suggest that boys are good at math and girls are good at English. There is a small difference in verbal ability, with women a little better than men at this skill. A meta-analysis by Janet S. Hyde and her colleagues found that boys and girls show no differences in math ability in elementary school. By late adolescence and early adulthood, men do better at math, but the difference is small to moderate, explaining about 3% to 6% of the variation among people in math skills.

Spatial ability is one of these slightly larger differences; this means that men are somewhat better at rotating figures in their heads and finding their way around town. If the performance of men and women on spatial ability tests were graphed, there would be two curves that overlapped a huge amount, with men's curves slightly ahead. This does mean that among those very talented in this area there are many more men than women, as a small average difference creates more of a discrepancy at the high and low ends of the curve. There is no gender difference at all in overall intelligence.

In the mid-1990s, several popular books suggested that girls get less attention in school and lose their academic confidence during adolescence. Although teachers may sometimes treat boys and girls differently, girls consistently earn better grades in high school and are more likely to go on to college. The *Statistical Abstract of the United States* notes that 57% of college degrees are awarded to women, and entering medical school and law school classes are now 50% female.

## Personality Traits and Self-Esteem

Gender differences in personality traits are also small. An analysis by Alan Feingold found that women tend to score higher in anxiety and neuroticism, but they also score higher in extraversion (linked with positive emotions). So there is some evidence that women experience more emotional ups and downs, but these are small differences, no more than 1/2 a standard deviation (or about 6% of the variation among people explained by gender). Even among adolescents, self-reports of symptoms linked with depression are only about 1/4 a standard deviation higher among girls (less than 2% of the variance). Clinical depression has a larger sex difference, with about twice as many women as men diagnosed with major depression.

A great deal of attention has also been paid to gender differences in self-esteem. There is a popular perception that girls lose their self-esteem during adolescence. Yet the most comprehensive study of gender differences in self-esteem, by Kristen Kling and colleagues, found that men score only 1/7 of a standard deviation higher than women in self-esteem (less than 1% of the variance). Even among adolescents, the difference is only 1/4 a standard deviation (less than 2%). Even this small difference is not caused by girls' self-esteem going down; it just doesn't go up quite as fast as boys' self-esteem does during the teen years.

## Attitudes

There are also some small gender differences in attitudes. Women tend to be more liberal than men on social issues. As one might expect, women are more progressive in their attitudes about women's roles. Women are also more tolerant of gay men (there are no gender differences in attitudes toward lesbians). Women are more likely to vote for Democrats than are men.

## Behavior

Men and women do differ in their desire for sex, as found in separate reviews by Janet Hyde and Roy Baumeister and colleagues. Men desire more sex with more partners. Men also masturbate more often and are more accepting of casual sex; both of these differences exceed 3/4 a standard deviation and explain about 20% of the variation among people. Many of these differences, of course, are much smaller than they were decades ago. In the 1960s and earlier, men were more likely than women to engage in premarital sex; now, however, there is virtually no gender difference in this practice.

One of the larger psychological sex differences lies in interests. Generally speaking, men (compared to women) are more interested in things (like cars, buildings, and machines), and women are more interested in people (e.g., how people think, and how their bodies work). For example, Richard Lippa found that men were more likely to prefer professions centered on the "manipulation of objects, tools, machines, and animals," and women were more likely to prefer professions that involved "activities that entail the manipulation of others to inform, train, develop, cure, or

enlighten” (note, however, that these differences could be caused by cultural expectations, biological sex differences, or—most likely—both). This is one reason why there are more men in fields like engineering (78% of bachelor’s degrees in engineering go to men) and more women in fields like psychology (76% of bachelor’s degrees in psychology go to women). However, the things versus people distinction makes some less sex-stereotypical predictions for the future: If women are more interested in people, women will eventually be the majority of doctors, lawyers, and politicians.

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*See also* Big Five Personality Traits; Cultural Differences; Erotic Plasticity; Personality and Social Behavior; Self-Esteem; Stereotype Threat

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## GENETIC INFLUENCES ON SOCIAL BEHAVIOR

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Why do people act the way they do? There is no simple answer to this question, because social behaviors, like all human characteristics, are influenced by multiple factors. The two most basic influences on social behavior are genes (the chemical instructions that people inherit from their parents’ DNA) and the environment (all other, noninherited factors).

Contrary to a common misconception, genes do not *cause* behavioral or personality traits, they only *influence* them. Although genes may be linked to certain traits, it is unlikely that researchers will ever find

a single gene that is entirely responsible for most complicated behaviors. First, each gene is not linked to one and only one trait; one gene may influence many different personality characteristics. In addition, many genes work in concert to influence most behaviors, meaning the genetic aspects of a particular trait are the result of small effects over hundreds of individual genes.

Even if all of the genes influencing behavior were discovered, behavior still could not be fully explained nor predicted. This is because people’s environments are just as important in influencing behavior as their inherited genes. Factors such as parenting, schooling, trauma, and the prenatal environment, all play critical roles in the development of social behavior. Even the most highly heritable traits, such as height, are influenced by environmental factors, as demonstrated by malnourished children that are very short despite having tall parents. In this example, environmental factors such as nutritional intake have actually altered the way in which genetically influenced characteristics are expressed.

Therefore, although these two influences are often presented in an either/or fashion, as in the commonly used phrase “nature versus nurture,” evidence suggests that behaviors and other characteristics do not have one clearly identifiable cause. More probable is that both factors are always at work and that for the cause of any given trait researchers should not be asking, “Genes or environment?” but rather, “What is the contribution of each and how do they work together?”

## Concepts and Definitions

### *Shared/Nonshared Environment*

To further understand those factors not due to heredity, the concept of *environment* can be further broken down. If two individuals experience the same environmental conditions, they are expected to be similar; at the same time, if two people have different experiences, it is assumed that they will behave differently. In behavioral genetics, environmental influences that cause family members to be similar are by definition *shared*, and those influences that cause family members to be different are *nonshared*. In the case of twins, the prenatal environment can typically be considered shared, since the developmental conditions experienced are nearly identical. Peer relationships provide an example of nonshared environment:

Even identical twins growing up in the same household can behave quite dissimilarly, and part of the reason for this can be different peer groups.

### **Genotype–Environment Correlation**

As already mentioned, it is now widely held that both nature and nurture simultaneously influence traits and that, to some extent, the environment can influence the expression of genes. It is now clear that the reverse is also true, that genetics influence environment, or at least social relationships. In essence, the two forces operate in such a way that children may create their environment based, at least in part, on genetically influenced characteristics. This is called *genotype–environment (GE) correlation*, which can be further explained using the terms *passive*, *active*, or *evocative*.

A passive GE correlation is the result of the parents' genes influencing the child's environment, which is also correlated with the child's genes. For example, if a mother and daughter share genes that contribute to their extraverted temperaments, this similarity may contribute to open communication between them. Active and evocative GE correlations reflect situations in which the child's genetically influenced characteristics influence the behavior of others, including their parents. In active GE correlations, the child purposefully seeks out a particular environment, as in the case of children choosing to participate in extracurricular activities that showcase their natural talent. Evocative (also called reactive) GE correlations result when children elicit responses from others. A child with a difficult temperament, for example, may evoke harshness from a mother that wouldn't otherwise have behaved as negatively.

## **Genetic Influences on Parent–Child Relationships**

### **Background**

The importance of parenting on the behavior of children is clear from the extensive literature on the topic. Until recently, most studies examining parenting and child and adolescent adjustment assumed that associations between parenting and child behavior were the result of purely environmental influences on the child. The study of genetic influences on parenting, however, has led many developmental and social psychologists who considered themselves “environmentalists” to acknowledge the importance of findings

from behavioral genetics. When genetic and environmental contributions of parenting have been studied, significant genetic influences have been demonstrated for both parent and child behavior. In other words, research suggests that genetically influenced characteristics of children and of parents appear to influence the way that parents treat their children.

### **Research Constructs**

Twin studies of genetic influences on parenting take two approaches: child-based designs and parent-based designs. In a child-based design, the children are twins or siblings, and the focus is on how genetic influences of the children influence how they are treated by their parents. Parent-based designs examine parents who are twins or siblings and thus, the focus is on the influence of the parents' genes on how they parent their children.

### **Findings**

#### ***Parental Warmth and Support***

Studies have found that genetic influences on parental warmth and support are best explained by passive GE correlation, meaning that a mother may interact with her adolescent in a positive way, at least in part, because of her own genetically influenced characteristics. This suggests that mothers may treat their children with warmth despite the children's own characteristics and behaviors. This is further supported by child-based designs that have found that parents are likely to be equally positive to all of their children independent of genetically influenced characteristics of the children. There is also some indication that evocative GE correlation may be operating for parental warmth and support, although these effects are not as pronounced.

#### ***Parental Negativity***

Studies have found that evocative GE correlation best explains parental negativity, meaning children evoke negativity from their parents due to their own genetically influenced characteristics. Findings of genetic influences for child-based studies and little or no genetic influences for parent-based designs suggest that parents' negativity is not influenced by parental genotypes but is influenced by, and is a response to, children's genetically influenced characteristics. For example, children with difficult temperaments may

evoke negativity even from parents with strong genetic influences to be warm and supportive.

The finding that the child's genetically influenced characteristics evoke negativity from the mother is particularly relevant for potential prevention and intervention strategies because parents can be taught to respond differently to their children. In other words, the implications of this finding are optimistic considering that the prospect of changing elicited negative parental behavior is far less daunting than that of changing genetically influenced negative parenting.

### ***Parental Control***

Parent-based studies on parental control, for the most part, show very little genetic influence originating from the parent. This suggests that the level of control parents exert is primarily a response to genetically influenced characteristics of their children. In other words, parental control is primarily evoked by these characteristics of the child (nonpassive GE correlation). For example, children with behavior problems may cause mothers to be more controlling than they would be with more responsible children.

### **Genetic Influences on Sibling Relationships**

Although modest genetic influences have been found for both negative (e.g., rivalry, hostility, and criticism) and positive (e.g., companionship, empathy, and communication) dimensions of the sibling relationship, shared environmental influences are the most important factors in explaining sibling relationships. The importance of shared environmental influences is consistent with the view that sibling relationships are reciprocal in nature and that, more generally, there exists a shared family climate. Support for a shared family climate is also found in studies examining similarities between mother-child and sibling relationships.

### **Genetic Influences on Peer Relationships**

Peer groups are unique in that, unlike families, peers can select each other based on mutual attraction. Research has demonstrated that adolescents, based on their own genetically influenced characteristics, initially seek out friends with whom they share similarities. Moreover, due to socialization, peers grow to be more alike over the course of a continuing friendship.

To date, there are only a few studies examining genetic and environmental influences on peer relationships, and most have focused on the similarities within the peer group rather than on the quality of the peer relationships. Studies examining adolescent peer group characteristics (similarities within the peer group) have found evidence for substantial genetic influences on parent's perceptions of their adolescents' peer groups. For adolescents' own perceptions of their peer groups, genetic influences were less important and nonshared environmental factors were more important. For peer relationship quality, there are several dimensions of friendship moderately linked to genetic influences, including positivity (validation, caring, warmth and support) and, for girls in particular, behavioral and emotional problems. Certain negative aspects, such as conflict, betrayal, and criticism, are associated with the shared environment. Studies of group affiliations have suggested genetic influences on academic aspirations, delinquency, and popularity, although the methods used to draw these conclusions were somewhat problematic. Future research using refined methods will help to clarify the influences on peers and friends.

### **General Methodology**

The basic influences on behavior, therefore, are genes, shared environment, and nonshared environment. Although for any trait one may be more important than the others, all three influences are considered in behavioral genetic studies examining social behaviors. Exploring family members' genetic relatedness with regard to observable similarities helps researchers estimate the relative ratio of genetic and environmental influences. To this end, researchers use various methods: mainly, family, twin, and adoption study designs.

### ***Twin/Sibling Family Designs***

Monozygotic (MZ; identical) twins share 100% of their genes, while dizygotic (DZ; fraternal) twins and full siblings share 50%, on average. Children also share exactly 50% of their genes with each parent. Second-degree relatives such as grandparents, aunts and uncles, and half-siblings are 25% genetically similar, and cousins share 12.5% of their genes, on average. If a trait is largely influenced by genes, the correlation between MZ twins (e.g., twin 1 correlated with twin 2) for that trait should be close to 1.0; for DZ twins, full siblings, and parent-child 0.5; and so on. Accordingly, unrelated children adopted into the same

family do not correlate for genetic reasons. Shared and nonshared environmental influences can also be estimated using twin and family designs. Because shared environmental influences are all environmental (non-genetic) factors that make family members similar to one another, such influences would be indicated by correlations that are similar across all family members living in the same household, independent of their genetic relatedness. While this formula is necessary for estimating the relative effects of genes and environment, it becomes problematic in simple family designs (studies in which there is no variation in the genetic relatedness of family members in the same household), whereby the two factors become indistinguishable since individuals that share many genes (e.g., parents and siblings) typically share their environments as well. Finally, nonshared environmental influences are, by definition, all environmental factors that make family members different, including measurement error. The best test of nonshared environmental influences is MZ twin correlations. Because MZ twins reared in the same family share all of their genes and shared environmental influences any correlation less than 1.0 indicates nonshared environment (and measurement error).

### Adoption Designs

Adoption studies are ideal for identifying shared environmental influences. The most common design studies an adopted child reared by genetically unrelated adoptive parents. Any similarity between the child and the adoptive parents must be due to shared environmental factors. Data on the biological parents makes it possible to further parse genetic and shared environmental influences by examining similarities between the adopted child and biological parents and similarities between the adopted child and adoptive parents.

### Future Directions

While studying the relative ratio of genetic and environmental influences on behavior and relationships has enhanced our understanding of the social world, researchers are working to use these findings as an avenue to even more specific studies of genetics—*gene finding* and *molecular genetics*. Dramatic technological advances allow researchers to analyze specific genes within DNA. Employing statistical analysis (correlation) to associate specific genes with specific

behaviors, researchers hope to identify genes that are important in influencing particular behaviors. Using the results of this process (gene finding), researchers then hope to trace, at a molecular level, the pathways from genes to behaviors. Gene finding and molecular genetics studies are currently under way, and their successes would provide unprecedented insights into behavioral processes.

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*See also* Hormones and Behavior; Personality and Social Behavior; Similarity-Attraction Effect; Twin Studies

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## GOALS

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### Definition

Goals are a form of self-regulation adopted by humans to achieve specific aims. By focusing people's attention, goals facilitate responses that are compatible with people's objectives. Although the behavior of lower animals is controlled by biological mechanisms, human functioning is more flexible. Humans have the ability to regulate their responses beyond biologically

based propensities. Goals represent one form of self-regulation common in people's daily lives.

While the specific content of people's goals vary considerably, a number of features have been identified by psychologists as common to all goals.

### **Mental Idea**

Goals are mental ideas, or *cognitive representations*, meaning that they are based in the mind. Consequently, goals can only be inferred, rather than observed. Furthermore, goals are restricted to animals that use their mind in the process of regulation. The actions of plant life, therefore, are not seen as goal-directed behavior. A blossoming rose bush, for example, is simply reacting to the conditions in its environment. It responds by reflex alone. By the same token, physiological functions in humans, such as digestion or blood circulation, are not viewed as goal-directed for a similar reason. These functions are carried out automatically, without any thought regarding the future.

### **Future**

When engaging in goal-directed behavior, people take into account future events, behaving in ways that either facilitate or prevent their occurrence. Goal-directed behavior, therefore, does not simply entail an immediate response to a stimulus. Flinching in response to a loud noise, for example, would not constitute goal-directed behavior. Of central importance is the role of a mental image of a future possibility that influences present behavior.

### **Commitment**

Goal commitment refers to the degree to which a person is dedicated to following through on his or her objective. It is only when an individual commits to some action that a goal is adopted. However, not all goals are committed to equally. Level of commitment may vary considerably, and this variability has important implications for effort, persistence, and absorption in the goal pursuit process. While goal commitment requires a conscious decision, once in place, goals may be activated through an automatic process, influencing behavior outside an individual's conscious awareness.

### **Approach or Avoidance**

All goals can be categorized as one of two types: approach-focused or avoidance-focused. Approach

goals center on the pursuit of a positive outcome, such as scoring *above* a 90 on a math test. In contrast, avoidance goals center on the evasion of a negative outcome, for example, scoring *below* a 90 on a math test. In both cases, the content of the goal is the same. However, the psychological framing differs, which has important implication for the way goals are experienced.

## **History and Background**

Goals have been present throughout the history of psychological thought. Aristotle is often regarded as the first truly psychological thinker, and his writings make clear reference to the goal-directed nature of behavior. For Aristotle, behavior is always purposeful, and imagined future states are viewed as having an important influence on human action. Aristotle used the work of a sculptor creating a statue to illustrate this notion of purpose and directedness. Standing before a block of marble, the sculptor has an idea of what is wanted at the end of the sculpting process. It is this imagined end state that is thought to determine the way that the marble is chiseled as the sculptor produces the statue.

Friedrich Herbart is commonly viewed as the first scholar to advocate for a scientific analysis of mental representations, citing goal-relevant explanations for human behavior. Several of Herbart's contemporaries also made mention of goal-relevant notions, but their main interest was simply in detailing the nature of mental activity.

Goals remained on the periphery of the psychological literature throughout the latter part of the 19th and (very) beginning of the 20th century. When goal-relevant expressions did appear, the term *end* was typically used, or, on occasion, *aim* or *object*. It is in the work of the Würzburg school that goals came to the fore in psychological theorizing and received sustained conceptual and empirical attention.

With the rise of behaviorism in the second decade of the 20th century, however, mental processes, including goals, began to be seen as outside the scope of a scientific psychology. During this time a shift occurred, in which psychology sought to limit itself to observable behavior. Internal mental events such as goals were considered unobservable and, therefore, unscientific.

With time, however, psychologists questioned this viewpoint. Edward Tolman was among the first to do so, observing that behavior "reeks with purpose." As a behaviorist, Tolman sought to account for the seemingly goal-seeking nature of behavior, while continuing to rely on observable behavior. In doing so, he defined

*goal-object* as the object or situation toward which, or away from which, the organism moved. Tolman's contributions are important in that they helped retain a central place for the goals in psychology, demonstrating that behaviorism and goal constructs were not necessarily incompatible.

A contemporary of Tolman, Kurt Lewin, developed an elaborate, dynamic analysis of behavior that was unabashedly goal-based. Lewin attempted to construct an extensive theoretical account of behavior by focusing on the goals toward or away from which behavior was directed. That is, Lewin thought of goals as the positively or negatively valenced activities or objects that attract or repel the person, respectively.

By the 1930s, the goal construct had come into its own in the psychological literature. The word *goal* was commonplace and was used as a scientific term to describe or explain psychological phenomena. Most subsequent work focused on introducing specific variations of goal constructs or applying the goal construct to the study of various motivational issues.

One additional development is particularly noteworthy: the emergence, in the late 1940s through the early 1960s, of a cybernetic portrait of goal-directed behavior. Cybernetic models use machines as a metaphor for the way goals operate. Thermostats provide a useful illustration. A thermostat has a target temperature (a goal) and regulates its behavior according to this target. The way a thermostat operates is by continuously comparing its current temperature to a target temperature, and if a discrepancy is detected, heat is turned on until the discrepancy is eliminated. Proponents of cybernetic models posit that people possess representations of standards (viewed as goals) for their behavior, and these standards are part of a psychological mechanism that is used to regulate their behavior. Much like a thermostat, one's current behavior is compared to one's standard, and if a discrepancy is detected, corrective action is taken until the discrepancy is eliminated.

### Achievement Goals

Achievement goals refer to people's intentions within situations in which the level of competence is assessed. Achievement goals have received a good deal of attention within psychology and are generally distinguished on two levels, each having to do with the way competence is evaluated. The first level has to

do with how competence is defined, and the second level has to do with how competence is valenced.

Competence is defined by one's standard for success. There are three possible standards: an *absolute standard* (i.e., performance compared to the demands of a task), an *intrapersonal standard* (i.e., performance compared to one's past performance or maximum possible performance), and an *interpersonal, normative standard* (i.e., performance compared to others). Within the achievement literature, both absolute and intrapersonal standards are presently collapsed together within a "mastery goal" category, and normative standards are placed within a "performance goal" category.

Competence is valenced by whether it is focused on a positive possibility that one would like to approach (success) or a negative possibility that one would like to avoid (failure). That is, regardless of one's standard for success, goals can either be approach-focused or avoidance-focused.

Combining the definition and valence aspects of competence, psychologists have identified a total of four basic achievement goal categories that are presumed to cover all competence-based strivings. *Mastery-approach goals* represent striving to approach absolute or intrapersonal competence, for example, striving to improve a tennis serve to the best of one's ability. *Mastery-avoidance goals* represent striving to avoid absolute or intrapersonal incompetence, for example, striving not to serve worse than in the past. *Performance-approach goals* represent striving to approach interpersonal competence, for example, striving to serve better than others. *Performance-avoidance goals* represent striving to avoid interpersonal incompetence, for example, striving to avoid serving worse than others.

Achievement goals are thought to have an important impact on the way people engage in achievement activities. Broadly stated, mastery-approach and performance-approach goals are predicted to lead to adaptive behavior and positive outcomes (e.g., mastery-approach goals optimally facilitate creativity and continuing interest, while performance-approach goals optimally facilitate performance attainment). Mastery-avoidance and, especially, performance-avoidance goals, on the other hand, are predicted to lead to maladaptive behavior and negative outcomes, such as selecting easy instead of optimally challenging tasks, quitting when difficulty or failure is encountered, and poor performance attainment.

While achievement goals outline the specific aim and direction of people's competence pursuits, they do not explain why people adopt particular types of achievement goals in the first place. According to the hierarchical model of approach–avoidance achievement motivation, personality factors (such as achievement needs, implicit theories of ability, and general competence perceptions) account for differences in achievement goal adoption.

Achievement needs (or motives) may be used as an illustrative example. Two types of achievement needs have been identified: the need for achievement (the tendency to experience pride upon success) and fear of failure (the tendency to experience shame upon failure). Both of these personality factors influence goal adoption in achievement settings. The need for achievement has been shown to lead to mastery–approach and performance–approach goals, whereas fear of failure has been shown to lead to mastery–avoidance and performance–avoidance goals. Fear of failure has also been shown to lead to performance–approach goals, a need–goal combination that represents an active striving toward success to avoid failure (i.e., active avoidance).

Worth noting is the fact that need for achievement and fear of failure do not directly influence performance in achievement settings. Rather, their influence is indirect. According to the hierarchical model of approach–avoidance achievement motivation, needs influence goal adoption, and it is goal adoption that leads to differences in achievement outcomes.

### Social Goals

Recent work has applied the approach–avoidance distinction to goals in the social domain. According to the hierarchical model of approach–avoidance social motivation, hope for affiliation and fear of rejection are personality factors that influence the degree to which people are motivated to pursue certain goals in their relationships. Social–approach goals (e.g., trying to deepen one's relationships) and social–avoidance goals (e.g., trying to avoid conflict in one's relationships) direct individuals toward potential positive relational outcomes or away from potential negative relational outcomes, respectively. Research on approach and avoidance social goals is just beginning, but the results to date indicate that social–approach goals lead to positive relational events and high relationship satisfaction,

whereas social–avoidance goals lead to negative relational events and a higher level of loneliness.

### Personal Goals

Personal goals provide another manifestation of the goal construct, referring to the consciously embraced, personally meaningful objectives that individuals pursue in their daily lives. This type of goal has been presented in several different ways, most notably as personal projects, personal strivings, possible selves, and current concerns. Personal goal is meant as a generic equivalent of these methods.

Personal goals are commonly measured by having individuals write short statements indicating what they are trying to do in their daily lives. The manner in which individuals present their goals lexically is thought to correspond to the way that the goal is represented in memory and, accordingly, the way that the goal is utilized in daily regulation. That is, the precise wording that individuals use in listing their personal goals is neither random nor accidental. Rather, it is thought to carry precise information as to the structure and psychological meaning of the goal.

As with any type of goal, a personal goal may be approach or avoidant in nature. Indeed, nearly any possibility that an individual may focus on in daily life may be framed as a positive possibility that he or she is trying to move toward or maintain, or a negative possibility that he or she is trying to move away from or stay away from. For example, a person may articulate his or her goals as “trying to do well in school” and “trying to be respectful toward my mother” or, alternatively, as “trying to avoid doing poorly in school” and “trying not to be disrespectful toward my mother.”

The pursuit of avoidance goals has typically been found to result in negative consequences. The focus on negative possibilities inherent in avoidance goal regulation leads to a host of processes that are harmful to the individual's goal attainment, psychological adjustment, and physical health. Such processes are broad in scope and include perceptual processes (e.g., interpreting information as a threat), attentional processes (e.g., heightened sensitivity to and vigilance for negative information), mental control processes (e.g., difficulty concentrating and sustaining focus), memory processes (e.g., biased search for and recall of negative information), emotional processes (e.g., anxiety and worry), volitional processes (e.g., feeling

internally forced or obligated to expend effort), and behavioral processes (e.g., escaping or selecting oneself out of goal-relevant situations).

Using negative possibilities as the hub of goal regulation is also presumed to be inefficient and ineffective, as it provides the individual with something to move away from but not something to move toward, and it does not afford the person a clear sense of progress. Indeed, even if one succeeds at an avoidance goal, one simply experiences the absence of a negative outcome, not the presence of a positive outcome that is needed to satisfy the individual's psychological and physical needs. While avoidance goals are not necessarily always expected to have detrimental consequences, in the main they are expected to produce negative processes that eventuate in negative psychological outcomes.

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Andrew J. Elliot

See also Achievement Motivation; Self-Regulation

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## GOSSIP

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Curiosity about gossip seems to center on one question: What “counts” as gossip? Talking about who in Hollywood is heading to the altar? Discussing the odd behavior of a friend at a party? Criticizing a friend's choice of attire? Taking bets on how long a common friend's latest love affair will last? Confiding in a friend about another friend's bizarre eating habits? Discussing news stories about presidential candidates' service records? Mulling over whether one's favorite

baseball player uses steroids? This curiosity is not about the definition of gossip per se. It is about categorizing instances of talk about people who are not present in moral terms, innocent talk or sinful slander, purposeful or idle, truth or lies. Not gossip or gossip.

The definition of gossip, for most of us, implicitly includes a moral dimension. And this is precisely what makes gossip difficult to define, especially for those who wish to study gossip. Supreme Court Justice Potter Stewart's “I-know-it-when-I-see-it” approach (to defining obscenity) won't serve social psychologists. Most social psychologists agree that gossip is conversation about people who are not present. And most agree that conversation about people becomes gossip when evaluations, particularly negative ones, creep into the discourse. Saying “John got into every school he applied to” is probably not gossip. But if it were said with a roll of the eyes, it might be gossip. If it were followed by “His parents have a lot of money,” we would now be in a conversation thick with unflattering evaluations of John. This, to most of us, is gossip.

Gossip can be defined, behaviorally, as informal evaluative comments about people who are not present. One may wish to add to this definition that the comments are negative or unflattering of the person being talked about. However, a deeper appreciation of what gossip is may come from understanding its purpose. Those who have considered the adaptive benefits of gossip point to two main purposes: transmission of information and social bonding. Information about who is doing what and with whom serves us as we plot our own moves through the social landscape. We could get into serious trouble if we didn't know who was romantically interested in whom or who had aspirations of leadership or who was taking more than their share of community resources, for example. Gossip is also a source for learning, and even defining, social norms. This is evidenced by a meta-analysis of anthropological studies that found that the main topics of gossip were “personal qualities and idiosyncrasies, behavioral surprises and inconsistencies, character flaws, discrepancies between actual behavior and moral claims, bad manners, socially unaccepted modes of behavior, shortcomings, improprieties, omissions, presumptions, blamable mistakes, misfortunes, and failures.”

Another chief function of gossip, many believe, is to forge and maintain social bonds. The social bonding benefit of gossip may even have been the carrot that drove the evolution of language, according to

Robin Dunbar, evolutionary psychologist. He believes that language evolved for the purpose of talking about other members of the social group and that this allowed our early ancestors to form allies who protected them from harassment from other group members, an inevitable part of group living. It also allowed for the discovery of “freeloaders”—group members who take more than they give—something that would have benefited most everyone in the society.

But why should gossip be *negative* talk about people? One possibility is that, through negative gossip, people trade valuable social information. It is as though they have given each other a little gift. Another possibility is that because they engaged in an activity that many find morally questionable—speaking ill of others—they may have felt like “partners in crime.” Talking negatively means that one is sharing a confidence, a private opinion, and hopes that it will stay secret between the gossipers. Talking positively has no such implication. Sharing a secret with someone builds intimacy because it carries with it the implicit message that the listener is trusted.

Yet another possibility is that sharing negative opinions about other people is a form of self-disclosure, and self-disclosure is known to make people feel closer. Feelings about the actions or character of another person may be considered very private to some people, and sharing them may feel like an act of self-disclosure.

A definition of gossip that satisfies everyone may never be achieved. Part of the problem is that the definition of gossip seems to change with perspective. When we talk about people who are not present, we take into account our intentions (a moral consideration) when we decide whether or not what we are saying “counts” as gossip. But from an outsider’s perspective, it is impossible to know the motives and intents of the gossipers, so using moral terms to define gossip from this perspective is problematic, particularly for researchers. This entry has suggested a behavioral definition of gossip to address this problem. But a definition of gossip that makes black and white the vast moral gray area in the universe of people talking about other people is left for you to make.

*Sarah Wert*

**See also** Autobiographical Narratives; Bad Is Stronger Than Good; Cheater-Detection Mechanism; Group Dynamics; Moral Development; Self-Disclosure

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# GRATITUDE

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## Definition

People experience gratitude when they affirm that something good has happened to them and when they recognize that someone else is largely responsible for this benefit. The source of the benefit is often (but not always) another human. The benefit prompting a grateful response may be the absence of some negative event, as well as the occurrence of a positive favor. Some of the strongest gratitude responses have been found to occur when individuals feel that something bad could have or should have happened to them but did not. Although early research in this area often equated the feelings of gratitude and indebtedness (feeling obligated to repay), recent research has shown that there are important differences between these emotions, and they probably should be seen as distinct states.

## Background and Importance

Although gratitude has been a neglected topic in psychology, it appears to be one of the most important of the social emotions. Gratitude has been shown to be a highly valued social trait; people like grateful individuals and tend to disdain those they feel are ungrateful.

Gratitude has been classified as a moral emotion in that it is an emotion that promotes positive interactions among people. Gratitude may be seen as a moral emotion because it is a *moral barometer* (it alerts people to the fact that someone else has benefited them), a *moral motivator* (it encourages people to act positively toward others), and a *moral reinforcer* (when an individual expresses gratitude, it encourages the giver to give again in the future).

It is important to understand that gratitude can be studied as an emotional state (i.e., how grateful a person is feeling right now) and as an emotional or personality trait. Trait gratitude is the disposition toward gratitude, or how easily a person may experience grateful emotions. A person who frequently experiences grateful feelings is someone who could be characterized as a grateful person, or a person high in trait

gratitude. A person low in trait gratitude would be a person who rarely experiences gratitude. Two questionnaires are often used to investigate the disposition toward gratitude: the Gratitude Questionnaire (GQ-6) and the Gratitude, Resentment, and Appreciation Test (the GRAT).

### Gratitude Research

Research has been able to identify the situations in which a person is most likely to feel grateful. First, the person must recognize that a benefit has been given to him or her, and the more the person values the benefit, the more he or she tends to feel grateful. Second, gratitude is more likely to be experienced if the person receiving the gift feels that it was given to him or her in good will. In other words, the receiver thinks that the motives of the giver are good; the gift was given for the benefit of the receiver. If the person receiving the benefit feels that it was given for ulterior or irrelevant motives, gratitude is not likely. Similarly, if the receivers of the benefit like the giver, they are more likely to feel grateful toward their benefactor. In addition, if the gift goes beyond the receivers' expectations of the giver, the receivers tend to feel more grateful. It is for this reason that people are more likely to feel grateful toward a new acquaintance for driving them to the airport than one of their parents (because they have greater expectations of their parents). Finally, research has also shown that when a receiver of a benefit thinks that the giver expects some kind of return favor, the receiver is less likely to feel grateful.

Research that has investigated relationships between trait gratitude and other variables has provided a picture of what grateful people are like. Grateful people tend to be more agreeable, prosocial, hopeful, and emotionally intelligent; have higher self-esteem; and are more religious and spiritual. Grateful people also tend to be less depressed, less hostile, less self-centered, and less neurotic. Perhaps most importantly, gratitude has been found to be strongly related to happiness, such that grateful individuals tend to be happier as indicated both by their own admission and also by the reports of others who know them. Researchers have proposed several theories for this relationship. For example, some evidence suggests that gratitude promotes happiness by directing people's focus to good things they have, rather than to benefits that they lack. Gratitude might also enhance happiness by

increasing people's enjoyment of benefits. Some have argued that gratitude may help people deal with difficult events in their lives, and some research supports this hypothesis. For example, the unpleasantness of negative memories appears to fade over time more for grateful people than for ungrateful people. Also, grateful people appear to handle trauma better than less grateful individuals. Gratitude is also a common emotion that people experience following a disturbing event. Individuals reported an increase in gratitude following the events of September 11, 2001, and this response appeared to help them deal with its aftermath. Some have also suggested that gratitude might promote happiness by encouraging positive reflections on one's past. Research has shown that grateful people are more likely to recall happy memories.

Several studies have investigated treatments designed to encourage their participants to experience gratitude. Encouraging grateful thinking produces an improvement in mood, and studies encouraging regular grateful thinking over time showed increases in one's happiness and optimism. Experiments have also found that grateful people report more urges to act favorably toward those they know, and gratitude also appears to inhibit the urge to act in harmful ways toward others. Taken together, research suggests that there are many benefits to gratitude. Gratitude appears to be an important factor contributing to one's happiness.

*Philip C. Watkins*

*See also* Altruism; Broaden-and-Build Theory of Positive Emotions; Envy; Equity Theory; Happiness; Helping Behavior; Moral Emotions; Prosocial Behavior; Reciprocity Norm

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## GRIM NECESSITIES

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### Definition

A grim necessity is an activity with short-term negative consequences but long-term positive payoffs. For example, reading a boring textbook is unpleasant in the short term but rewarding in the long term, because it helps you get a good grade on the exam. Other commonly listed grim necessities are working at a boring job to make money and doing exhausting exercise for long-term fitness.

### Usage

Dilemmas of self-control often present a contrast between immediate payoffs and delayed payoffs. According to Roger Giner-Sorolla, these dilemmas can be described either as delayed cost (guilty pleasure) or delayed benefit (grim necessity). His studies have shown that people associate different emotions with different types of consequences. In particular, when participants were asked for examples of activities with more negative short-term than long-term consequences, these grim necessities brought up negative emotions that tended to be more *hedonic*. That is, they dealt with immediate sensations connected with the activity, for example, “bored” and “frustrated.” However, the positive emotions they came up with for these activities tended to be more *self-conscious*, or concerned with evaluating one’s own actions and qualities, for example, “proud” and “confident.” For grim necessities in particular, the greater self-control is shown, the less negative hedonic affect was associated with the activity.

*Roger Giner-Sorolla*

*See also* Emotion; Guilty Pleasures; Self-Regulation

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## GRIT TENSION REDUCTION STRATEGY

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### Definition

Graduated Reciprocation in Tension reduction (GRIT) was proposed by Charles Osgood in 1962 and refers to a method of restoring negotiations between two parties who are deadlocked. GRIT reestablishes negotiations by urging one side to initiate a concession. According to the norm of reciprocity, people are expected to reciprocate benefits from others. Therefore, when one side offers a concession, the other side should feel responsible for making a concession in return, and this exchange encourages the negotiation process to begin again.

### History and Modern Usage

Osgood’s proposal for GRIT originates in the context of the Cold War and concern about nuclear weapons. Specifically, the United States and Russia tried to surpass each other with advancements in nuclear weapons to feel more secure. Ultimately, this intensifying quest for nuclear weapons threatened the stability of the world. Osgood devised GRIT as a way to calm this escalated tension. GRIT consists of two main steps, which are repeated until the two involved parties reach an agreement. First, the initiating party must announce an intention to cooperate with the other side and make a unilateral (one-sided) concession. The initiating party must also communicate an expectation that the concession will be reciprocated (matched) by the opposing party. Second, the opposing party should reciprocate the concession made by the initiating side. The two sides should continue reciprocating concessions until an agreement is reached.

To make GRIT an effective process, there are some additional conditions that must be met. First, the initiating side should not make a concession that threatens

its own security or ability to defend against a hostile act. The concession should also not indicate weakness, in which case the opposing side may feel motivated to bargain tough (e.g., not make a concession). Second, the initiator of GRIT may have to make a second or third attempt before capturing the attention of the other side. Third, should the other side abuse a cooperative act by the initiating party, the initiator should retaliate and state the purpose of the retribution (i.e., to show that the abuse will not be tolerated). Then, the initiating party should instigate another cooperative act. In addition to drawing on the norm of reciprocity, the effectiveness of GRIT depends on building trust between the two sides. Research indicates a high level of cooperation resulting from GRIT. This strategy has also effectively been used to reduce actual conflicts. For example, Anwar Sadat made an unprecedented trip to Jerusalem in 1977 to establish trust between his nation (Egypt) and Israel. This initiative led the way for a peace agreement between Israel and Egypt in 1978.

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*See also* Conflict Resolution; Reciprocity Norm

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## GROUP COHESIVENESS

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### Definition

Group cohesiveness (or cohesion) is a social process that characterizes groups whose members interact with each other and refers to the forces that push group members closer together. A lot of work these days is accomplished in groups. Most people have had both good and bad experiences from participating in such group work. One important element that influences one's group work experience is cohesiveness. Cohesiveness has two dimensions: *emotional* (or personal)

and *task-related*. The emotional aspect of cohesiveness, which was studied more often, is derived from the connection that members feel to other group members and to their group as a whole. That is, how much do members like to spend time with other group members? Do they look forward to the next group meeting? Task cohesiveness refers to the degree to which group members share group goals and work together to meet these goals. That is, is there a feeling that the group works smoothly as one unit, or do different people pull in different directions?

Group (or team) cohesiveness was studied extensively and has received a great deal of attention in the social sciences, as evidenced by the hundreds of articles published in the past 50 years in various domains, including sports, education, and work (a quick Google search revealed that there are more than 278,000 hits for “group cohesion” and nearly 120,000 hits for “group cohesiveness”).

### Factors Influencing Group Cohesiveness

The forces that push group members together can be positive (group-based rewards) or negative (things lost upon leaving the group). The main factors that influence group cohesiveness are members' similarity, group size, entry difficulty, group success, and external competition and threats. Often, these factors work through enhancing the identification of the individual with the group he or she belongs to as well as the individual's beliefs of how the group can fulfill his or her personal needs.

### Members' Similarity

The more group members are similar to each other on various characteristics, the easier it is to reach cohesiveness. Through social identity theory, it has been found that people feel closer to those whom they perceive as similar to themselves in external characteristics (age, ethnicity) or internal ones (values, attitudes). In addition, similar background makes it more likely that members share similar views on various issues, including group objectives, communication styles, and the type of desired leadership. In general, higher agreement among members on group rules and norms results in greater trust and less dysfunctional conflict, which, in turn, strengthen both emotional and task cohesiveness.

### **Group Size**

Because it is easier for fewer people to agree on goals and to coordinate their work, smaller groups are more cohesive than larger groups. Task cohesiveness may suffer, though, if the group lacks enough members to perform its tasks well enough.

### **Entry Difficulty**

Difficult entry criteria or procedures to a group tend to present it in more exclusive light. The more elite the group is perceived to be, the more prestigious it is to be a member in that group, and consequently, the more motivated members are to belong and stay in it. This is why alumni of prestigious universities tend to keep in touch for many years after they graduate.

### **Group Success**

Group success, like exclusive entry, increases the value of group membership to its members and influences members to identify more strongly with the team and to want to be actively associated with it. Think how it feels to be part of a winning basketball team!

### **External Competition and Threats**

When members perceive active competition with another group, they become more aware of members' similarity within their group and see their group as a means to overcome the external threat or competition they are facing. Both these factors increase group cohesiveness; leaders throughout human history have been aware of this and have focused the attention of their followers on conflicts with external enemies when internal cohesion was threatened. Similar effects can be brought about by facing an objective external threat or challenge (such as natural disaster).

### **Consequences of Group Cohesiveness**

Cohesive groups have several characteristics. First, members interact more with each other. Cohesive groups develop a supportive communication climate in which people are more comfortable expressing their thoughts and feelings. Second, cohesive groups' members are friendlier and cooperative with each other than are members in noncohesive groups. Members of highly cohesive groups talk positively about their

group and its members. Third, cohesive groups have greater influence over their members and pressure them to conform. Fourth, cohesive groups' members are more satisfied and believe that both their personal and group goals are better met compared to low-cohesion groups.

Given these characteristics, it may be not surprising that a general finding that emerged from studying various groups (including sport teams and work groups) is that cohesiveness contributes to positive group processes (e.g., sharing information) and to groups' task performance. Among the reasons for the performance-enhancing effects of cohesiveness are members' increased motivation to perform better in the group, partially due to norms that discourage social loafing on group projects. Another reason for the performance superiority of cohesive groups is members' commitment to the group task, which tends to be higher in cohesive groups; higher task commitment was indeed found to relate to higher task performance. Improved communication and trust allow members to share more and better information with each other, enabling a wider resource pool for the group to use when solving problems. Lastly, the high mutual support among cohesive groups' members in stressful times creates a positive and long-lasting interdependency among team members. On the other hand, in low-cohesion groups, conflicts tend to occur more and develop into dysfunctional interpersonal conflicts more often, discouraging members from sharing information and helping their teammates.

Notwithstanding the generally positive consequences of cohesiveness, there are rare situations in which group cohesiveness may not contribute to higher performance. One such case is found in organizations when teams' norms conflict with organizational goals. Researchers found that when such conflict is high, higher team cohesiveness actually results in lower task performance.

Another source for potentially negative outcomes is the pressure to conform that highly cohesive groups exert on their members. While this adherence to norms has many benefits for the group as a whole, the same mechanism may result in negative social and individual consequences. For example, the fact that abuses against individual members in small communities and military units, which tend to be highly cohesive, can go for long times unexposed, can be attributed in a large part to the tight norms of these very cohesive groups.

*Jacob Eisenberg*

See also Group Identity; Groupthink

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## GROUP DECISION MAKING

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In everyday life, many decisions are made by groups. Some of these group decisions are relatively inconsequential; however, others serve highly critical functions, such as those made by juries, medical teams, political committees, and safety advisory boards. Therefore, much research has been carried out on the determinants and dynamics of group decision making.

### History

The scholarly analysis of group decision making can be traced as far back as the philosophies of Socrates and Aristotle. The Socratic dialogue, for example, is predicated on the assumption that collective discourse can lead to greater truths than can solitary reflections. While there are some laudable exceptions, it was not until the emergence of social psychology in the 1930s that the study of group decision making took on its contemporary shape. This approach, initiated by such luminaries as Kurt Lewin, Muzafer Sherif, and Floyd Allport, emphasizes the collection of scientific evidence. Notably, while social psychology is the discipline most closely associated with the establishment and current study of group decisions, many important contributions have come from other fields, including sociology, business, education, and political science.

An early debate centered on the basic question of whether or not groups could be considered “real” in the sense of having scientifically measurable properties that transcend their individual members. Allport argued that they did not. He contended that groups could be

wholly understood by studying their member individuals and that this was the only scientifically valid position. Others, including Lewin and Sherif, argued to the contrary. Through the collection of empirical data and persuasive theorizing, the debate was largely settled by the 1950s in favor of the groups approach, although vestiges of the rift remain to this day.

Some early studies on group decision making identified pseudo-group effects, outcomes that seem to emerge from groups but are attributable to statistical principles. For example, when several people combine their inputs to generate a single decision, they will reliably outperform individuals working alone. However, this effect can be attributed to the statistical principle of aggregation. Increasing the size of a group can also lead to a better outcome simply because it increases the probability that one of the individuals will have the requisite skills or knowledge. While such effects are real, they can be explained with statistical principles and are generally rejected as true group effects. However, this does not mean that such effects are unimportant or uninteresting. Indeed, mathematical models of group decision making that incorporate such considerations continue to be developed. Nonetheless, for most contemporary researchers, a true group effect necessarily involves individuals who are interdependent and engaged in social interaction.

### Studying Group Decision Making

The methods used to study group decision making include experimental designs, which allow for the systematic manipulation and control of variables, and correlational designs, in which naturally occurring variables are carefully measured (but not manipulated) to see if they are reliably associated. Field studies of actual groups (e.g., committees, juries, clubs, fraternities, teams) typically employ correlational designs but may include experimental variables as well. A case study is an in-depth descriptive analysis of a single group, often one that has made a notorious decision. Each of these basic research designs offers unique advantages and disadvantages. For example, experimental designs allow for superior confidence in determining causality (e.g., Does time pressure cause group tension?); correlational designs allow researchers to study variables of interest that cannot be manipulated (e.g., gender, personality); and case studies, while not suitable as scientific evidence, can provide fascinating

illustrations of established principles or may serve to stimulate scientific investigations.

Researchers in this field also rely on various measurement strategies. Self-report measures involve directly asking group members questions designed to tap variables of interest (e.g., How much did you enjoy the group interaction?). Objective outcome measures include, for example, the quality of a final decision, the length of group discussion, or the tally of votes for a proposed decision. Researchers may also assess ongoing processes by employing a structured observational measure. Such measures require trained observers to code and classify specified bits of behavior that emerge during a group discussion. For example, Robert Bales's influential coding system, called interaction process analysis (IPA), consists of social-emotional categories (e.g., displays of solidarity) and task categories (e.g., asking for suggestions). The IPA remains popular and has served as the foundation for numerous theoretical and methodological advancements, such as the System of Multiple Level Observation of Groups (SYMLOG).

### Group Decision-Making Process

According to much research, most decision-making groups proceed through three stages: orientation (defining the situation and procedures), evaluation (discussion of ideas, opinions), and decision (deciding what to do). A host of alternative stage models have been proposed, the most notable of which suggests four phases: forming (task identification), storming (dealing with conflict, emotional reactions), norming (developing cohesion, expressing opinions), and performing (solving the problem). Despite variations in terminology and specified number of stages, the various models share the idea of an initial phase that defines the problem, a middle phase (or phases) that involves working on the problem, and a final stage in which a decision is made.

There is clear evidence for value of the initial stage. Groups that devote relatively more time and effort to orientation issues generally produce higher-quality solutions and are generally more satisfied with the interactions and end result. Unfortunately, research also indicates that most groups seldom discuss orientation issues or strategies.

For middle stage processes, it has been demonstrated that varied contributions, critical appraisals,

expressions of commitment, and ongoing assessments of performance all facilitate effective group decisions. However, studies have shown that groups also frequently engage in counterproductive processes at this stage, such as procrastinating, ignoring plausible solutions, withholding critical comments, trivializing the discussion, or avoiding responsibility for the decision.

The most notable aspect of the final stage is the implementation of a decision rule (or social decision scheme) that dictates how the preferences of individual group members will be combined to generate a single collective decision. The most prominent explicit decision rule across all types of human groups is the majority rule (or the closely related plurality rule). This is one of several voting rules, in which each group member receives one vote and the alternative with the most votes is adopted by the group. There is good evidence that the majority rule yields the most efficient and accurate outcomes across a range of conditions. Other explicit rules include consensus (discussion, usually with compromise, until unanimous agreement is reached), averaging individual inputs (some midpoint of the expressed preferences is calculated), and delegation (an individual group member, such as a leader or expert, or subgroup, is given authority to decide for the group). The "truth wins" rule is an implicit rule in which the correct decision emerges and is adopted, as its correctness is recognized by the group as a whole.

Little research has been conducted on how decisions, once made, are actually implemented or carried out. There is evidence that implementation is more successful if group members are closely involved in the decision-making process. Reluctance is more likely if group members are simply ordered to implement a decision that they had no role in determining. Recognizing this potential, many organizations now utilize such strategies as quality circles, autonomous work groups, self-directed teams, and total participation groups.

### Group Polarization

Group polarization refers to the well-established principle that, after a group discussion, people tend to take more extreme positions compared to their prediscussion inclinations. Thus, for example, a group of moderately prejudiced individuals will become more strongly prejudiced after group discussion, whereas a group of individuals somewhat low in prejudice will

become even less prejudiced after a discussion. The implications for group decision making are clear: A group of individuals leaning somewhat toward a particular decision (e.g., to initiate a conflict, make an investment, declare a defendant guilty, not hire a candidate) is likely to become more solidified and extreme in that position as a function of group discussion.

After decades of research, two primary determinants of group polarization have been identified. According to the persuasive arguments or informational influence explanation, the group discussion generates a large pool of arguments or information that supports the initial proclivities of the group members. This exposure strengthens each member's confidence in the correctness of his or her view, which leads to a more extreme stance. Thus, this explanation stresses the desire to be correct as a motivating force. The social comparison or normative influence explanation suggests that group members determine what an appropriate stance is by comparing their own views with the views of others. They then tend to shift their views to be more in line with that of the group as a whole. This explanation emphasizes the desire to be liked or to be held in high esteem, which acts as a motivating force.

Which of two major determinants will have a stronger effect depends, in part, on the type of decision under discussion. Research suggests that persuasive arguments have a greater influence on groups deliberating intellectual tasks (problems with relatively objective, factual solutions) or when the group is more task- than friendship-based. Social comparison processes have a greater impact on groups dealing with ambiguous or judgmental tasks (problems with a relative emphasis on values, tastes, preferences), or when the individual's group identity is more salient than his or her personal identity.

### Groupthink

The term *groupthink* was brought into prominence by researcher Irving Janis who examined several infamously bad group decisions, including those associated with the Pearl Harbor bombing, the Vietnam War, and the Bay of Pigs invasion. According to Janis, groupthink occurs when the members of a group are so intent on reaching unanimity regarding a decision that they fail to critically appraise the potential flaws of their decision or to seriously consider alternative

courses of action. Since Janis's work, the concept has been used to explain several other disastrous real-world group decisions, including the launching of the Space Shuttle *Challenger* and the intelligence failures leading up to 9/11 and the Iraq war.

In theory, the following factors increase the likelihood of groupthink: a high degree of social cohesion or comradery among the group members, isolation of the group from outside scrutiny, and a biased group leader who strongly favors and promotes a particular decision outcome. The symptoms of groupthink include an illusion of invulnerability and morality ("We can't possibly fail" and "We are morally justified in our decision"), constrained flow of information (don't rock the boat), self-censorship (opposing opinions are avoided, minimized, or ridiculed), mindguards (group members who squelch dissent), and faulty analyses of goals, processes, and information.

Although the theory of groupthink has been quite influential and has enjoyed popular appeal, direct empirical evidence for it is mixed. This is partly due to the fact that the highly stressful and consequential situations upon which the theory was developed are difficult to replicate in laboratories that could allow for precise scientific study. Many contemporary researchers have opted to incorporate aspects of the theory into more general models of group decision making.

### Minority Influence

Minority influence refers to those instances when a group's decision is substantially influenced by the views of an individual or a small subset of individuals that are not in line with the views of most group members. A good fictional illustration of this phenomenon can be seen in the 1957 movie *Twelve Angry Men*. In this film, 11 jurors quickly agree on the guilt of a defendant but are slowly influenced by the contrary views of a lone juror. About a decade after the film was released, Serge Moscovici, a prominent European social psychologist, formulated a theory of minority influence and conducted a series of classic studies that empirically demonstrated its power. Subsequent studies have continued to demonstrate that a minority position can indeed change the viewpoint of the majority.

Research has shown that minority influence is most likely to occur when the person or persons holding the converse opinion are steadfast in their views, but do

not appear overly dogmatic or rigid, and are willing to compromise. Minority views also are more likely to have an influence on the majority if they offer a compelling argument against the majority's position, the minority position is held by more than one group member, and there is not an obvious selfish explanation for the minority position (e.g., the minority would benefit financially).

Even under the best of circumstances, a minority viewpoint may not be accepted. And even if accepted privately, publicly expressed acceptance may be hindered by the fear of disapproval by the larger group or powerful leaders. Nevertheless, there is good evidence that even if a minority position is not fully or even partially adopted immediately, the process may stimulate more in-depth and creative thinking about the issues under consideration and can lead to more long-term shifts in opinions.

### Information Processing in Groups

To help explain certain decision-making processes, some researchers conceptualize decision-making groups as collective information processors. One prominent model in this vein considers situations in which different members of a group are responsible for different domains of knowledge. Their combined cognitive effort of collecting, analyzing, and communicating information is termed a *transactive* (or collective) *memory system* (TMS). In short, a TMS is a cooperative division of mental labor. Research suggests that such systems have limited benefits with newly established or short-term groups but do benefit long-term groups. It seems that as a group stays together over time, the members become more proficient at coordinating their cognitive efforts, more trusting in their mutual reliance, and typically improve in their decision-making performance.

Relatedly, the information sampling model was developed, in part, to examine the commonly held assumption that group members tend to pool their unique bits of knowledge and this leads to higher-quality decisions. Indeed, studies confirm that the extent to which unshared information (information held by only one or a few members of the group) is discussed is a good predictor of ultimate decision quality. However, consistent with the model's predictions, studies have also found that groups tend to spend an inordinate amount of time discussing shared

information (information that each member of the group possessed) and very little time discussing unshared information. This information sampling bias leads to faulty decision-making outcomes (sometimes referred to as the *common knowledge effect*). There is some evidence that the sampling bias can be mitigated if the decision task is intellectual rather than judgmental and if the group is motivated to generate the correct solution.

Jay W. Jackson

*See also* Decision Making; Group Dynamics; Group Polarization; Groupthink; Minority Social Influence; Research Methods; Transactive Memory

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## GROUP DYNAMICS

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### Definition

Group dynamics are the influential actions, processes, and changes that take place in groups. Individuals often seek personal objectives independently of others, but across a wide range of settings and situations, they join with others in groups. The processes that take place within these groups—such as pressures to conform, the development of norms and roles, differentiation of leaders from followers, collective goal-strivings, and conflict—substantially influence members' emotions, actions, and thoughts. Kurt Lewin, widely recognized as the founding theorist of the field, used the term

*group dynamics* to describe these group processes, as well as the scientific discipline devoted to their description and analysis.

## History and Background

People have wondered at the nature of groups and their dynamics for centuries, but only in the past 100 years did researchers from psychology, sociology, and related disciplines begin seeking answers to questions about the nature of groups and their processes: Why do humans affiliate with others in groups? How do groups and their leaders hold sway over members? To what extent is human behavior determined by instinct rather than reflection and choice? What factors give rise to a sense of cohesion, esprit de corps, and a marked distrust for those outside the group?

The results of these studies suggest that groups are the setting for a variety of individual and interpersonal processes. Some of these processes—such as collaborative problem solving, social identity development, coordination of effort and activities in the pursuit of shared goals, and a sense of belonging and cohesion—promote the adjustment and welfare of members, whereas others—the loss of motivation in groups (social loafing), conformity, pressures to obey, and conflict—can be detrimental for members. Some of these processes also occur within the group (intra-group processes), whereas others occur when one group encounters one or more other groups (intergroup processes). Because groups are found in all cultures, including hunting–gathering, horticultural, pastoral, industrial, and postindustrial societies, group processes also influence societal and cultural processes.

## Interpersonal Processes in Groups

The processes that take place within small groups vary from the subtle and ubiquitous (found everywhere) to the blatant and exceedingly rare. Initially, as groups form, social forces draw people to the group and keep them linked together in relationships. These *formative processes* work to create a group from formerly independent, unrelated individuals. In some cases groups are deliberately formed for some purpose or goal, but in other cases the same attraction processes that create friendships and more intimate relationships create groups.

Once the group forms, *normative processes* promote the development of group traditions and norms that determine the kinds of actions that are permitted

or condemned, who talks to whom, who has higher status than others, who can be counted on to perform particular tasks, and whom others look to for guidance and help. These regularities combine to form the roles, norms, and intermember relations that organize and stabilize the group. When the group becomes cohesive, membership stabilizes, the members report increased satisfaction, and the group's internal dynamics intensify. Members of groups and collectives also tend to categorize themselves as group members and, as a result, identify strongly with the group and their fellow group members. These *social identity processes* result in changes in self-conception, as individualistic qualities are suppressed and group-based, communal qualities prevail.

As interactions become patterned and members become more group-centered, their response to *social influence processes* is magnified. Group members are, by definition, interdependent: Members can influence others in the group, but others can influence them as well. As a result, individuals often change when they join a group, as their attitudes and actions align to match those of their fellow group members. Solomon Asch, in his studies of majority influence, found that these influence processes exert a powerful influence on people in groups; approximately one third of his subjects went along with the majority's incorrect judgments. Stanley Milgram's research also demonstrated a group's influence over its members. Volunteers who thought they were taking part in a study of learning were ordered to give painful shocks to another participant. (No shocks were actually administered.) Milgram discovered that the majority of people he tested were not able to resist the orders of the authority who demanded that they comply.

Groups are not only influence systems but also performance systems. Group members strive to coordinate their efforts for the attainment of group and individual goals, and these *performance processes* determine whether the group will succeed or fail to reach its goals. Robert Freed Bales, by observing the interactions of people meeting in face-to-face groups, identified two common core behavioral processes. One set of behaviors pertained to the social relationships among members. The other set, however, concerned the task to be accomplished by the group. These two constellations of behaviors are also core elements of *leadership processes*, for group leaders strive to improve the quality of relations among members in the group as well as ensure that the group completes its tasks efficiently and effectively.

*Conflict processes* are also omnipresent, both within the group and between groups. During periods of intragroup conflict, group members often express dissatisfaction with the group, respond emotionally, criticize one another, and form coalitions. If unresolved, the conflict may eventually result in the dissolution of the group. During periods of intergroup conflict, the group may exchange hostilities with other groups. Competition for scarce resources is a frequent cause of both intragroup and intergroup conflict, but the competition–hostility link is much stronger when groups compete against groups rather than when individuals compete against individuals (the discontinuity effect).

### The Field of Group Dynamics

Lewin used the term *group dynamics* to describe the way groups and individuals act and react to changing circumstances, but he also used the phrase to describe the scientific discipline devoted to the study of these dynamics. Group dynamics is not a prescriptive analysis of how groups should be organized—emphasizing, for example, rules of order, democratic leadership, or high member satisfaction. Nor does it stress the development of social skills through group learning or the uses of groups for therapeutic purposes. Rather, group dynamics is an attempt to subject the many aspects of groups to scientific analysis through the construction of theories and the rigorous testing of these theories through empirical research.

*Donelson R. Forsyth*

*See also* Groups, Characteristics of; Leadership; Social Identity Theory

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social influence within a group. This influence may be based on some social category or on interpersonal interaction among group members. On one hand, if we consider the case of athletic teams, a student at a university that participates in popular forms of competition such as football or basketball may identify with his or her team during contests with rival schools (“We really rocked in the Banana Bowl Classic. We took on all comers and whipped them!”). Classic rivalries such as Michigan versus Ohio State in football or Duke versus North Carolina in basketball are excellent examples of instances that produce strong identification based on a social category.

On the other hand, students can identify with a group created to conduct experiments in an animal learning laboratory course. By working together closely, students may come to identify with their lab group (“We finally finished our lab report and I bet it ranks among the best in the class!”). Although group identification is not always based on competition, identification is based on social comparison. These examples serve as clear illustrations of the “us versus them” experience that sometimes accompanies the identification process in intergroup situations.

### Research History

Historically, social psychologists have studied social influence processes relative to whether individual or group outcomes are maximized. Dorwin Cartwright and Alvin Zander suggested that relations among individuals in a group make them interdependent on one another. Harold Kelley and John Thibaut found that relations among members of a group were more often than not a function of the basis and outcome of interpersonal exchanges. In this light, social comparison, norms of exchange, and communication can forge common bonds among group members. Friendship groups are one example of how social influence processes produce identification.

In contrast to this dynamic view, John Turner offered that self-categorization theory provided a powerful explanation of when and why members identify with groups. From this perspective, people join groups that represent unique and sometimes powerful social categories. Members are attracted to and influenced by the behaviors of such groups. Consider, for example, the political situation of Israel and the Palestinians. Being Jewish or Arabic in this part of the world comes with a set of cultural, religious, and attitudinal expectations that create consistency within each group and

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## GROUP IDENTITY

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### Definition

Group identity refers to a person’s sense of belonging to a particular group. At its core, the concept describes

diversity between the two. A second example is the distinction between being a member of the Republican versus the Democratic political party.

Generally, both social influence and social categories serve to create group identity. A U.S. citizen of Mexican descent may or may not support citizenship for illegal Mexican immigrants. Discussions whereby attitudes and the consequences for immigration are revealed could serve to clarify the identity process and lead to a definitive position on the issue. Thus, some combination of both research traditions probably account for group identification depending on the circumstances.

### Context and Consequences of Group Identity

Jennifer Crocker and others have demonstrated that group identity is part of how people feel about themselves. Group identity permits one to be connected to a broader slice of society. These connections may produce feelings ranging from pride to prejudice. In wars between ethnic or religious groups, individuals are prepared to die for the sake of their group identity. These powerful emotional reactions have prompted some groups to attempt to manage group identity. An unfortunate example is the use of suicide bombers by terrorist organizations.

In situations involving intergroup competition, members may distance themselves from a group when it is performing less well than others. Alternatively, when a group receives threats from factions external to the group, members may react by increasing identification to protect the value of the group. Henri Tajfel and Turner have reported that members manage threats to a group's value by changing some aspect of how a group is compared to other groups. Michael Hogg suggests that the specific strategies a group uses are a function of how a group is organized (e.g., boundaries, composition, authority). A growing body of research indicates that social context is an important factor in the process of group identification.

Penelope Oakes contends that perceptions of similarity to other people in a given social context provide a basis for construing oneself as being part of a group. Caroline Bartel describes the nature of people's conversations soon after the attacks of September 11, 2001. In her view, people focused on exchanging information, speculating on who was responsible and discussing how the city would handle this crisis. In this

setting, the social identity of "New Yorker" became a salient and context-appropriate group to which people felt an increasing sense of belongingness in the days after the World Trade Center attacks.

Focusing on a particular type of group identity, organizational membership, Bartel investigated how experiences in community outreach affected the identity process of employee volunteers. She found that intergroup comparisons with clients (emphasizing differences) and intragroup comparisons with other members of the organization (emphasizing similarities) changed how members construed the defining qualities of their organization. Supervisors reported higher interpersonal cooperation and work effort for members whose organizational identification became stronger. These results suggest that identification processes operate in everyday work contexts.

A group identity is one of the reasons that people donate to charitable causes, support friends and family, and exhibit helping behaviors toward those with whom they identify. Alternatively, Marilyn Brewer points out that group identity, precisely by creating an "us versus them" mentality, can produce conflict, discrimination, and prejudice. One need only spend a few minutes watching the national news to see versions of group identification. U.S. citizens boycotted Aruba because of the disappearance of Natalie Holloway. In Iraq, terrorists have killed, kidnapped, and beheaded those sympathetic to U.S. efforts to establish a democracy. Finally, international soccer games often result in a sea of violence after a match. Clearly, group identity will continue to serve as an important guide to relations within a group, relations between groups, and even relations between countries.

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*See also* Intergroup Relations; Social Categorization; Social Comparison

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## GROUP PERFORMANCE AND PRODUCTIVITY

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Task performance or the outcome of some behavioral or intellectual goal is a key function of many groups. Task-performing groups include various decision-making groups, sports teams, and work teams. One would expect groups to benefit from their multiple and potentially complementary skills. It is true that the more able or skilled the group or team members are, the better the group is. Yet researchers have shown that there are a number of factors that inhibit productivity in groups. However, groups can also reach high levels of productivity under the right conditions and with the right group member composition.

There is an endless range of tasks that groups could potentially perform. Some of these require a simple addition of effort, whereas others require that each group member fulfill a particular role. On some tasks, the focus may be on quantity or speed of output, and on others, the concern may be with quality of work. Some tasks are mainly cognitive in that they require some degree of ideation, whereas others may be mostly behavioral (e.g., sports or music performance). According to Ivan Steiner, the effectiveness of groups may depend on the nature of the task they are required to perform. Group task performance may often be less than optimal because of two types of process losses that occur in groups: coordination and motivation. When group members work together, they have to coordinate with one another, and this requirement may make it difficult for each member to contribute his or her best effort. Group members may also be less motivated in groups than they would be if they were working by themselves.

### Productivity in Task-Performing Groups

When someone works in a large group and each individual's performance is combined with that of others, a person may be less motivated to work hard on behalf of the group. This type of motivation loss is known as *social loafing* or *free riding*. Social loafing has been found to increase with the size of the group, the extent to which a person's performance is anonymous, and the degree to which the task is seen as challenging. According to Kipling Williams and Steven Karau,

a person's motivation level in groups depends on the extent to which he or she believes the group goal can be attained and how much the person values this goal. That is, as long as group members perceive that there is an incentive to work hard, they will not loaf. This incentive to work hard can be increased by evaluating the work of group members individually. Generally there is a strong relationship between an individual's level of effort in the group and the personal consequences for this level of effort.

When group members are accountable to one another or in competition with one another and have challenging goals, they may in fact have increased motivation in groups. Individuals may also compensate for the lack of effort on the part of other group members if they particularly value the group goal. Similarly, a low-ability group member may increase his or her effort if the group member thinks that a small increase in his or her effort will be important to the success of the group.

When group members work together, they have to mesh their various talents and perspectives in addition to coordinating their group activities. Groups have to decide who does what, when, and how. This is seen clearly in sports teams and highly trained military units that require careful coordination for success. A lack of effort or mistake in coordination by one or more group members can mean failure for the group. Research has documented several of these types of coordination problems. Garold Stasser has shown that groups do not fully share their unique knowledge but tend to focus on what they have in common. This may be because the discussion of shared information makes group members feel more comfortable and validated. In group decisions, individuals often are more concerned about being agreeable than being right. In the case of problem solving, someone with a correct answer often has a hard time persuading the group of its veracity unless it can be easily demonstrated and/or support is gained from at least one other group member. In group task performance situations, groups are also faced with the problem of coordinating the input of individual group members into the group task. For these reasons, it is not difficult to see why so few studies have been able to show group synergy cases in which the performance of interacting groups exceeds the combined performance of individual members.

Today many people do most of their work on computers, including a lot of information exchange with coworkers. How effective is such electronic group

interaction? For tasks that are fairly individualistic, such as generating solutions to simple problems or idea generation, the absence of coordination issues makes the electronic medium beneficial. However, for more complex tasks requiring decision making or negotiation, computer interaction does not work as well. The computer format makes it difficult to deal with all of the interactional subtleties required in these situations because there are no nonverbal communication channels available to augment the group's verbal interaction.

### **Group Brainstorming: Productivity in Idea Groups**

Group brainstorming represents one type of group activity that nicely demonstrates the role of various group factors. Brainstorming involves the generation of novel ideas by expressing thoughts as they occur, without concern for immediate evaluation. The goal is to generate a large number of ideas that can subsequently be used as a basis for selecting the most useful ideas. Although effective brainstorming instructions enhance the number of ideas generated, the group product is typically significantly less than the total number of ideas generated by the same number of individuals brainstorming alone. This is called a production loss and seems to be the result of a number of procedural and motivational factors. Group members may be apprehensive about sharing novel ideas in groups for fear that others may evaluate them negatively. They may not exert a full effort because it may be lost in the overall group performance. In fact, there may be a tendency for performance to go in the direction of the low-performing group members. A major factor appears to be the interference or production blocking that results when individuals compete with each other for opportunities to share ideas during the group exchange process. Only one person can effectively share ideas at one time, and people may forget ideas while waiting their turn.

All of these factors suggest that group brainstorming is a pretty futile exercise. However, there is some reason for hope since exposure to ideas from others should stimulate additional ideas. Ideas from others may remind a person of areas of knowledge that he or she had not considered or may allow a person to combine his or her knowledge with the knowledge of other group members. This should be particularly beneficial

if group members have diverse backgrounds or expertise. Cognitive stimulation effects have been observed, especially in a period of reflection after group interaction since such a session allows for a full consideration of the relevance of shared ideas to one's own knowledge base. Group brainstorming on computers may also benefit the process, especially with large groups. Computer brainstorming avoids the interference effects of face-to-face brainstorming and allows a convenient process for subsequent individual reflection. Similar benefits can be gained by exchanging ideas using slips of paper.

The brainstorming literature thus suggests that groups have considerable creative potential. However, groups need to overcome some natural tendencies, and the interaction needs to be structured to optimize the effective processing of exchanged information. Several other factors are also helpful. Groups should have leaders or facilitators that can effectively guide them to interact in a most effective way. Groups should feel psychologically safe to express any and all ideas, so some prior group experience that reinforces feelings of psychological safety may be useful. This is particularly important when group members experience emotional conflicts based on their diverse perspectives. Exposure to conflicting perspectives can increase creative thinking in groups. This is especially true when all group members are committed to the group's goal. Groups need to be aware of their differential expertise and be motivated to share it. A collection of individuals actually has a greater capacity for memory than any one individual alone. Groups who take advantage of this capacity, and know which members are good at what, will outperform those groups who do not utilize these knowledge stores. Group composition is also a critical factor. Individuals who are positively inclined to groups or are very comfortable in groups tend to be less inhibited in sharing their ideas. When groups are demographically diverse, as in the case of ethnic diversity, group members may be a bit uncomfortable and may not benefit fully from the diverse perspectives available to the group. Prior experiences that allow for increased familiarity and some kind of cohesive bonding may eliminate such inhibitory effects of diversity.

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*See also* Brainstorming; Groupthink; Social Loafing

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## GROUP POLARIZATION

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### Definition

Group polarization occurs when discussion leads a group to adopt attitudes or actions that are more extreme than the initial attitudes or actions of the individual group members. Note that group polarization can happen in the direction of either riskiness (risky shift) or conservativeness. One example is the way in which unruly mobs (e.g., lynch mobs) often commit horrendous acts of violence that no individual member would have been brash enough to attempt (the kidnapping and hanging of humans by the neck until the point of death). Another example is the way in which relief agencies often attempt and accomplish wonderful acts of benevolence that no individual group members would have been ambitious enough to deem possible and then attempt, for example, providing food, clothing, and long-term housing to survivors of natural disasters.

### Explanation

One explanatory reason for group polarization is the sharing of persuasive arguments. For example, when the majority of a group's members are initially like-minded and present arguments (a) that support the attitude or action, and (b) that other group members have not yet considered, then the group members' initial attitudes will become stronger. Thus, the attitudes of the group, as a whole, will be stronger compared to the individually assessed attitudes of the members. Note also that during the sharing of persuasive arguments, group members may have a tendency to reiterate, at least in part, the arguments presented by other group members. This repetition of ideas also can strengthen the group's and individuals' attitudes. It is important to note that when the majority of the group

initially is not in agreement and, instead, is split on an issue, depolarization can occur as a result of group members trading persuasive arguments. Depolarization refers to a shift away from the extremes and toward the middle.

Another explanatory reason for group polarization is the influence of social comparison. For example, one group member may assess other group members' attitudes and then adopt a similar or more extreme attitude. People have a tendency to like those who are similar to themselves. It follows, then, that if people want to be liked by group members, one way to accomplish this is to have beliefs or attitudes that are consistent with those of the group.

A number of things factor into whether making persuasive arguments or social comparisons will have a more polarizing effect on the group: the nature of the task (judgmental vs. intellectual), the goal of the group, what the group considers more important (group cohesion vs. making correct decisions), what the individual group members consider more important (group cohesion vs. making correct decisions), and the nature of the response required of the individuals (public vs. private). Persuasive arguments tend to be most effective in situations in which the nature of the task is intellectual, the group values accuracy more than cohesion, the individuals value accuracy more than cohesion, and private responses will be given. Social comparisons tend to be most effective in the situations in which the nature of the task is judgmental, the group values cohesion more than accuracy, the individuals value cohesion more than accuracy, and public responses will be given.

### Culture, Gender, and Age

The direction of the attitude shift is influenced by cultural variables. Individualistic cultures (North American countries such as America and Canada) have a tendency to value independence and risk more than dependence and caution. Collectivistic cultures (Asian countries such as Taiwan or South American countries such as Argentina and Brazil) tend to value dependence and caution more than independence and risk. Research by Lawrence K. Hong in 1978 demonstrated that groups comprising individualistic culture members are more likely to experience risky shift, and groups comprising collectivistic culture members are more likely to experience cautious shifts. The

direction of attitude shift is also influenced by gender and age. Research by Margo Gardner and Laurence Steinberg suggests that men are more likely to experience risky decision making compared to women, and younger persons (children, teenagers, and young adults) are more likely to experience risky decision making compared to older persons (persons aged 24 and older). It is important to note that the gender difference appears to decrease as age increases.

### Evidence

Traditionally, one of three types of methodologies has been used to illustrate group polarization effects: hypothetical choice scenarios, self-report behaviors, and behavioral observation. Hypothetical choice scenarios require group members to select one of two imaginary options (riskier vs. safer) or to choose a percentage or level of risk in an imaginary scenario. For example, given a scenario about a sick woman who has an opportunity to have an operation that could either kill her or completely cure her, group members are asked whether or not they would endorse having the operation. Alternately, given the same scenario, group members are asked the lowest probability of success they would consider before endorsing the operation. The self-report behaviors method requires people to report how often they engage in risky behaviors. The behavioral observation method requires external observers to observe and assess how often, or to what extent, people engage in risky behaviors.

### Implications

Group polarization addresses ways in which a group of individuals interacts and influences the evolution of more extreme attitudes and actions. This concept is relevant to the topics of attitude strength, attitude extremity, and attitude change.

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*See also* Attitude Change; Collectivistic Cultures; Group Cohesiveness; Group Decision Making; Influence; Research Methods; Risky Shift; Social Comparison

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## GROUPS, CHARACTERISTICS OF

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### Definition

There is no consensus among social psychologists on the defining characteristics of a group. Nearly all definitions, however, emphasize that a group is not a mere aggregation of individuals. Rather, two or more individuals become a group to the extent that they are bonded together in some way, which generally means that they interact and influence one another and share perceptions of themselves as a group. By these criteria, one's immediate family is a group, and so are a sport team, an airline flight crew, and a support group. But a social category such as members of the same race or gender is not a group—nor is an audience attending a concert, the line of people at a ticket window, or all the students at a university. Recognizing that such distinctions are not as clear-cut as they appear, some social psychologists have argued that various social aggregates are best viewed as falling along a continuum of groupness based on certain characteristics.

### Background and History

The idea that groups have properties distinct from those of their individual members was controversial in the early history of social psychology. Focusing on Gustave LeBon's concept of the group mind, psychologists in the 1920s debated the epistemological status of groups. One side of the debate argued that groups are real entities with emergent characteristics; the concept of the group mind, for example, suggests that groups have a mind of their own, a unifying mental force that transcends the consciousness of the individuals that constitute the group. The other side of the

debate denied the reality of groups, contending that only individuals are observed, not groups; psychological processes occur only in individuals, and actions or processes attributed to groups are nothing more than the sum of actions of the individual group members.

Eventually the concept of group mind was rejected, primarily because there was never any solid scientific evidence to support it. As research on groups flourished in the 1930s, 1940s, and 1950s, researchers accepted the reality of groups and identified several verifiable group properties. Much of this research was influenced by Gestalt psychology, a school of thought that emphasizes that an individual's experience consists of integrated whole patterns that are not reducible to the sum of elements of the whole. One line of inquiry proposed, for example, that a bunch of people constitutes a group to the extent that they form a Gestalt; that is, they are perceived as being a coherent entity rather than independent, unrelated individuals. Furthermore, individuals' intuitive perceptions of the quality of groupness depend on the extent to which a collection of people possesses certain group characteristics, including small size, similarity, a high level of interaction, and shared goals.

### Group Size

In general, the larger the collection of people, the less likely they are to possess other characteristics that define a group and the less likely they are to be perceived as a group. Research indicates that most groups are small, usually two or three people and seldom more than five or six. In fact, much of the research on groups focuses on groups of this size or slightly larger, such as families, friendship cliques, work crews, and committees, in which people engage in regular face-to-face interaction. As group size increases, the nature of the group changes. It becomes less intimate and satisfying to members, and it becomes more complex, its activities more difficult to coordinate.

### Group Member Variability

Each member brings to the group personal attributes such as his or her sex, age, race, and education as well as opinions, interests, and abilities. Research shows that members of the same naturally occurring group tend to be similar to one another on such qualities but different from members of other groups. Ingroup homogeneity is thought to exist for a variety of reasons: Similar people are attracted to similar activities

that bring them together; they are recruited from the same social network, which also tends to be similar; and similarity increases satisfaction and commitment to the group. Diversity within groups can negatively affect relations among group members, creating miscommunication, division, and conflict, but by providing a variety of skills and knowledge, diversity also can make a group more flexible and innovative and better able to accomplish group tasks.

### Group Structure

Perhaps the most essential defining characteristic of a group is the pattern of relationships among group members, referred to as *group structure*. Patterned relations may exist along several dimensions—for example, attraction, communication, and power—so that social psychologists seldom think of groups as a unitary structure.

### Group Cohesion

The dimension of group structure most often studied is a group's cohesion or cohesiveness. Cohesion derives from the pattern of attraction of members toward one another and toward the group as a whole; in a cohesive group, members like one another, are tightly knit, identify with the group, and want to remain in it. Compared with groups low in cohesion, highly cohesive groups, such as adolescent peer groups, sport teams, and military squads, are more satisfying to their members but also have greater influence over members and produce greater pressures to conform. In general, highly cohesive groups are more productive and outperform less unified groups with one notable exception: Cohesive groups are less productive when group norms support a low level of productivity.

### Attraction Structure

General attraction to the group is indicative of group cohesion or unity, but variations within the group in how much members like or dislike one another is indicative of a form of structural differentiation. By asking group members who they like best and least or with whom they would choose to work, social psychologists have identified patterns of interpersonal attraction within groups, including the formation of subgroups or cliques. As groups increase in size and diversity, cliques are increasingly likely to form. Members of cliques tend to reciprocate choices (if A

likes B, B likes A) and also tend to be more similar to one another than to other members of the group.

### **Role Structure**

Within every group, members develop expectations concerning how people in particular positions ought to behave. These shared expectations, called *roles*, may be defined formally, as in most work groups, or may evolve over time and be tacitly understood. Airline flight crews, for example, often consist of three positions—captain, first officer, and flight engineer—each of which is expected to perform specific tasks related to flying a plane. In many groups, various group roles such as initiator, coordinator, and harmonizer emerge to meet two basic demands: to accomplish the group's task and to maintain harmonious relationships among group members.

### **Status Structure**

Roles are often associated with status, which refers to a person's power (ability to influence others) and authority (the right to exert power) within a group. Virtually all groups develop a status structure in which some members have higher status than others. In an airline flight crew, there is a clear status hierarchy, with the captain, who makes major command decisions and leads the crew, on top, and the flight engineer on the bottom. Two general factors seem to affect the development of status in most groups: the characteristics and abilities members bring to a group, and members' contributions to the group goal. In a jury, for example, a doctor may be assigned a higher status than a laborer, and persons who smooth over disagreements and move the group toward a decision are likely to have more status than others.

### **Communication Network**

Groups also differ in their patterns of interaction and communication. The flow of communication in many groups follows the status structure, with most communication either directed downward, from superiors to subordinates, or among members of equal status. Early studies of communication networks focused on the extent to which communication within a group flowed through a single person or position. In the most centralized networks, all lines of communication are directed to and from a single group member, whereas in a decentralized network, each member has

an equal number of communication lines to others in the group. Research suggests that centralized networks are most efficient in solving simple tasks, but decentralized networks work best for more complex and multifaceted tasks.

## **Group Culture**

Besides the patterned relations among members, groups also develop a culture of their own: a set of shared ideas and customs that guide group members' actions and interpretations of the group experience. Elements of group culture include norms, or ideas about how group members ought to behave, as well as values, beliefs, customs, and symbols that express the group's identity. Although some elements of group culture are adapted directly from the larger culture, other elements evolve within the group, so that every group creates its own unique culture. Members of all airline flight crews, for example, have a common knowledge of how to perform their jobs and also may share certain values and beliefs about their work. But, in addition, as crew members interact with one another, they develop unique customs such as special names or jargon, traditions, and stories about group activities. Becoming a new member of an existing group is largely a matter of learning the group's culture.

## **Importance of Groups**

Groups provide vital links between the individual and society. On one hand, groups satisfy basic individual needs: Through groups, children are raised, shelter and protection are provided, people gain important information about themselves, and people satisfy an inherent desire to have human contact and to bond with others. At the same time, groups support and sustain larger organizations and society by teaching values and societal norms, by exerting pressure on individuals to conform, and by providing a means to solving problems.

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*See also* Group Cohesiveness; Group Dynamics

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## GROUPTHINK

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### Definition

Groupthink refers to decision-making groups' extreme concurrence seeking (conformity) that is hypothesized to result in highly defective judgments and outcomes. According to Irving Janis, the inventor of the groupthink concept, decision-making groups are most likely to experience groupthink when they operate under the following conditions: maintain high cohesion, insulate themselves from experts, perform limited search and appraisal of information, operate under directive leadership, and experience conditions of high stress with low self-esteem and little hope of finding a better solution to a pressing problem than that favored by the leader or influential members.

When present, these antecedent conditions are hypothesized to foster the extreme consensus-seeking characteristic of groupthink. This in turn is predicted to lead to two categories of undesirable decision-making processes. The first category, traditionally labeled symptoms of groupthink, includes illusion of invulnerability, collective rationalization, stereotypes of out-groups, self-censorship, mindguards, and belief in the inherent morality of the group. The second category, typically identified as symptoms of defective decision making, involves the incomplete survey of alternatives and objectives, poor information search, failure to appraise the risks of the preferred solution, and selective information processing. Not surprisingly, extremely defective decision-making performance by the group is predicted.

### History and Social Significance

Irving Janis proposed the term *groupthink* to describe group decision fiascos that occurred in such cases as the appeasement of Nazi Germany by Great Britain at the beginning of World War II; the failure of the U.S.

military to anticipate the Japanese attack on Pearl Harbor, which served to bring the United States into World War II; then President of the United States Harry Truman's decision to escalate the war in North Korea, which resulted in Communist China's entry into the war and a subsequent military stalemate; then President of the United States John Kennedy's decision to send Cuban exiles to overthrow Fidel Castro by invading Cuba at the Bay of Pigs, resulting in the death of 68 exiles and the capture of an additional 1,209; and then President of the United States Lyndon Johnson's decision to escalate the war in Vietnam, counter to the warnings of intelligence experts. Janis developed his list of antecedents and consequences of groupthink by comparing the social processes that occurred in these decisions with the successful group decisions in the cases of the development of the Marshall Plan for distributing U.S. aid in Europe after World War II and the use of threats and rewards by the Kennedy administration to remove Soviet missiles from Cuba in what has become known as the Cuban Missile Crisis.

The concept of groupthink became a hit with the general public. Just 3 years after the term was introduced, it appeared in the *Webster's New Collegiate Dictionary*, which defined *groupthink* as "conformity to group values and ethics." Thus, in the popular imagination, groupthink has come to mean any conformity within a group setting. (Of course, Janis's original formulation involves much more than just conformity or going along with the group.) The concept of groupthink was also a hit within the academic literature, frequently appearing in textbooks in social psychology and organizational management.

There was just one problem with this popularity: Empirical research on the concept has produced overwhelmingly equivocal support for the groupthink model. Researchers have attempted to apply the groupthink framework to new case examples, such as Nazi Germany's decision to invade the Soviet Union in 1941, Ford Motor Company's decision to market the Edsel, Chemie Grünenthal's decision to market the drug thalidomide, the tragedy at Kent State University during the Vietnam War, the Space Shuttle *Challenger* disaster, the Space Shuttle *Columbia* disaster, and the City of Santa Cruz's decision not to prepare for an earthquake. It is rare in these case studies to find the constellation of antecedents and consequences proposed by Janis. Researchers have also attempted to produce groupthink in the laboratory using the experimental method. These experiments,

which manipulated such variables as group cohesion, directive leadership, and stress, created ad hoc groups that were required to make group decisions. With one notable exception (discussed in the next section), these experiments have not been able to produce the defective decision making associated with groupthink.

### Current Evidence for a Social Identity Maintenance Model

Given the equivocal results of empirical groupthink research, some have called for the abandonment of the groupthink concept. Marlene Turner and Anthony Pratkanis took a different approach of attempting to redefine key groupthink concepts in order to first produce them experimentally in the lab and then use those concepts to clarify conflicting results in case examples. In this model of groupthink, termed the *social identity maintenance* (SIM) model, groupthink occurs when members attempt to maintain a shared positive image of the group (e.g., “the Kennedy White House,” “NASA,” or “progressive City of Santa Cruz”), and that positive image is subsequently questioned by a collective threat (e.g., no good solution to the Bay of Pigs, pressures to launch a space shuttle, financial pressures of retrofitting for an earthquake). In such cases, the group tends to focus on how it can maintain the shared positive image of the group and not the specific task of making a good decision in the situation.

Turner and Pratkanis experimentally tested the SIM model of groupthink by asking groups of three persons to solve a difficult problem involving the falling productivity of a group of assembly station workers. Half of the groups were given a unique social identity (e.g., a group label such as Eagles or Cougars) and then asked to list the similarities among the group members. The other groups were not given labels and asked to discuss their dissimilarities. In addition, half of the groups were informed that their group would be videotaped and, more critically, were told that their videotapes would be used for training purposes in both classes held on campus and training sessions held in local corporations. Thus, failure at the task would in fact involve direct negative consequences for the group that would threaten a positive image of the group. The results showed that the groups who were given a social identity and who were operating under threat performed poorly at decision making, consistent with the expectations of a SIM of groupthink.

The SIM model of groupthink has also been tested using real-world case examples. For example, in a

case analysis of how the city council of Santa Cruz, California, made decisions regarding earthquake safety prior to the 1989 Loma Prieta earthquake disaster that devastated the city, Turner and Pratkanis found that the city council had a strong social identity as a progressive, humane governing body and that that image was threatened by a state-mandated earthquake preparedness plan. An examination of the proceedings of the city council on earthquake preparedness showed all of the classic antecedents and consequences of groupthink (as originally proposed by Janis) as well as defective decision making.

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*See also* Decision Making; Group Decision Making; Group Dynamics; Group Polarization

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## GUILT

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Guilt is a widely misunderstood emotion, having long suffered from an undeserved, bad reputation. The popular press abounds with articles offering advice on how to live a guilt-free life, many therapists identify

guilt reduction as one of their short-term treatment goals, and no one wants to be regarded as a guilt-inducing mother. But much of the stigma of guilt can be attributed to people's tendency to confuse guilt with shame. As it turns out, recent research suggests that, on balance, guilt is the more adaptive emotion, benefiting relationships in a variety of ways, without the many hidden costs of shame.

Guilt has been variously classified as one of the moral, self-conscious, social, and problematic emotions, underscoring the complexity of this affective experience and the many different roles guilt plays in people's lives. Systematic theoretical considerations of guilt date back at least to Sigmund Freud, who viewed guilt as a reaction to violations of superego standards. According to Freud, guilt results when unacceptable ego-directed behaviors or id-based impulses conflict with the moral demands of the superego. Freud saw guilt as part of the normal human experience. But he also viewed unresolved or repressed feelings of guilt as a key component of many psychological symptoms. For decades, guilt remained largely in the province of psychoanalytic theory. Very little scientific research was conducted on guilt until the mid-1960s, and few psychological researchers distinguished between shame and guilt until the affect revolution of the late 1980s.

### What Is the Difference Between Guilt and Shame?

People often use the terms *guilt* and *shame* interchangeably, as moral emotions that inhibit socially undesirable behavior or as problematic emotions that play a key role in a range of psychological symptoms. But much recent research indicates that these are distinct affective experiences. Both guilt and shame are emotions of self-blame that can arise in response to a broad range of failures, transgressions, and social blunders. The crux of the difference between these two emotions centers on the focus of one's negative evaluation. When people feel guilt, they feel badly about a specific behavior—about something they've *done*. When people feel shame, they feel badly about *themselves*. This differential emphasis on self (“I did that horrible thing”) versus behavior (“I *did* that horrible *thing*”) makes a big difference in the experience of the emotion and in the emotion's implications for psychological adjustment and interpersonal behavior. Whereas feelings of shame (about the self) involve a sense of shrinking, a sense of worthlessness, and

a desire to escape the shame-inducing situation, feelings of guilt (about a specific behavior) involve a sense of tension, remorse, and regret over the bad thing done. People in the midst of a guilt experience often report a nagging focus or preoccupation with the transgression, thinking of it over and over, wishing they had behaved differently. Rather than motivating a desire to hide, guilt typically motivates reparative behavior: confessing, apologizing, or somehow undoing the harm that was done. Thus, feelings of guilt are more apt to keep people constructively involved in the guilt-inducing situation.

An advantage of guilt is that the scope of blame is less extensive and far-reaching than in shame. In guilt, one's primary concern is with a particular behavior, somewhat apart from the self. Because guilt doesn't threaten one's core identity, it is less likely than shame to trigger defensive denial or retaliation. In effect, guilt poses people with a much more manageable problem than shame. It's much easier to change a bad behavior than it is to change a bad self.

### Guilt Appears to Be the More Adaptive Moral Emotion

Five sets of research finding indicate that guilt is the more moral, adaptive emotion, relative to shame. First, shame and guilt lead to contrasting motivations or action tendencies. Shame is typically associated with a desire to deny, hide, or escape; guilt is typically associated with a desire to repair. In this way, guilt is apt to orient people in a constructive, proactive, future-oriented direction, whereas shame is apt to move people toward separation, distancing, and defense.

Second, there appears to be a special link between guilt and empathy. Interpersonal empathy involves the ability to take another person's perspective, to really know (and feel) what another person is feeling. In turn, empathy motivates prosocial, helping behavior; it inhibits aggression; and it is an essential component of warm, rewarding relationships. Numerous studies of children, adolescents, and adults show that guilt-prone individuals are generally empathic individuals. (In contrast, shame-proneness is associated with an impaired capacity for other-oriented empathy and a propensity for self-oriented personal distress responses.) Similar results emerge when considering feelings of shame and guilt in the moment. Individual differences aside, when people describe personal guilt experiences, they convey greater empathy and concern for the victims of their transgressions, compared to

descriptions of shame experiences. By focusing on a bad behavior (as opposed to a bad self), people experiencing guilt are relatively free of the egocentric, self-involved process of shame. Instead, their focus on a specific behavior highlights the consequences of that behavior for distressed others, facilitating an empathic response.

Third, perhaps owing to the link between feelings of guilt and empathy, guilt-prone people are inclined to manage and express their anger in a constructive fashion. Although guilt-prone individuals are about as likely as the average person to become angry in the course of everyday life, once angered they are inclined to work toward addressing the problem in an open, nonhostile manner, using their anger to make changes for the better. For example, when angered, guilt-prone people are motivated to fix the situation, are less likely to become aggressive, and are more likely to discuss the matter openly and rationally. In contrast, people prone to feel shame (about the entire self) are more apt to use aggressive and other destructive strategies for expressing anger.

Fourth, findings from studies of people from many walks of life indicate that guilt is useful in helping people avoid sin and persevere on a moral path throughout life. For example, among college students, guilt-proneness is associated with endorsing such items as "I would not steal something I needed, even if I were sure I could get away with it." Guilt-prone adolescents are less inclined to become delinquent than their non-guilt-prone peers. Children prone to shame-free guilt in the fifth grade are, in young adulthood, less likely to be arrested, convicted, and incarcerated. They are more likely to practice safe sex and less likely to abuse drugs. Even among adults already at high risk, guilt-proneness appears to serve a protective function. In a longitudinal study of jail inmates, guilt-proneness assessed shortly after incarceration was related to lower levels of recidivism and substance abuse during the first year after release.

Finally, contrary to popular belief, shame-free guilt does not carry with it high costs in psychological adjustment and well-being. When measures are used that are sensitive to the distinction between shame (about the self) and guilt (about a specific behavior), the propensity to experience guilt is essentially unrelated to psychological symptoms. Numerous independent studies converge: Shame, but not guilt, is related to anxiety, depression, low self-esteem, and a host of other psychological problems.

## When Does Guilt Become Maladaptive?

Why is guilt frequently cited as a symptom in such psychological disorders as anxiety and depression? What is the chronic, ruminative guilt described by so many clinicians? One possibility is that many of these problematic guilt experiences are actually feelings of guilt fused with feelings of shame. It seems likely that when a person begins with a guilt experience ("Oh, look at what a horrible *thing* I have *done*") but then magnifies and generalizes the event to the self ("... and aren't I a horrible *person*"), many of the advantages of guilt are lost. Not only is a person faced with tension and remorse over a specific behavior that needs to be fixed, but also he or she is saddled with feelings of contempt and disgust for a bad, defective self. In effect, shame-fused guilt may be just as problematic as shame itself.

In addition, it is worth noting that most measures that distinguish between shame and guilt focus on situations in which responsibility or culpability is relatively unambiguous. People are asked to imagine events in which they clearly failed or transgressed in some way. Problems are likely to arise when people develop an exaggerated or distorted sense of responsibility for events beyond their control. Survivor guilt is a prime example of such a problematic emotional reaction that has been consistently linked to post-traumatic stress disorder and other psychological symptoms.

## Is Guilt Beneficial?

Guilt's benefits are most evident when people acknowledge their failures and transgressions and take appropriate responsibility for their misdeeds. In such situations, the interpersonal benefits of guilt do not appear to come at an undue cost to the individual. The propensity to experience shame-free guilt in response to clear transgressions is generally unrelated to psychological problems, whereas shame is consistently associated with maladaptive processes and outcomes at multiple levels. When considering the welfare of the individual, his or her relationships, and the society at large, guilt is the moral emotion of choice.

*June Price Tangney*

*See also* Depression; Empathy; Regret; Self-Esteem; Shame

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## GUILTY PLEASURES

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### Definition

A guilty pleasure is an activity with short-term payoffs that are positive for a person but with long-term negative consequences. For example, reading a trashy magazine can be rewarding in the short term because it is fun, but it can be more negative in the long term if your friends think less of you for enjoying it. Other commonly listed guilty pleasures are eating tasty but unhealthy foods and partying even though it interferes with work.

### Usage and History

Dilemmas of self-control often present a contrast between immediate payoffs and delayed payoffs. According to Roger Giner-Sorolla, these dilemmas can be described either as delayed cost (guilty pleasure) or delayed benefit (grim necessity). His studies have shown that people associate different emotions with different types of consequences. In particular, when participants were asked for examples of activities with more positive short-term than long-term consequences, these guilty pleasures brought up negative emotions that tended to be more *self-conscious*. That is, they dealt with evaluating the self and one's own actions, for example, "guilty" and "regretful." However, the positive emotions they came up with for these activities tended to be more *hedonic*, or concerned

with immediate pleasure in the activity; for example, "fun" and "happy." Other studies showed that for guilty pleasures in particular, self-conscious emotions that were more quickly reported went together with greater self-control. In fact, when dieters in an eating situation were subtly reminded of negative self-conscious words, they ate lower amounts of unhealthy snacks.

The point is that emotions can help or hurt self-control, depending on whether they are of the kind that deal with short- or long-term consequences. It is particularly helpful to anticipate self-conscious emotional consequences before they occur. Bad feelings do no good if they come after an act, unless a person learns that future bad feelings will happen if they do the act again. In fact, anticipated regret can be an important factor in decision making. For example, male students in one experiment were told to think about how they would feel after sex without using a condom, as opposed to during sex. Those who thought about "after" feelings reported greater intention to use condoms and greater actual use, even weeks after the experiment. Not surprisingly, participants reported anticipating "after" emotions that were negative and tended to be self-conscious—guilt, worry, and so on—while emotions in the "during" condition were more positive.

Roger Giner-Sorolla

*See also* Grim Necessities; Moral Emotions; Regret; Self-Regulation

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## HABITS

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Habits are learned dispositions to repeat past responses. They develop because many behavioral sequences (e.g., one's morning coffee-making routine) are performed repeatedly in essentially the same context and in much the same order. When responses and context cues repeatedly occur together, the potential exists for associations to form between these various elements. Once these associations form, the mere perception of the context can trigger the response. Contexts include elements of the physical or social setting (places, presence of others), temporal cues (time of day), and prior events (actions in a sequence).

Typing, driving a car, and wrapping wontons all become habitual with practice. When wontons become a staple at dinner, one doesn't need to decide specifically to wrap. Instead, wrapping is cued by time of day, hunger, and any standard prior activities. In this way, the mere perception of context cues triggers automatically the habitual response without intention. Once cued, habit performance has a ballistic quality in that it does not require additional input and is difficult to inhibit.

Habits are similar to other automatic responses that are activated directly by context cues (e.g., implementation intentions, nonconscious goals). However, habits develop with repetition, and they do not require intentions to initiate.

Historically, the construct of habits is tied to behaviorism, especially John Watson's and B. F. Skinner's radical behaviorism that rejected cognition as a cause

of action and a mediator of stimulus–response associations. Radical behaviorism built on the classic idea that learning occurs as the formation of a direct bond between some physical event or sensory input and a muscle response, so that the external stimulation reflexively comes to cause the response. Strict behaviorist models proved limited in their ability to account for human functioning. In contrast, in modern perspectives, habits have moved decidedly into the head.

### **Control of Responses Changes With Repetition**

There are currently three perspectives on the habit mechanisms that generate repeated behavior in everyday life. Observations of college students and adults in the community suggest that about 45% of everyday behavior is repeated almost daily and usually in the same context.

In a direct context cuing account, repeated co-activation forges direct links in memory between context and response representations. Once these links are formed, merely perceiving a context can trigger associated responses. Supporting evidence comes from research in which the mere activation of a construct, such as the elderly stereotype, leads to the activation of associated behaviors, such as physical infirmity, that manifests in actual performance.

It is not yet clear whether contexts trigger responses through such a simple mechanism in the absence of a relevant goal. Social cognition research has thus far demonstrated a limited version of direct cuing effects. Although research has yet to demonstrate that such

activation can initiate responses, the possibility that action can be directly cued by contexts in the absence of goal activation is suggested by myriad findings in cognitive neuroscience revealing reduced involvement of goal-related neural structures, such as the prefrontal cortex, when behaviors have come under habitual control. Furthermore, evidence from animal learning research using a clever paradigm in which reinforcers are devalued is also commonly interpreted as indicating the direct context control of habits. When rats initially perform an instrumental behavior (e.g., pressing a bar to receive a food pellet), they appear motivated by specific goal expectations; they cease the behavior if the reward is devalued (e.g., by pairing it with a toxin). In contrast, when rats repeat the behavior sufficiently to form habits, they appear motivated directly by the performance context: They continue the behavior despite reward devaluation. Animal learning research shows that repeated responding is not oriented to attaining specific goals.

In the motivated contexts perspective, contexts themselves can acquire motivational value through their prior association with instrumental reward. If contexts predict rewards in this way, then they plausibly carry the power to energize and activate associated responses. Evidence of this predictive role comes from animal studies of the neurotransmitters that mediate reward learning. For example, Wolfram Schultz, Peter Dayan, and P. Read Montague found that when monkeys are first learning that a feature of the environment (e.g., a light) predicts a reward (e.g., a drop of juice) when a response is made (e.g., a lever press), neurotransmitter activity (i.e., dopamine release) occurs just after receipt of the reward. After repeated practice, the animal reaches for the lever as soon as the light is illuminated. Furthermore, the neurotransmitter response is no longer elicited by the juice reward but occurs instead following the initial presentation of the light. The environmental cue has thus come to predict the reward value of the imminent response.

Reward-predicting environments are thought to signal the long-run future value, the cached value, of an action without signaling a specific outcome associated with it. Put differently, this value reflects a general appetitive tag associated with the environment and not a prediction about a specific outcome (e.g., a food pellet). This diffuse motivation may explain the relatively rigid pattern of repetition in everyday life, given that cached values do not convey a specific desired outcome that could be met by multiple substitutable means. The motivated environment idea has

been tested primarily with animals, and its ability to account for human habits has yet to be demonstrated. However, promising support comes from evidence of common reward-related neurotransmitter systems across species (e.g., dopamine is elicited by monetary reward in humans).

Finally, some researchers have invoked implicit goals and argued that habits develop when, in a given context, people repeatedly pursue a goal via a specific behavior. This leads to the formation of an indirect association between the context and behavior via a broader goal system or knowledge structure. However, the dynamic, flexible nature of goal pursuit—especially the idea in many goal theories that people substitute behaviors that serve a common goal—does not map well onto the rigid pattern of responding that emerged in diary studies of everyday behaviors. Thus, implicit goals do not plausibly mediate between contexts and responses in habit associations.

### Assessment of Habit Strength

How should habit strength be assessed? In laboratory experiments, strong habits are formed by frequent repetition in stable contexts (e.g., completing a sentence with the same word on a computer program). In naturalistic studies, habit strength is measured from people's reports of the behavior they frequently performed in the same contexts (e.g., always reading the newspaper after dinner). In general, the similar effects obtained for manipulated and self-reported habits confer validity to self-report measures. In additional support of this validity, self-reported habits continue to predict future performance even when other predictors are statistically controlled (e.g., behavioral intentions).

Sometimes naturalistic measures of habit strength assess only performance frequency. This should be sufficient for actions that are performed in one context (e.g., wearing seat belts). However, for actions performed in multiple contexts, habit strength also depends on the stability of the performance context, and measures should include this component.

### Prediction, Change, and Regulation of Habits

The context cuing and ballistic progression of habits should be apparent in research on predicting, changing, and regulating everyday behavior. Although psychologists often predict behavior from mindful constructs such as intentions, attitudes, and decisions,

the best predictor of habit performance should be the strength of context–response associations in memory. In support, research has shown that intentions predict behavior primarily when habits have not been formed. As habit strength increases, habits tend to be repeated regardless of people’s intentions. This pattern plausibly reflects the cuing and ballistic quality of habits; it is difficult to control habits that do not correspond with intentions.

Changing habits also poses unique challenges. For actions that are not easily repeated into habits, changing intentions tends to change behavior. However, given that habits are cued by contexts and proceed ballistically, changing intentions has only limited effect on habit performance. Thus, changing intentions concerning diet, seat belt use, and other often-repeated behaviors may not have much effect on performance. Yet, the dependence of habits on context cues makes them vulnerable to other types of interventions. Habit performance is especially susceptible to changes in the performance context. Effective habit change interventions likely involve structural changes that remove triggering cues or disrupt the automated mechanisms that generate repetition.

Self-regulation involves actively controlling behavior. The context-cuing, ballistic features of habit performance appear to interact with this process by influencing the ease with which responses can be executed versus withheld. The unique pattern of habit regulation emerges most strongly when people’s self-control resources are low. Then, people are able to execute habits successfully but are less able to inhibit habit performance.

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Wendy Wood

*See also* Automatic Processes; Implementation Intentions; Learning Theory; Memory; Self-Regulation

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## HALO EFFECT

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### Definition

Halo effects refer to the widespread human tendency in impression formation to assume that once a person possesses some positive or negative characteristic, other as yet unknown qualities will also be positive or negative, in other words, consistent with the existing impression. It seems as if known personal characteristics radiate a positive or negative halo (hence the name *halo effect*), influencing a person’s expectations about other as yet unknown qualities. Halo effects reflect the apparent belief that positive and negative characteristics occur in consistent patterns. For example, if you have a positive impression of your colleague Sue because she is always clean and well groomed, and somebody asks you whether Sue would be the right person to organize the office party, you are more likely to answer yes, not because you have any real information about Sue’s organizational abilities but because you already have an existing positive impression of her.

### History and Mechanisms

Halo effects were first described in the 1920s by Edward L. Thorndike, and numerous experimental studies have since documented their existence. Halo effects can operate in strange ways, especially when the known qualities of a person are totally unrelated to the characteristics to be inferred. For example, external, physical appearance often serves as the basis for inferring internal, unrelated personal qualities. This was first shown in a study that found that physically attractive women were judged to have more desirable internal qualities (personality, competence, happiness, etc.) than homely, unattractive looking women. In a similar way, several studies found that attractive looking people are often judged less severely when they commit a transgression, and attractive looking children are punished less severely than unattractive children when committing the same misdemeanor. The fact that people are even prepared to make judgments about another person’s personality, let alone culpability, based

on that person's physical attractiveness is quite surprising. People can perform this task only by confidently extrapolating from physical attractiveness to other, unknown, and hidden qualities.

Halo effects occur because human social perception is a highly constructive process. As humans form impressions of people, they do not simply rely on objective information, but they actively construct a meaningful, coherent image that fits in with what they already know. This tendency to form meaningful, well-formed, and consistent impressions is also confirmed by other studies conceived within the Gestalt theoretical tradition (represented in social psychology by the work of Solomon Asch, for example).

### Research Findings

Halo effects represent an extremely widespread phenomenon in impression formation judgments. Even something as innocuous as a person's name may give rise to halo effects. In one telling experiment, schoolteachers were asked to rate compositions allegedly written by third- and fourth-grade children. The children were only identified by their given names, which were either conventional names (e.g., David, Michael) or were unusual names (e.g., Elmer, Hubert). These researchers found that exactly the same essay was rated almost one mark worse when the writer had an unusual name than when the writer had a common, familiar name. In this case, names exerted a halo effect on the way a completely unrelated issue, essay quality, was assessed.

In some intriguing cases, halo effects also operate in a reverse direction: Assumed personal qualities may influence people's perceptions of a person's observable, objective external qualities. In one fascinating experiment, students were asked to listen to a guest lecture. Some were told that the lecturer was a high-status academic from a prestigious university. Others were told that the lecturer was a low-status academic from a second-rate university. After the lecture, all students completed a series of judgments about the guest lecturer. Among other questions, they were also asked to estimate the physical height of the lecturer. Amazingly, those who believed the lecturer to be of high academic status overestimated his physical height by almost 6 centimeters compared to those who believed him to be a low-status person. In this case,

academic status exerted a halo effect on perceptions of height, despite the fact that height is in fact a directly observable, physical quality.

When a known negative characteristic gives rise to unjustified negative inferences about the unrelated qualities of a person, the halo effect is sometimes called the *devil effect* or the *horn effect*. For example, if your office colleague is often unshaven or unkempt, people are more likely to assume that the person is lazy or incompetent, even though these two qualities may be unrelated.

### Significance and Implications

The existence of halo effects may often give rise to long-term biases and distortions to the way a person is assessed. If people expect a person to have generally positive or negative qualities based on very limited information, it is usually possible to find subsequent evidence to confirm such expectations given the rich and multifaceted nature of human behavior. Such biases may lead to a self-fulfilling prophecy, when people selectively look for and find information to confirm an unjustified original expectation, often triggered by an initial halo effect. The practical consequences of halo effects can be very important in personal and working life, as people will draw unjustifiable inferences on limited samples of behavior. Being untidy, messy, unattractive looking, or late may lead to more negative judgments about other hidden qualities. The principle appears to be the following: Emphasize positive details, and avoid giving people any negative information about yourself, especially when they do not know you very well and so are likely to draw unfavorable inferences based on limited and easily accessible information.

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*See also* Impression Management; Primacy Effect, Attribution; Recency Effect; Self-Fulfilling Prophecy

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# HAPPINESS

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## Definition

When psychologists use the term *happiness*, they tend to mean one of two things. In the narrow sense, happiness is a specific emotion that people feel when good things happen. It includes feelings of pleasantness along with moderate levels of arousal. In addition, the emotion often co-occurs with a specific facial expression: the smile. Happiness can be distinguished both from negative emotions such as sadness, fear, and anger and also from other positive emotions such as affection, excitement, and interest. People from around the world tend to have a similar concept for happiness and can recognize happiness in others. As a result, the emotion of happiness is often included as one of a small number of basic emotions that cannot be broken down into more fundamental emotions and that may combine to form other, more complex emotions (in fact, it is sometimes the only positive emotion that is considered to be basic). Thus, happiness is an important concept for researchers who study emotions.

Yet happiness also has a broader meaning, and an entire field of research has developed around this more inclusive concept. Psychologists often use the term *subjective well-being* to distinguish this broad collection of happiness-related phenomena from the more specific emotion. In this broader sense, happiness is a global positive evaluation of a person's life as a whole. As one might expect, people who are happy in this way tend to experience frequent positive emotions and infrequent negative emotions. But this broader form of happiness is not purely emotional; it also has a cognitive component. When happy people are asked to think back on the conditions and events in their life, they tend to evaluate these conditions and events positively. Thus, happy people report being satisfied with their lives and the various domains in their lives.

Interestingly, these different components of happiness do not always co-occur within the same person. It is possible that someone could experience a great deal of negative emotions yet still acknowledge that the conditions of his or her life are good ones. For example, someone who works with the poor, the sick, or the destitute may experience frequent negative emotions but may also feel satisfied with life because he or she

feels that the work is worthwhile. Similarly, someone who spends lots of time engaging in hedonistic pleasures may experience frequent positive affect but may also feel that life is empty and meaningless. Subjective well-being researchers are interested in the various factors that influence these distinct components.

## Background

Psychologists are interested in happiness for two reasons. First, psychologists study happiness because lay people are interested in happiness. When people from around the world are asked to list the things that are most important to them, happiness consistently tops the list. People rank attaining happiness as being more important than acquiring money, maintaining good health, and even going to heaven. Psychologists believe that they can help people achieve this goal of being happy by studying the factors that are associated with happiness.

A second reason why psychologists study happiness is because people's evaluative responses to the world may provide information about human nature. One of the most basic principles guiding psychological theory is that people and animals are motivated to approach things in the world that cause pleasure and to avoid things in the world that cause pain. Presumably, this behavior results from adaptive mechanisms that guide organisms toward resources and away from dangers. If so, people's evaluative reactions to the world should reveal important information about basic characteristics of human nature. For instance, some psychologists have suggested that human beings have a basic need to experience strong and supportive social relationships. These psychologists point to evidence from the field of subjective well-being to support their claim—people's social relationships are reliably linked to their happiness. Thus, cataloging the correlates of happiness should provide important information about the features of human nature.

## Measurement

It is reasonable to ask whether happiness can even be studied scientifically. Psychologists can't see happiness, and therefore it might seem that happiness would be difficult to measure. However, psychologists have spent decades studying happiness measures (including

self-report measures), and a great deal of evidence now suggests that these measures are valid. For instance, when researchers ask people to report on their happiness, their answers tend to be consistent over time: People who say they are happy now also tend to say that they are happy when asked again in the future. Because the conditions in people's lives don't usually change that frequently, the stability of happiness measures provides support for the idea that these measures truly do tap this important construct. In addition, research shows that when life events do occur, people's reports of happiness change in response.

Perhaps more importantly, when psychologists try to assess happiness in a variety of different ways, these measures all seem to converge on the same answer. For instance, when researchers ask people to provide self-reports of happiness, these reports tend to agree with informant-reports of happiness, that is, ratings provided by friends and acquaintances. Furthermore, psychologists have ways of determining who is happy without even asking for an explicit judgment of happiness, and again, these measures tend to agree with self-reports. For example, some researchers ask people to list as many positive memories as they can within a minute. People who say that they are happy tend to be able to remember and list more things. Psychologists can even find evidence of happiness in the brain: Certain patterns of brain activity are reliably associated with happiness. Together, this evidence makes psychologists confident that happiness can, in fact, be measured.

### **Correlates**

It is important to first note that although the preponderance of self-help books might suggest otherwise, most people are quite happy. When psychologists track people's levels of happiness, most people report being in mildly positive moods most of the time. In addition, when psychologists ask people to rate their overall life satisfaction, most people report scores that are above neutral. This research finding is not limited to relatively well-off samples (like the college students who are often asked to participate in psychological studies). Instead, it has been replicated in many different populations in many nations around the world. Thus, when psychologists study the correlates of happiness, they are usually looking for factors that distinguish the very happy from the mildly happy rather than the happy from the miserable.

Psychologists have arrived at several surprising conclusions in their search for predictors of happiness. Many of the factors that may first come to mind do not seem to play a major role in happiness. For example, although people strive to acquire high-paying jobs and dream about winning the lottery, income is not strongly correlated with happiness. Rich people are happier than poorer people, but the difference is not very large. As one might expect, the association between money and happiness is strongest among very poor groups and among poor nations: Income leads to smaller and smaller gains in happiness as income levels rise.

Health also plays a role in well-being, but the associations are, again, surprisingly small. Surveys of representative populations show that objective measures (including doctors' reports, hospital visits, and lists of symptoms) are very weakly correlated with happiness. Subjective reports (such as a person's own evaluation of his or her health) tend to correlate more strongly, but even these associations are, at most, moderate in size. In addition, although people with major health problems such as paralyzing spinal-cord injuries are quite a bit less happy than uninjured people, the difference is not as large as some might expect. Even people with very serious illnesses tend to report happiness scores that are above neutral.

The factor that has been most closely linked to high levels of happiness is social relationships. Research consistently shows that people who have strong social relationships tend to report higher levels of well-being. As with other domains, subjective reports of relationship quality and relationship satisfaction tend to exhibit the highest correlations with subjective well-being. But even more objective measures, including the number of close friends a person has, the number of social organizations to which the person belongs, and the amount of time the person spends with others, all show small to moderate correlations with happiness. As one might expect based on this research, specific types of social relationships are also important for well-being. For instance, marital status is one of the strongest demographic predictors of happiness. Married people consistently report higher levels of happiness than single people, who report greater happiness than the widowed, divorced, or separated. Interestingly, however, it does not appear that marriage, itself, causes higher levels of well-being. Longitudinal studies show that people only receive a small

boost in happiness around the time they get married and they quickly adapt to baseline levels. The differences between married and unmarried people are due primarily to the lasting negative effects of divorce and widowhood, along with selection effects that might actually predispose happy people to marry.

Other demographic characteristics also show weak associations with happiness. Religious people tend to report greater happiness than nonreligious people, though the size of these effects varies depending on whether religious beliefs or religious behaviors are measured. Factors such as intelligence, education, and job prestige are also only slightly related to well-being. Happiness does not seem to change dramatically over the course of the life span, except perhaps at the very end of the life when declines are somewhat steep. In addition, sex differences in well-being are not large.

In contrast to the relatively weak effects of external circumstance, research shows that internal factors play a strong role in subjective well-being. Individual differences in happiness-related variables emerge early in life, are stable over time, and are at least partially heritable. For instance, behavioral genetic studies show that identical twins who were reared apart are quite a bit more similar in their levels of happiness than are fraternal twins who were reared apart. This suggests that genes play an important role. Most estimates put the heritability of well-being components at around 40% to 50%.

Personality researchers have shown that at least some of these genetic effects may be due to the influence of specific personality traits on happiness. For example, the stable personality trait of extraversion is moderately correlated with positive affect (and, to a lesser extent, with life satisfaction and negative affect). People who are outgoing, assertive, and sociable tend to report more intense and more frequent positive emotions. This association is so robust that some psychologists have even suggested that the two constructs—extraversion and positive affect—are controlled by the same underlying physiological systems. Similarly, researchers have shown that the basic personality trait of neuroticism is moderately to strongly correlated with negative affect (and again, to a lesser extent, with life satisfaction and positive affect). This and other research on the links between happiness and traits (including factors such as optimism and self-esteem) show that personality plays a strong role in people's subjective well-being.

## Cognitive Processes That Affect Happiness

There is a popular notion that the way that people view the world should influence their happiness. Some people always look for the silver lining in things, and presumably this positive outlook shapes the emotions that they feel. Psychologists, too, believe that the way that one thinks about the world is related to characteristic levels of happiness. A great deal of research has been conducted to examine the cognitive processes that affect people's well-being.

For instance, many researchers examine the role that social comparison processes play in happiness. Initially, psychologists thought that people evaluated the conditions in their own lives by comparing them to the conditions in other people's lives. Those individuals who were worse off than the people around them (in other words, people who experience upward comparisons) should experience unhappiness; those individuals who were better off than the people around them (in other words, people who experience downward comparisons) would experience happiness. Although this effect can occur, more recent research suggests that the processes are a bit more complicated. For one thing, both upward and downward comparisons can lead to either increases or decreases in happiness. A person may look to someone who is better off and think, "I am doing terribly in comparison," or he or she may say, "I can get what she has if I just try a little harder." Obviously, these two interpretations should lead to different effects on happiness. In addition, research shows that happy and unhappy people often choose different people for comparison. Happy people may choose comparison people who serve to maintain their happiness; unhappy people may choose comparisons that lead to less happiness. Thus, social comparison affects happiness in complicated ways.

Psychologists have also shown that goals and aspirations influence happiness. Not surprisingly, people who are rapidly approaching a goal tend to experience higher levels of happiness than people who are approaching a goal more slowly. But research also shows that simply having important goals is associated with greater happiness. Presumably, the sense of purpose that these goals create may protect people from the negative effects of temporary setbacks. Interestingly, the specific goals that people choose may also affect their happiness. Research suggests that choosing

goals that are a challenge, but not unachievable, is important.

### Effects

Although people tend to think about happiness as an outcome that they desire rather than as a tool that can be used to achieve additional goals, psychologists have also begun to ask what function happiness serves. Barbara Fredrickson has developed what is probably the most well-known of these theories, and she suggested that the function of happiness (or more precisely, the function of positive emotions) is to broaden one's thinking and to build one's resources. According to this theory, positive emotions lead people to think creatively and to try new things. As a result, happy people can develop new ways to approach the world, new interests, new social relationships, and even new physical skills. All of these effects lead to positive outcomes in people's lives.

Psychologists have begun using experimental and longitudinal studies to determine whether positive affect plays a role in future positive outcomes. These studies provide evidence that happy people are more sociable and cooperative than unhappy people, are healthier than unhappy people, and earn more money than unhappy people. A number of studies have even shown that happy people live longer than unhappy people (and this is not just due to the fact that happy people tend to be healthy). Thus, although most people want to be happy because it feels good, this desired goal may lead to other positive outcomes in their lives.

*Richard E. Lucas*

*See also* Emotion; Positive Affect

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## HARDINESS

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### Definition

Hardiness is a personality trait that is associated with a person's ability to manage and respond to stressful life events with coping strategies that turn potentially

unfortunate circumstances into learning opportunities. It is characterized by a tendency to be deeply involved, a need to be in control, and a desire to learn from life's events regardless of the outcomes.

### History of Hardiness and Hardy Attitudes

With more than 20 years of theory, research, and practice, hardiness is a well-established concept in psychology. The psychological concept of hardiness was first identified by examining stress reactions among managers at the Illinois Bell Company over a 12-year period. Six years into the study, a major corporate upheaval in its parent company occurred, resulting in a decrease in half of the work force during a 1-year period. Over the next several years, two thirds of the managers showed signs of reactions to stress (e.g., heart attacks, depression, suicide, divorce) while one third of the managers thrived under these stressful conditions. What was the difference between those who succumbed to stress and those who thrived? Managers who exhibited all three attitudes of *commitment*, *control*, and *challenge* were protected against stress-related illness. The unique combination of these three attitudes became known as the 3Cs of hardiness.

Possessing all three hardy attitudes provides people with the ability to turn unfortunate circumstances into opportunities for personal growth. The 3Cs are described as (1) the tendency to become deeply involved in all aspects of life—people, places, and events (commitment); (2) belief in one's ability to influence life outcomes (control); and (3) a desire to continually learn from both positive and negative experiences and embrace change (challenge). Hardiness theory emphasizes that a person must possess all three of these attitudes to have existential courage (i.e., courage based upon experience).

### The Hardiness Model

Soon after the corporate upheaval, the research findings were used to develop a training program to assist managers at the Illinois Bell Company. From this training program and prior research, a hardiness model emerged. This model shows that as stressful circumstances increase, a strain reaction will likely occur. If this strain reaction continues to build up, it is expected that performance deficits (e.g., physical illness or mental breakdown) will follow. However, if hardy attitudes are strong, the consequence is hardy coping.

Thus, hardy people use active rather than passive coping strategies and are less likely to avoid coping with stressful events. Hardy attitudes also motivate hardy coping, hardy social support (i.e., providing and receiving social support), and hardy health practices (e.g., practice of relaxation techniques and exercise). If a person actively reflects upon each situation, hardy attitudes can deepen, leading to similar hardy reactions in new situations.

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See also Control Motivation; Coping; Meaning Maintenance Model; Stress and Coping

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## HEALTH PSYCHOLOGY

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### Definition

Health psychology is devoted to understanding psychological influences on health and disease. According to Shelley E. Taylor, a leading health psychologist, this field addresses the psychological factors that determine how people stay healthy, why they become sick, and how they respond when they do get sick. Health psychology encompasses a broad array of topics and addresses a variety of questions, including health promotion and health maintenance; for example, why do some people engage in positive or negative health behaviors, such as exercise or smoking? Other areas of health psychology focus on the behavioral and social factors that could cause illness and how psychological interventions can help prevent and treat disease. For example, is low socioeconomic status associated with the onset of cardiovascular disease (in other words, are poor people more likely to have heart attacks)? What are effective behavioral techniques to manage and alleviate stress; for example, do relaxation exercises reduce stress levels? Health psychologists also analyze health care systems; research in this area can inform policies for improving hospitals, nursing homes, and

health care accessibility. For example, health psychologists can offer solutions for reducing barriers to adequate health care (e.g., not trusting/being comfortable with doctors or fear of medical procedures).

Health psychology is an interdisciplinary field, which integrates other areas of psychology (e.g., social, developmental, clinical) as well as other disciplines (e.g., immunology, public health, medicine). Health psychologists can conduct basic research and work in applied and clinical settings. With its emphasis on holistic health—or treating the body, spirit, and mind of the patient—training in health psychology can provide an important perspective for those working in medical or allied health professions (e.g., occupational therapy, dietetics, social work). Health psychology is a relatively new, emerging field with important implications for how we conceptualize health and disease; understanding how psychological processes contribute to health and illness provides a foundation for improving physical and mental health outcomes.

### Biopsychosocial Model

In the biomedical model of health and illness, physicians look for an underlying biological cause for a physical disorder and treat it with biological interventions, such as performing surgery or prescribing medicine. This perspective, in which diseases or physical disorders are caused by biological processes, has been the dominant viewpoint in medicine over the past several centuries. In contrast, health psychologists view health and illness through the biopsychosocial model, which recognizes that biological, psychological, and social factors can all contribute to health outcomes. Health psychology research has demonstrated that the inclusion of psychological and social factors in this equation is important, as these elements can have an influence on health. For example, psychological states, such as thoughts, emotions, or perceptions of stressors, can be associated with the development and progression of certain diseases. Social factors, such as family environment or social status in society, are also important determinants of health outcomes. To treat illness, proponents of the biopsychosocial model would not solely treat the problem at the biological level but would design and implement interventions that target psychological and social factors as well.

Physicians were initially reluctant to acknowledge the role that psychosocial factors could play in health and disease. However, some very persuasive research findings have helped the medical community better

understand the importance of the biopsychosocial model. For example, large prospective studies (which follow the same individuals over long periods of time) have found that psychological stressors can lead to the development of disease; those that experienced more negative life events were more likely to develop cardiovascular disease compared to people without as many major stressors in their lives. Other studies have shown that having large social networks—or belonging to different social groups—is associated with increased longevity, or how long people live. Impressive findings such as these have helped the biopsychosocial model gain more acceptance within the medical community.

### Physiological Responses to Stressful Situations

Characterizing how individuals respond and adapt to stressful situations has been a cornerstone of health psychology research. *Stressors* are situations in which the demands of the situation exceed one's resources to cope. Stressors can be major life events, such as experiencing the death of a loved one or going through a divorce, but they can also be minor, everyday occurrences, such as getting stuck in traffic or taking an exam. Stressors can be categorized as acute or short-term (e.g., delivering a speech), or chronic and ongoing (e.g., caring for a spouse with dementia). Both acute and chronic stressors can lead to *stress responses*, the psychological and physiological changes that can follow a stressful event (e.g., feeling anxious, pounding heart).

Research has demonstrated that stressful situations can have profound effects on the body, including changes in the way the heart beats (cardiovascular system), in specific chemicals that are released (hormonal system), and how the body fights infection (immune system). In the first half of the 20th century, Walter Cannon and Hans Selye provided the groundwork for this area of research. Cannon first described the fight-or-flight response, the body's reaction to threat and danger in the environment, which includes physiological changes that can lead to increases in arousal, heart rate, and blood pressure. He theorized that this increased physiological activation helps the organism quickly respond to the danger, that is, to attack or flee from the threat. Selye focused more on the endocrine responses to stressors and their potential effects on health. He proposed that stressors elicit a constellation

of physiological changes, including secretion of an important hormone, cortisol. He argued that continued activation of certain physiological systems could lead to adverse effects on health. Current research in health psychology has extended and modified the seminal contributions of these two scientists. For example, it is now known that certain types of stressors are more likely to trigger these physiological responses; uncontrollable contexts elicit greater changes in certain hormones in humans and nonhuman animals compared to situations that are more controllable.

Research in psychoneuroimmunology, the study of the relationship between psychological states and the body's natural processes for fighting off diseases (called the immune system), has demonstrated that stressful situations can influence aspects of immunity. Acute stressors can lead to changes in the number of immune cells present in the bloodstream as well as how effectively these cells function. Exposure to long-term, chronic stressors is associated with a number of negative effects on the immune system, including decrements in the function of certain types of immune cells, impaired responses to vaccination, and delays in the body's ability to heal a wound.

Research that documents the effects of stressors on physiology is important because it provides a pathway through which stressful life events could translate into effects on health; in other words, stressors could influence the body's processes (like the cardiovascular system), which in turn could affect health. For example, if a person experiences a number of stressors that cause his or her heart to beat much faster than normal, this accelerated heart rate over time could lead to the development of disease. Therefore, prolonged activation of certain body processes (caused by repeatedly experiencing stressful situations or having greater physiological responses to stressors) could put individuals at risk for illness.

### Moderators

Not everyone responds in the same way to stressful situations; individual differences in coping and our social environment can influence health outcomes. *Coping* refers to how we manage the demands of a stressful situation; effective coping strategies can dampen or reduce stress responses. *Problem-focused coping* involves doing something constructive about the situation, such as taking direct action or getting

help from others. This can be particularly effective when something can be done to change the situation (e.g., preparing for a difficult midterm exam). *Emotion-focused coping* involves regulating one's emotional response to the situation. This type of coping can be especially beneficial when acceptance is necessary, such as when coming to terms with the death of a loved one. However, there is not a universally effective coping strategy; both types of coping can be beneficial, depending on the characteristics of the situation, the individual, the timing, and the outcome examined.

Social relationships and social support can also be important for understanding how psychological processes can influence health. *Social support* can be stress-buffering; that is, it can protect an individual from the effects of a stressor. For example, having a supportive partner present during a stressful situation can lead to decreased emotional and physiological reactivity in some circumstances. Social support can also have direct effects on health or be beneficial regardless of the amount of stressors experienced. For example, *social integration*, or having a large social network, has been associated with increased longevity (regardless of the number of stressors in an individual's life). In other words, people who have many friends and relatives live longer than other people.

Research has found that individuals with certain personality traits are more likely to interpret situations as stressful and react with larger changes than others. For example, individuals high on hostility interpret ambiguous situations as threatening and are more likely to respond to interpersonal stressors with greater physiological reactivity. Other personality factors, such as optimism and hardiness, appear to buffer the impact of stressful events.

## Disease Course

Health psychology has made important contributions in helping to better understand who gets sick, which factors influence disease course and outcome, and how individuals adjust to illness and dying.

Who gets sick? Health psychologists have explored the connections between personality traits and disease incidence. One example of this line of inquiry has been in the area of heart disease. Of the many risk factors studied, hostility has been one of the more widely investigated; research has consistently found that

hostile individuals are more likely to develop cardiovascular disease. In addition, researchers have linked hostility and rates of coronary artery disease survival. Many have posited that hostile individuals' increased health risk could be due to their known exaggerated reactivity to stressors.

How do psychosocial factors influence the progression and outcome of disease? Health psychologists have studied how diseases such as HIV/AIDS progress as a function of psychological and interpersonal influences. For example, HIV-positive gay men with high levels of stressful events in their lives show faster progression of the disease. However, the presence of a supportive network can keep people healthier longer. In addition, cognitive beliefs, such as negative expectations about the future or negative beliefs about the self, have been associated with more rapid declines in the immune system and in physical health for those with HIV.

How do individuals adjust to terminal illness and dying? Cancer patients have received a good deal of attention. Cancer has many negative physical and emotional consequences, including nausea, weakness, and hair loss from chemotherapy; disfigurement; and disability from cancer itself, from surgery to remove cancer, or both. In addition to these physical ailments, cognitive responses to the diagnosis and disruptions in interpersonal relationships can lead to great psychological distress, such as depression and anxiety. Health psychology has a lot to offer in the alleviation of this suffering; some have focused on improving pain management, increasing social support, and cognitive therapy (e.g., to improve body image and self-esteem). Research has generally supported the use of these techniques with cancer patients for improvements in quality of life.

## Health Behaviors

Many of the leading causes of death are chronic illnesses, or diseases that develop over a long period of time (e.g., heart disease, cancer, diabetes). These chronic illnesses are more prevalent today because the population is living longer and people are exposed more to toxic substances. Chronic illnesses are influenced by psychosocial factors, such as behavior, lifestyle, and stress. Changes in behavior may help to prevent many deaths from these leading causes. For example, quitting smoking can contribute to reduced

risk of lung cancer. Rising health care costs have also inspired individuals to better understand behaviors that contribute to poor health.

Researchers have focused on health-related behaviors and what predicts *health-impairing* and *health-protective behaviors*. Health-impairing behaviors are those that harm one's health (e.g., alcoholism, drug abuse, and smoking). Health-protective behaviors protect or support one's good health; these behaviors include obtaining regular physical exams (screening), exercising, wearing seat belts, and controlling one's weight. Many factors play a role in determining whether someone will engage in particular health behaviors, including social values, genetics, the environment, individual emotions, beliefs, and experiences.

Health psychology has focused on understanding why health-related behaviors occur, how they progress, and how to modify them by identifying points for intervention. Major models have included the health locus of control, the health belief model, and the theory of planned behavior. For example, according to the health belief model, which was developed in the 1950s, behavior can be predicted by knowing an individual's perception of how severe a health threat is and how successful taking action would be. In other words, the individual's view is important in weighing the pros and cons in deciding a course of action in response to a health threat. Additional factors have been determined to influence the perception of threat, such as the likelihood of developing the health problem, how serious the problem is, and the individual's general beliefs about health. This model has been used to successfully predict behaviors such as dental check-ups, condom use, breast self-exams, breastfeeding, and vaccination.

## Intervention

Another area of health psychology examines how health psychologists can get involved in improving the health of individuals. For example, how can health psychologists best design and apply programs to teach behaviors that can have a positive effect on health? Interventions can take a variety of different forms (e.g., teaching coping skills or stress management techniques, providing health-relevant information or social support), and can occur at different points in the disease process.

*Primary prevention* is the process of intervening before an illness or injury develops. The goal is to keep people from developing bad health habits.

Commonly, this type of prevention is aimed at promoting health among young or at-risk populations. Educating people to wear seat belts, brush and floss regularly, and get immunized against disease are all examples of community health promotion. Behavior change, or altering problem behaviors, is the most common intervention in health psychology. This can be challenging when dealing with addictive health-impairing behavior, but it is also difficult when individuals are healthy because there is less incentive to engage in health-protective behavior, especially behaviors that are not favorable, such as dieting or exercise.

Psychological principles have shown to be useful in understanding how to change problem behavior and encourage health-protective behavior. One popular approach is cognitive behavioral; here one focuses on what circumstances elicit, maintain, and reinforce a certain behavior. Then one addresses the thoughts and beliefs about one's behavior. Cognitive behavior restructuring has been applied to behaviors such as smoking, wearing seat belts, diet, and exercise.

*Secondary prevention* is the process of screening and diagnosing illness or injury early on. The goal is to treat the individual immediately and stop the progression of disease. The most common example is physical exams, such as vision, hearing, dental, blood pressure, blood tests, and cancer screening. Health psychologists conduct research to better understand why some people do or do not screen for illness. For example, researchers are studying why individuals at high risk for certain types of cancer may or may not choose to screen for the disease.

*Tertiary prevention* occurs after illness or injury has progressed, and the focus is on containing illness or injury to avoid future complications. Goals include disease management, rehabilitation, and relapse prevention. To do this, researchers and clinicians have helped to develop and evaluate the effectiveness of support groups and therapy for individuals with diseases such as cancer, alcoholism, and cardiovascular disease.

Primary, secondary, and tertiary prevention programs can help individuals live longer and healthier, improve the quality of their lives, or both.

## Future of the Field

There are a number of exciting areas of research that health psychologists are now pursuing. Many are now examining questions of health and disease from a

life-span perspective, from the time of conception (How do prenatal stressors influence birth outcomes?) to the end of life (How can clinicians help people die with dignity?). Others are now discovering how cultural and gender differences in lifestyles, stress reactivity, and coping can influence health outcomes. As the population ages and many develop chronic diseases, it will be increasingly important to focus on health promotion and how to help individuals cope with their diagnoses and improve their quality of life. As the biopsychosocial model gains acceptance in the medical community, health psychologists have increasingly important roles to play on interdisciplinary teams of health care providers. Health psychologists have the potential to have a dramatic impact on the health of individuals by conducting research that contributes knowledge of how psychosocial factors can influence behavioral and disease processes and by intervening to promote health and prevent illness.

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*See also* Personalities and Behavior Patterns, Type A and Type B; Stress and Coping

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## HEDONIC TREADMILL

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It is widely assumed that material circumstances strongly affect human happiness. However, as the example of the “poor little rich girl” suggests, objective outcomes and happiness are not perfectly correlated. Indeed, many studies suggest that they are hardly correlated at all. For example, winners of lotteries do not

report themselves as being much happier than other people, and those who were paralyzed in an accident do not report themselves as being much less happy. Similarly, as nations get wealthier, the reported well-being of its citizens does not increase.

The lack of evidence for a relation between objective circumstances and reported well-being has given rise to the concept of a hedonic treadmill, on which humans’ happiness remains stationary, despite efforts or interventions to advance it. The metaphor is also interpreted to mean that humans’ happiness will decline if their material circumstances remain constant.

The hedonic treadmill metaphor draws support from adaptation in other domains. Pleasant smells usually become less intense (and less pleasurable) with continued exposure, and a 70° Fahrenheit room that initially feels delightful when one comes in from the cold ceases to confer pleasure after one has been inside for a while.

Despite the appeal of these analogies, the suitability of the treadmill metaphor remains in question. The conclusion that material circumstances have no effect on welfare seems implausible and objectionable, because it implies that economic inequality is irrelevant, that the poor would be no better off if they were rich.

The principal critique of the research cited on behalf of the hedonic treadmill is that happiness measures rely on subjective self-reports whose interpretation is unclear. When asked “How happy are you on a scale from 0 to 100?” respondents must judge for themselves what the end points of the scale represent. Someone who has lived a tough life might interpret 0 as unrelenting torture and 100 as pleasant comfort, whereas someone who has lived an easy life might interpret 0 as the absence of joy and 100 as heavenly bliss. If these two people each declared their happiness level to be a 60 (out of 100), it would obviously be wrong to conclude that the two people really are equally happy, since one person has adopted a higher standard for the internal feeling that warrants that rating.

Thus, data showing that subjective ratings of happiness remain constant despite objectively improving circumstances could instead be explained by a satisfaction treadmill, whereby improving circumstances lead individuals to adopt successively higher aspirations for the amount of enjoyment they regard as acceptable. To illustrate, consider someone who moves from an apartment with a view of a parking lot to one with a view of the ocean shoreline. According

to the hedonic treadmill hypothesis, the pleasure conferred by the better view diminishes over time, until gazing upon waves crashing into the shoreline brings no more pleasure than formerly derived from gazing upon cars parked on asphalt. By contrast, according to the satisfaction treadmill, the ocean view continues to confer more pleasure, which satisfaction or happiness ratings fail to reflect, because the person has come to adopt higher standards for what constitutes a “great” view or a “great” life (a label they now reserve for living in a home with unobstructed and panoramic ocean views on a more scenic part of the coast).

Though the hedonic treadmill and satisfaction treadmill are competing metaphors, they are not mutually exclusive, and each might contribute to the finding that groups in different circumstances report more similar levels of happiness than one would expect. Resolving the relative role of each is a central challenge for happiness researchers. Researchers are relying increasingly on more objective indicators of happiness, including biological indicators of stress and measures of activation in the areas of the brain that are associated with feelings of pleasure and pain. Some have also advocated moment-based measures, which attempt to reconstruct someone’s well-being from his or her moment-to-moment reports of mood. Moment-based measures are simpler and may be less susceptible to scale norming. Respondents need only report how they currently feel when engaged in some particular activity, rather than being required to simultaneously recall and evaluate every aspect of their life.

*Shane Frederick*

*See also* Happiness; Research Methods; Self-Reports

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## HELPING BEHAVIOR

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### Definition

Helping behavior is providing aid or benefit to another person. It does not matter what the motivation of the helper is, only that the recipient is assisted. This is distinguished from the more general term *prosocial behavior*, which can include any cooperative or friendly behavior. It is also distinguished from the more specific term *altruistic behavior*, which requires that the motivation for assisting others be primarily for the well-being of the other person or even at a cost to oneself.

### History and Background

The value of one person helping another is an ancient virtue discussed by the Greeks, evident across cultures and civilizations, and pervasive in world religions. One ancient Greek philosopher, Plato, suggested that groups of people needed to form social contracts to ensure that individuals would restrain their own selfish behavior for the good of others. Aristotle saw human nature as more innately good. He also described the relative positive feelings of the giver and receiver for one another. According to Aristotle, these feelings are greater for the person giving help than the help recipient. The ancient Chinese Confucian value “Jen” is a benevolence or charity toward others and is regarded as the highest of Confucian values.

The ancient Greeks and Chinese are not the only ones concerned with helping behavior. Almost all world religions have some version of the Golden Rule—people should treat others as they would like to be treated. The Christian Bible promotes care for each other, the poor, and the needy. It also tells the parable of the Good Samaritan, who helped a stranger in distress along the roadway. This parable has become the modern ideal model of positive helping behavior. Maimonides, the Jewish Rabbi and philosopher, described the Golden Ladder of Charity, or eight degrees of goodness in helping others. Charity toward others is the third Pillar of Islam (Zakat) and involves an annual obligation to give to those in need. Buddhism’s Noble Eight Fold Path encourages helping others through right speech, action, and livelihood. In Hinduism, kindness to all creatures is important because all creatures are manifestations of

God. Furthermore, helping to reduce others' suffering is good karma, or a positive effect that a person's behavior has on subsequent incarnations.

In modern, scientific approaches, social psychologists have been at the forefront of understanding how and why people help others. However, very little was written on helping behavior until a key historical event: the murder of Catherine "Kitty" Genovese on March 13, 1964. The failure of people in the area to help during the attack made newspaper headlines and spurred a great deal of commentary. Social psychologists Bibb Latané and John Darley were inspired to study what decision-making processes were involved in deciding whether to help in an emergency situation. Latané and Darley's work was among the first of thousands of professional journal articles and books on the topic.

### Types

In people's everyday lives there are innumerable small acts of helping, like lending a pen to a fellow student. There are also very large acts of helping that include donating large sums of money or rescuing someone from a burning building. P. L. Pearce and P. R. Amato classified the kinds of helping as falling along three dimensions: level of planning and formality, directness of the help, and seriousness of the need. Level of planning and formality can range from very formal and planned, like working as a hospital volunteer each week, to very spontaneous and informal, like helping someone who has dropped some papers in the hallway. Directness of help refers to level of contact with the recipient of help from very direct, like helping a young girl tie her shoes, to very indirect, like mailing off a charity donation to help hurricane victims. Finally, the seriousness of the need should be taken into account. There is a big difference in lending someone a few pennies when he or she is short at the grocery store and doing CPR and rescue breathing on someone who has had a heart attack. The consequences of the former are very small, whereas the consequences of the latter could mean the difference between life and death.

A. M. McGuire described four different types of helping behavior. *Casual helping* involves doing small favors for casual acquaintances, such as letting someone borrow your cell phone for a quick call. If you have ever helped a friend or family member to move, you've engaged in *substantial personal helping*. This

helping involves putting out a lot of effort to help someone over an extended time, so that the recipient can have a benefit. *Emotional helping* means providing care and personalized emotional support to another, like listening to a friend who has had a bad day or giving knowledge and advice to someone who requests it. Finally, *emergency helping* is assisting someone who has an acute problem. This would be like calling 911 when you witness a car accident. A concept related to McGuire's classifications of helping behavior is social support, which can involve providing both resources to help a person solve a problem and the emotional or psychological support required to endure the stresses of life's problems.

### Importance

The importance of this topic is evident. It is the rare individual who can go through life never needing help from another person. Most people experience some sickness, a car break-down, or other problem in which they need at least the temporary assistance of others, and many people will experience an emergency or personal tragedy for which they will need much greater assistance. Understanding emergency helping behavior can help researchers better predict who will help under what circumstances. Then resources can be focused on getting help where it is most needed at the time it is needed. Community education efforts can increase the timeliness and usefulness of help provided and can direct those in need to appropriate services. Promoting helpfulness is a benefit to individuals, families, and communities. If the community is prepared to be helpful, then the help will be there when each community member needs it. Better understanding helping processes may even lead to ways to prepare those who need help to ask effectively.

### Theoretical Explanations

One of the greatest unanswered questions in social psychology is why people help others, particularly if that helping comes at a cost to themselves. Three broad theoretical approaches seek to explain the origins of helping behavior: natural explanations (including evolutionary and genetic explanations), cultural approaches (including sociocultural and social learning explanations), and psychological or individual-level explanations.

Scientists who study evolutionary psychology or sociobiology explore the evolutionary origins of human behavior. They may examine human groups or animal behavior to help learn about the way in which the human species developed and maintained the ability to act prosocially. They believe that evolutionary pressures make people naturally inclined to help others. However, they qualify that people are most likely to help those who will help them pass on their own genes or to pass along similar genes. So, people are more likely to help relatives than nonrelatives. People may be more willing to help their own children than neighbors' children, because one's own child has more related genetic material. Similarly, people are more likely to help others with similar physical, attitudinal, and demographic characteristics because they are more likely to pass along similar genetic characteristics to the next generation. So, people are more likely to help their friends, who are like them, than they are to help strangers, who are not like them. Attractive group members may receive more help, because they are more likely to pass along high-quality genetic traits to the next generation. So, in the evolutionary past, people with helpful characteristics may have been more likely to pass their genes to the next generation, promoting the good of the group and making those characteristics more visible in subsequent generations.

Other scientists argue that it is not genetics and evolution but culture and learning processes that produce helpful people. These scientists use society's rules, called *social norms*, and society's child-rearing processes, called *socialization*, to explain how people become helpful. Perhaps the most universal norm in the world is the norm of reciprocity. This norm suggests that if someone does something for you, you are obligated to do something in return. This social pressure comes with exchange of goods, like birthday presents, and exchange of services, like giving friends a ride in expectation that they'll drive next time. So, to repay their social debt, people are most likely to help those who have helped them in the past. People are also more likely to help those they think might help them in the future, reciprocating their own good deed. Another social norm that relates to helping is the norm of equity. If people perceive themselves to be overbenefited (getting more than their fair share in life) or others to be underbenefited (getting less than their fair share in life), they'll act to fix the inequity. If they can't fix the inequity, however, they may blame the victim

for his or her own misfortune, keeping their perception of a just and fair world in balance. The third major social norm related to helping behavior is the norm of social responsibility. In general, people believe they are responsible for helping those in their society who need help or are dependent on them. For example, people may feel that it is their responsibility to be helpful to children, the infirm elderly, people with physical disabilities, and other groups. This norm of social responsibility is stronger among women than men, and it is stronger among people with a collectivist orientation than among people with an individualist orientation. Also, while people will follow the norm of social responsibility in most cases, they will not follow it if they believe the person to be helped was to blame for his or her own need. For example, a male student may not help a female friend with lunch money if he knows that she spent what should have been her lunch money on video games earlier in the day.

Social psychologists have also explored individual-level explanations for why people help. These explanations concern the rewards received and costs paid for helping and the emotions around helping. People may receive rewards for helping others. These rewards can be physical rewards, like receiving a monetary award for returning a lost wallet; social rewards, like having public recognition of a good deed; or emotional, like feeling good after carrying groceries for an elderly neighbor. Costs associated with *not* helping are also motivating. People may help others specifically to avoid the guilt and shame associated with not fulfilling social obligations. People may also fear the disapproval they would receive from others for not helping. It would look bad if you stood passively aside while someone struggled to get through a door with an armload of boxes, when you could easily have helped them. Social learning theory suggests that to the extent people experience these rewards for helping or costs for *not* helping, they are more likely to help others in the future, expecting the next situation to have similar rewards and costs. So, rewards and costs do not need to be immediate to influence motivation. Sometimes people help others because it will aid their long-term goals of social recognition, fulfill career aspirations, or increase the social reputation, goods, money, and services they may receive in the future. People learn which behaviors produce rewards and which bring costs, beginning with parental teaching and modeling of helpful behaviors and continuing through life as friends, coworkers, and families praise

or criticize people for enacting behaviors. For example, children who are taught to give to the poor through food drives and receive praise for doing so are more likely to continue these behaviors through their life.

Research teams headed by Robert B. Cialdini and C. Daniel Batson have spurred an ongoing debate concerning the role of empathy in motivating helping behavior. Cialdini contends that feelings of empathy produce a merging with the other and experience of that person's emotional pain, so the person helps others to relieve his or her own emotional pain. Batson describes the desire to help another out of empathic concern for the other's well-being as more genuinely altruistic. Altruism is defined as helping another purely for the good of the other person, with no external or internal rewards for the self, and possibly at great cost to one's self. Heroes who rescue people from burning buildings and saintly figures, like Mother Teresa, are often described as altruistic.

### Deciding When to Help

Whatever the motivation to help, decisions must ultimately be made to help or not help. Latané and Darley describe a *decision model of helping* for explaining when people will or will not help. This model takes into consideration individual experiences and social situations that make a person less inclined to help. For example, if a person never notices that someone nearby in a noisy restaurant is choking, the person won't be able to help. An example of a situational factor that influences helping behavior is *diffusion of responsibility*. If the same noisy restaurant is crowded with other people who could potentially help the choking victim, any one person is less likely to actually administer assistance, the responsibility for helping is diffused among the group.

In deciding whether to help, the person also takes into consideration the current rewards and costs of helping. Jane A. Piliavin's arousal: cost-reward model explains this process. When a person sees another in distress, such as in an illness or emergency situation, the person may feel empathy and arousal. Piliavin states that this empathic arousal motivates helping a person in need. What the helper actually does to reduce the victim's distress depends on the cost to the helper of acting and the costs for the victim if he or she doesn't receive help. Personal costs for helping include injury, the effort put forth, and potential embarrassment. Costs for the victim not receiving help are the victim's

continued distress and the shame, guilt, and social criticism directed at the person who does not help. When the costs to the victim of not getting help are high but the costs for helping are low, like a child running out into a busy street, people are likely to directly intervene (such as catching the child before the child reaches the street). The more dangerous or costly it becomes to the self, the less direct help will be offered. For example, people are less likely to come between two people having a fistfight at an athletic event because of the danger of being hurt themselves. In these cases, people will be more likely to use indirect helping tactics, such as alerting security staff about the fight. Other people reinterpret the event so that they won't have to feel responsible for helping. For example, thinking, "Those unruly drunk guys probably deserve the beating they're getting from each other." When the cost of helping is high and the cost for not helping is low, people often leave the scene or deny that there was ever a need for help. In the ambiguous situation of having a low cost of helping and a low cost to the victim of not getting help, social norms govern whether people will provide assistance.

### Gender and Other Individual Differences

There is wide popular perception that women are more helpful than men, more generally kind and nurturing. Yet, awards for heroism are much more likely to go to men than to women. Laboratory studies in social psychology tend to show either that men are more helpful or that both genders are equally helpful. Men play the social role of heroes and protectors in Western society, encouraging helping behavior. Men are typically physically larger and stronger than women, so they may perceive or experience less danger of being hurt themselves in engaging in heroic acts. Therefore, we cannot attribute all of heroism to being biologically wired for helping in emergencies. Some research suggests that women may be more likely to help in the context of ongoing family and friendship relationships. They may also be more likely to help when the task involves doing things related to stereotypical gender roles for women, such as helping a lost child find her parent or delivering meals to someone who has been sick.

Samuel P. Oliner and Pearl M. Oliner studied the personality characteristics of some of the heroes of the Holocaust. These individuals rescued or aided Jewish

people, Polish people, and others who were escaping the Nazi cruelties. The characteristics they identified as important in distinguishing helpers from nonhelpers have been supported in additional controlled research studies. These characteristics include having empathy for victims, that is, understanding the feelings of others and responding to them emotionally. An example would be feeling teary or sad when you see someone crying. In helpers this empathy is other-oriented. That is, it is concern for the welfare of others and a desire to help them. The Oliners also found that helpers had a strong sense of personal responsibility for the welfare of others, a characteristic that comes from high moral reasoning. During the Holocaust, some supervisors and teachers hid their loyal Jewish employees or students until they could escape. Finally, these helpers displayed a high sense of self-efficacy. They believed that they were likely to be helpful as they assisted others. In a natural disaster, the devastation can be so widespread and so many people can be affected that a person might feel overwhelmed and ineffective in what help he or she could offer. However, a person with high self-efficacy might feel that while he or she could not solve the enormity of the problems the natural disaster brought, he or she might be able to help one person or one family with a donation or by volunteering time in the clean-up efforts.

### Implications

Research in helping behavior has vast benefits for understanding human behavior, for increasing good outcomes for individuals, and for the overall good of society. To the extent that people understand the behavior, motivations, and personality characteristics of, and situational influences on, helpers, they may be able to increase helpfulness toward those who most need help in their society, benefit from ongoing personal relationships with others, and generally make the world a better place to live. Those who have done research on increasing helpfulness in others have found that explanations of need, and making kind attributions (internal explanations) for those needs, increase helping behavior. Reminding people of their moral responsibilities to help those in need, telling people how to help, and making the victims more human also increase helping behavior. Much research is currently in progress on linking helping to other positive psychological characteristics like gratitude and forgiveness.

*Shelley Dean Kilpatrick*

*See also* Altruism; Altruistic Punishment; Compassion; Cooperation; Decision Model of Helping; Diffusion of Responsibility; Empathy; Empathy–Altruism Hypothesis; Moral Development; Prosocial Behavior; Reciprocal Altruism; Reciprocity Norm; Social Learning; Social Support; Volunteerism

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## HELPLESSNESS, LEARNED

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### Definition

Learned helplessness refers to a phenomenon in which an animal or human experiences an uncontrollable, inescapable event and subsequently has difficulty obtaining desirable outcomes, even when it is easy to do so. The term is often used to explain why

people may display passive, helpless behavior or feel powerless in situations that are actually simple to avoid or change.

## Background and History

Martin Seligman and Steven Maier discovered learned helplessness accidentally while conducting behavioral research on negative reinforcement with dogs. They set up a cage with two compartments separated by a shoulder high wall, called a shuttlebox, that allowed the dogs to escape a mild but painful electric shock delivered to the floor of one side by jumping to the other side. Typically, dogs easily learn to escape shocks by jumping over the wall in such devices, but Seligman and Maier found that dogs that had recently experienced unavoidable shock prior to being in the shuttlebox tended to passively accept the shock, even though they could easily escape it. In their classic study, they compared the performance of dogs that had previously received inescapable shock to those who had either received the same amount of escapable shock or no shock prior to being in the box. From this and many follow-up studies, they found that it was the uncontrollable nature of the event experienced in the previous task (rather whether it was desirable or undesirable or led to negative feelings) that was responsible for the dogs' passive behavior afterward.

Their findings sparked further research, using similar methods and using both rewards and punishments, that demonstrated that learned helplessness behavior could be observed in a variety of other species, including cats, fish, birds, gerbils, rats, cockroaches, and humans. Early helplessness research in humans was conducted in much the same way but used somewhat different procedures. Such research typically exposed participants to uncomfortable events (e.g., bursts of loud noise, unsolvable problems) that were either controllable or uncontrollable and then administered a different test task, which participants could control (e.g., solvable problems of another kind, avoiding annoying shock or noise by pressing buttons). The results of these studies were mixed: Sometimes researchers found that humans behaved very similarly to animals and would give up on the second task if they had a previous uncontrollable experience; other researchers found that humans would work even harder on the second task.

Subsequent research on humans has also shown that relatively simple procedures can reduce learned

helplessness. Those designed to highlight the connections between a person's behavior and the outcomes, whether it is verbal instruction or giving experience with a controllable task, decreases learned helplessness. Similarly, prompting people to think of different explanations for their poor performance also lessens helplessness. Interestingly, boosting someone's self-esteem and improving their mood beforehand have also been shown to decrease helplessness. In general, research on learned helplessness was part of a broader trend in social psychology in the early 1970s that explored the importance of choice and personal control in optimizing performance and mental functioning. For example, Ellen Langer and Judith Rodin found that giving elderly people a choice of activities and responsibility for caring for a plant increased their well-being and lengthened their lives compared to a similar group who had no choice or responsibilities over the same things.

## Reformulated Theory of Learned Helplessness

Over time, it became clear that learned helplessness operated differently in humans than in animals, primarily as a result of humans' ability to observe and explain events in different ways. For example, humans can learn helplessness vicariously by watching another person responding to uncontrollable events, but animals cannot. Also, studies found that *groups* of people working together can experience learned helplessness, which was also unique to humans. Furthermore, certain thinking patterns are associated with helpless behaviors even when an uncontrollable event had not been directly experienced

In the late 1970s, Lyn Abramson, Martin Seligman, and John Teasdale revised and reformulated the theory of learned helplessness to address these and other issues. In their reformulation, they argued that certain ways of explaining negative life events lead people to perceive life events as uncontrollable, which in turn lead to expectations that no behavior can prevent future negative events and other helpless behaviors. These explanations about the causes of events (also known as attributions) are particularly likely to lead to helpless feelings and behaviors when negative events are seen as stemming from internal, stable, and global causes. On the other hand, explanations that focus on external, unstable, and specific causes lead to perceptions that negative outcomes can be controlled and prevented in the future.

*Internal attributions* refer to causes that stem from the individual, whereas *external attributions* refer to causes outside the individual. For example, if someone fails an exam, an internal attribution might be that the person has bad study skills, while an external attribution might be that the test was too difficult. *Stable attributions* are explanations that suggest causes that do not change, whereas *unstable attributions* are about causes that are likely to change. An example of a stable attribution about a poor exam grade would be that the person is not good at the subject matter, while an unstable attribution would be that the person was distracted by a personal problem that day. *Global attributions* are explanations that focus on a wide variety of outcomes and situations, whereas *specific attributions* focus on few outcomes or situations. “Stupidity” is an example of a global attribution for a poor exam performance, whereas “not liking the teacher’s teaching style” is an example of a specific attribution.

While some events may seem to clearly have only one cause (e.g., “I was injured because the flowerpot fell on my head”), people are free to focus on any aspect of the situation that may be relevant (e.g., “I was injured because I’m not observant enough”). As a result, researchers have found that people have typical ways they make attributions about events in their life; these are called *explanatory styles*. For example, in one study, researchers had teachers identify elementary school students who often acted in helpless ways and found that those children were much more likely to have an internal/stable/global explanatory style (as measured earlier in the school year) than those who didn’t act helpless. Furthermore, such pessimistic explanatory styles have been shown to influence important life outcomes, like academic performance and a variety of health outcomes, including more frequent illness, dying sooner from cancer, and poorer immune system functioning.

The reformulated approach to learned helplessness theory has also been particularly helpful in understanding mental health problems. For example, many of the characteristics of learned helplessness (e.g., passive behavior, negative thinking, loss of appetite, anxiety) are similar to the symptoms of clinical depression, and researchers have found that learned helplessness has a role in many aspects of depression. Longitudinal studies have found that having a pessimistic explanatory style puts people at greater risk for developing depression later, while an optimistic style (making external/stable/specific attributions) is

associated with recovering from depression more quickly. Furthermore, therapies that focus on changing pessimistic attributions (e.g., cognitive therapy) have been shown to be effective in treating depression. More recent theories have argued that helpless beliefs in combination with the belief that negative events are likely to happen in the future are particularly likely to lead to depression.

### Difference Between Learned Helplessness and Similar Behaviors

The concept of learned helplessness has been popular to help explain a wide variety of unhealthy behaviors, from staying in bad relationships to procrastination to spontaneous death to poor performance in sports and business. It is important, however, to distinguish other sorts of helpless behavior from learned helplessness, because sometimes people may behave helplessly for other reasons.

According to Seligman, there are three features that must be present to qualify behavior as learned helplessness: inappropriate passive behavior, experience of uncontrollable events (or at least the perception of uncontrollability), and helpless beliefs. For example, staying in a violent, abusive relationship may or may not be a case of learned helplessness. Although such abuse is often uncontrollable (and perceived as such), staying in the relationship may or may not be a passive response. Some people may give up and stay, whereas others may realize that they have limited options and make a choice to stay. Likewise, many in such relationships believe they are helpless, but others stay because they believe they can change their partner or because they want to make the relationship work. Still other people may act helpless, but do so to get things from others. In sum, human behavior is complex, and helpless behavior is no exception. Learned helplessness theory is a useful tool for explaining some passive behavior but not all.

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*See also* Attribution Theory; Control; Learning Theory

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## HEURISTIC PROCESSING

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### Definition

Heuristic processing refers to a mode of thinking that is based on simple decision rules, or if-then associations, that people use to judge the quality or nature of an object. For example, in deciding whether to vote for a particular candidate, a person might rely on the opinion of an expert (using the heuristic “if expert, then agree”), or on the prevailing view of friends and family (“if there’s a consensus, then assume correctness”). Heuristic processing is most likely to influence people’s attitudes when their motivation to think about something is low (e.g., when they do not care very much about the outcome of an election) and when their ability to think carefully is constrained (e.g., when they are stressed out or pressed for time). It is a relatively easy and efficient way to make judgments, but it can also lead to mistakes.

### Background and History

In the 1970s and 1980s, persuasion researchers joined other social psychologists in focusing on the cognitive processes underlying the effects they studied. In other words, they wanted to know not just what variables cause attitudes to change but also why and how attitude change occurs. At first, most major theories of persuasion assumed that attitude change always occurs as a result of careful thought. This suggests that messages evoking positive thoughts about an issue will be persuasive, whereas messages that lead to negative thoughts will be unpersuasive.

In the 1980s, two dual-process models of persuasion were developed: the elaboration likelihood model, developed by Richard Petty and John Cacioppo, and the heuristic-systematic model, developed by Shelly Chaiken. These dual-process models recognized that careful, effortful thinking about issues only occurs when people are both motivated and able to process information in such a systematic way. Otherwise, these theorists reasoned, attitude change will occur based on less meaningful, more efficient ways of thinking about information.

To describe such a way of thinking, Shelly Chaiken looked to another area of social psychology, where Daniel Kahneman and Amos Tversky had popularized the term *heuristic* in their studies of biases in human

decision making. Here, a heuristic describes a well-learned (and therefore quite efficient) rule of thumb that helps people solve a problem or form a judgment but which leads to biases or errors when applied in the wrong circumstances. In Chaiken’s heuristic-systematic model of persuasion, heuristic processing describes attitude change that occurs based on people’s use of these well-learned decision rules. The distinction made in the heuristic-systematic and elaboration likelihood models between two kinds of information processing (the effortful, reflective, systematic mode and the quick, associative, relatively automatic heuristic mode) has become important in many other areas of social and cognitive psychology.

### Importance and Consequences

Heuristic processing can influence attitude change in two major ways. First, when motivation and ability to think about information are both low, heuristic processing directly influences attitude change. In such situations, people tend to depend on heuristic cues (such as the likeability, attractiveness, and expertise of the communicator) in forming their opinions and judgments. This way of thinking about information is often very useful and efficient. For instance, it saves people a lot of time and effort to assume that experts are typically correct, and it allows them to make (often good) decisions about important issues such as whether to take a medicine or what kind of cars are safe to drive. However, experts are not always right, and trusting them can sometimes lead people to make decisions different (and poorer) than the ones they would have made had they considered all the information for themselves. For example, diet fads are frequently endorsed by “experts” but often turn out to be bogus or downright harmful.

The second way in which heuristic processing can influence attitude change is by biasing the direction of the systematic processing that occurs when motivation and ability to think about information are sufficiently high. In other words, these relatively automatic associations people make based on well-learned decision rules can lead them to have certain expectations about the information they will encounter, which can affect how they think about that information. For instance, if Jill learns that her sorority supports a tuition increase to improve the quality of on-campus housing, she may invoke the heuristic “if ingroup, then agree.” If she is motivated and able to consider

this issue more carefully, she will probably go on to evaluate arguments for and against the tuition increase. But, her initial expectation (based on heuristic processing) that her sorority's position is the correct one may bias the way in which she thinks about the arguments presented. She may selectively attend to arguments that confirm her sorority's position and elaborate on them in ways that increase their persuasiveness (e.g., she might think to herself, "Not only would improved housing make our lives better as current students, but it would also help attract new students to the school"). Meanwhile, she may dismiss arguments against the tuition increase, or she may search more carefully for the flaws that she expects these arguments to have based on her initial use of the ingroup agreement heuristic ("Sure, tuition is already high, but if you can't afford it, you get a scholarship, so this will only affect people who have enough money to pay anyway").

To study heuristic processing, persuasion researchers typically present participants with some information about a particular issue (such as whether a university should have comprehensive exams). Researchers can influence participants' motivation to think about information by manipulating whether the issue is of high or low relevance (e.g., whether the comprehensive exams will be implemented the following year or the following decade). They can influence participants' ability to think carefully about information by manipulating either the time allotted for the task or the amount of distraction in the environment. They can also manipulate aspects of the message or the person communicating the message. Using such methods, researchers have shown that when motivation and ability to process information are kept low, persuasion depends primarily on heuristic cues. For instance, participants are more persuaded when a communicator is attractive, likeable, and expert, versus when the communicator is not; when there are many arguments in favor of an issue rather than only a few; and when a consensus opinion or a social ingroup favors the issue, versus when it does not. When motivation and ability to process are higher, research shows that a heuristic cue (such as the credibility of the communicator) biases the direction of systematic thinking about a message and the resulting attitude change (so that, e.g., participants who hear a highly credible communicator show more favorable systematic processing of that communicator's message, and more attitude change in the direction of the

message, than do participants who hear a communicator with low credibility).

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*See also* Affect Heuristic; Availability Heuristic; Dual Process Theories; Elaboration Likelihood Model

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## HEURISTIC-SYSTEMATIC MODEL OF PERSUASION

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### Definition

The heuristic-systematic model is a theory of persuasion that suggests attitudes can change in two fundamentally different ways. One way is through systematic processing, whereby people think carefully about any available information when forming an opinion to determine whether the information is accurate or valid. Attitudes are then based on the conclusions from this careful consideration of the facts. However, this kind of thinking takes a lot of effort, and given that people usually only have limited time and ability to think carefully, the heuristic-systematic model suggests that attitudes are often formed in a more simplified manner. This simplified form of attitude judgment is called *heuristic processing*, and it involves using rules of thumb known as heuristics to decide what one's attitudes should be. This model of persuasion has received a great deal of empirical support in the social psychology research literature and has had a major impact on applied fields of research like health behavior and consumer behavior.

## Common Heuristics

A number of different persuasion heuristics can be used to form opinions. For instance, when using the *consensus heuristic*, attitudes are simply based on the opinions that the majority of other people hold. In this case, people infer that “if everybody believes something, then all those people must be right.” For example, a political speech might be more convincing when a lot of people in the audience clap than when fewer people clap, and a consumer product might seem better when it is the last one left on the shelf. The *expert heuristic* is another simple basis for determining attitudes. In this case, attitudes are based on the opinions or recommendations of trusted and knowledgeable experts. The inference here is that “experts are usually right.” For instance, if a dentist recommends a certain type of toothpaste for fighting cavities, then it must work, or if astronauts drink Tang for breakfast, then it must be good or nutritious. Finally, the length of the message itself can be used as a rule of thumb for persuasion, even without thinking carefully about the information the message contains. The *message length heuristic* suggests that longer messages, which seem to contain a lot of arguments, are more convincing because people infer that the length of the message implies it is strong or correct (i.e., length implies strength). For instance, the same essay might be more convincing when presented in double-spaced format than when it is in single-spaced format, even though the content of the essay is exactly the same in both instances. Importantly, the model suggests that heuristic rules of thumb are only used to the degree that the rule seems valid and reliable. Not everyone thinks experts are always right, and in such cases, people are obviously less likely to follow expert advice. Also, the consensus heuristic may be called into question when a political poll is based on a very small number of respondents, in which case people tend to stop using this heuristic.

## Bias in Persuasion

The heuristic-systematic model suggests that opinions can be biased in a number of different ways. For instance, heuristic rules can bias the thoughts that people have when they are thinking carefully about an issue (i.e., heuristics can bias systematic processing). This is the case, for instance, when an argument seems more likely to be correct or persuasive because it

comes from an expert compared to when the same argument comes from a less impressive information source. For instance, arguments suggesting that Acme brand is the best on the market seem more likely to be true when these arguments come from an expert source like *Consumer Reports* magazine than when the same arguments come from a less credible source like Wal-Mart.

The heuristic-systematic model also suggests that certain motives or goals can bias attitudes. People are typically assumed to be motivated to form accurate or correct opinions, known as *accuracy motivation*. However, in some cases, defensive motives or impression motives can also have an impact on attitudes. *Defensive motives* can bias attitudes by making people more likely to agree with information that suits their own self-interests, or desired perceptions. People tend to agree more with government policies that provide economic benefits for themselves versus policies that offer the same benefits to someone else. Also, most people have a more positive attitude toward themselves than other people have of them. *Impression motives* provide another important source of motivation that can lead to biased attitudes. In this case, individuals tend to alter their opinions so that they match the attitudes of important others to fit in or get along with those other people. For instance, students may exaggerate the extent to which they like the Beatles because they think their friend likes that group, and they wish to maintain that friendship. Or students may exaggerate their liking for a particular class when talking to the instructor, to foster positive interactions with the instructor in the future.

While heuristic rules certainly lead people to the wrong conclusion at times, the use of such heuristics is an essential aspect of everyday life. Persuasion heuristics provide a relatively easy way to make the numerous evaluations people are burdened with in their daily lives, and the use of these heuristics often leads people to adopt perfectly reasonable opinions. For instance, many inexperienced consumers find it difficult to buy their first automobile or computer because there are a lot of makes, models, and features to consider, and novice consumers tend to lack the background knowledge needed to evaluate all of this technical information. In situations like this, simple rules of thumb can help greatly in making evaluations (e.g., the car recommended by *Consumer Reports* is probably good).

*See also* Dual Process Theories; Elaboration Likelihood Model; Fast and Frugal Heuristics; Heuristic Processing

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## HINDSIGHT BIAS

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### Definition

Recollection or reevaluation of past events can be affected by what has happened since. In particular, once people know the outcome of an event, they tend to overestimate what could have been anticipated in foresight. This effect has been termed *hindsight bias* or the *knew-it-all-along* effect.

### Designs, Materials, and Measures

Two different general experimental procedures are usually employed. In the *memory* design, people first give an (unbiased) answer, then receive the solution and are finally asked to recall their earlier, original answer. In the control situation, the same items are given to other people without providing them with the solution before they recall their original answer. In the *hypothetical* design, people receive the solution right away and are then asked to provide the answer they would have given without this knowledge. In the control situation, other people are asked for their answers without giving them the solution beforehand. Generally, hindsight bias is said to exist whenever the estimates made in hindsight lie closer to the solution than those made in foresight, and when the measure that captures this difference is significantly larger than for a control group.

The phenomenon is very robust across content domains. It has been found in general-knowledge questions, in political or business developments, in predictions of elections or sport results, in medical diagnoses or in personality assessment, to name only a few. It is also very robust across type of tasks. The following list is probably not exhaustive, but it covers most of the types that have been used. Hindsight bias has been

found with two-alternative-forced-choice tasks, both with respect to choices and to confidence in their correctness (“Which city has more inhabitants, London or Paris?”), with confidence in the correctness of assertions (“True or false: London has more inhabitants than Paris”), with numerical questions (“How many inhabitants does London have?”), with predicting outcomes of survey questions on a percentage scale (“How many German households currently have Internet access?”), with rating the likelihoods of possible developments of a given scenario (e.g., outcomes of international conflicts, patient histories, or consequences of business decisions) or with answers on closed rating scales using a few categories (e.g., rating one’s own or someone else’s performance, school grade, satisfaction or personality traits).

The most common measures in the memory design compare pre- and post-outcome estimates with respect to their distance to the solution (in the hypothetical design, pre-outcome and post-outcome estimates are obtained between-subjects). If the task requires an answer on a limited scale (e.g., a dichotomous choice or an answer on a percentage scale), the measure can be simplified by more or less directly comparing the responses given in foresight and those given in hindsight. The memory design involves repeated measurement; therefore, one can and should, in addition, determine the proportion of correct recollections. Because correct recollections have a bias of zero and thus diminish the overall effect, they may contribute to the finding that hindsight bias is typically smaller in the memory than in the hypothetical design.

### Relevance, Related Phenomena, and Theoretical Accounts

Hindsight bias is one of the most frequently cited cognitive biases. It possesses relevance for theories about memory storage and retrieval of information but has several practical implications as well. Consider, for example, a physician who, knowing the diagnosis a colleague has made, is asked for a second opinion. Or consider a researcher who is asked to review a manuscript but knows the opinion of another reviewer. Many studies have shown that the new and allegedly independent judgements are most likely biased toward those that are already available. In other words, second judgments are less independent from previous ones than one would like to think. Moreover, feeling wiser in hindsight could also lead people to wrong

predictions of how they would have reacted in that situation (i.e., without the knowledge of how things would turn out). For example, having understood why the Space Shuttle *Challenger* disaster occurred may affect one's evaluations of the people involved and their omissions and commissions.

An experimental paradigm that is closely related to that of hindsight-bias studies is employed in studies on *anchoring*. In a hindsight-bias experiment using a hypothetical design, participants are informed about the solution and are then asked what they would have estimated. In contrast, studies on anchoring do not provide the solution but introduce an allegedly random value. Participants are then asked to indicate whether the true solution lies above or below this value, and subsequently they give an exact estimate. Both procedures lead to comparable distortions suggesting that the hindsight bias and anchoring effects may be driven by similar (if not identical) cognitive processes.

Other related research paradigms are the *misinformation effect*, observed in studies on eyewitness testimony (according to which, memory of events is systematically distorted due to presumptive questions afterward), and the *reiteration effect* (according to which, the confidence in the correctness of a statement increases due to mere reiteration of this statement). Both of these phenomena involve a change of a response over time, in the case of the misinformation effect due to additional information from a different source (followed by the question, "What was the information in the original source?"), and in the case of the reiteration effect due to another presentation of the same statement (followed by the question, "How confident are you now that this statement is true?").

Two major classes of theoretical accounts have been proposed: motivational accounts and cognitive accounts. Although they do not exclude each other and although there is evidence for both, the overall picture suggests that cognitive factors are more important. Within the group of cognitive explanations, some favor the view that memory of the original response is impaired due to outcome information, whereas others locate the bias in systematic distortions when reconstructing the original response.

*Ulrich Hoffrage*

*See also* Anchoring and Adjustment Heuristic; Eyewitness Testimony, Accuracy of; Memory

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## HISTORY OF SOCIAL PSYCHOLOGY

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Social psychology is only a bit older than 100 years, with most of the growth occurring during the past 6 decades. In discussing the discipline's history, it should be noted that there are two social psychologies, one in psychology and the other in sociology, with the larger of the two being the psychological branch. The central focus of psychological social psychology is how the individual responds to social stimuli, whereas sociological social psychology focuses on larger group or societal variables, such as people's socioeconomic status, their social roles, and cultural norms. Although there have been calls to merge the two branches into a single field—and even a joint psychology–sociology doctoral program at the University of Michigan from 1946 to 1967—their different orientations make it doubtful that this will transpire in the foreseeable future. In this historical overview, the psychological branch of the discipline will be highlighted.

### Individualism as a Cultural Belief System Shaping Social Psychology

The most important cultural factor shaping social psychology has been the ideology of individualism, which is a cultural belief system asserting that society is a collection of unique individuals who pursue their own goals and interests and strive to be relatively free from the influence of others. In individualism, the focus is on the person, and individual needs are judged more important than group needs. In contrast, the belief

system of collectivism asserts that people become human only when they are integrated into a group, not isolated from it. From this perspective, group needs are more important than individual needs. Approximately 70% of the world's population lives in cultures with a collectivist orientation. However, social psychology developed primarily within individualist societies, and as a result, the discipline has a distinct individualist orientation.

### **Dawning of a Scientific Discipline: 1862–1895**

German psychologist Wilhelm Wundt, who is widely regarded as the founder of psychology, had a hand in the early development of what would become social psychology. Beginning in the 1870s, European and North American scholars and students came to the University of Leipzig to learn about Wundt's research on the components of the conscious mind. Among these visitors were Émile Durkheim, Charles Judd, Willy Hellpach, and George Herbert Mead, who later developed some of the theoretical underpinnings of the new discipline of social psychology.

Early in Wundt's career, he predicted that there would be two branches of psychology: physiological psychology and social or folk psychology (*Völkerpsychologie*). His reasoning in dividing psychology into two branches was his belief that the type of individual psychology studied in the laboratory by physiological psychologists could not account for the type of higher mental processes exhibited during social interaction. Although social behavior consists of distinct individuals, Wundt argued that the product of this social interaction is more than the sum of the individuals' mental activities. Because of this distinction, Wundt asserted that while physiological psychology was part of the natural sciences, aligned with biology, social psychology was a social science, with its parent discipline being philosophy. He further argued that whereas physiological psychologists should conduct experiments in studying their phenomena, social psychologists should employ nonexperimental methods because such an approach best captured the complexity of social interaction. Wundt devoted the first half of his career to physiological psychology and the second half to social psychology, with his study of language and the group mind preparing the ground for later collaborative work between psychologists and

social anthropologists. Largely due to Wundt's influential writings and the works of philosopher Moritz Lazarus and humanist Heymann Steinthal, by 1900 Germany's annual bibliography of the psychological literature listed more than 200 articles per year under the heading "social psychology."

Despite the fact that Wundt's 10 volumes of writings on social psychology influenced scholars in Europe, his work remained largely inaccessible to American social scientists because it was not translated into English. Part of the reason for this intellectual freezing out of his ideas was that Wundt's strident support for German nationalism before and after World War I effectively cut him off from his many former students in America. Further hindering Wundt's ability to effectively shape the ideas of young American scholars was the fact that these young scientists were much more interested in being identified with the natural sciences than with continuing an alliance with philosophy. Although Wundt's notion that social psychology was a social science was compatible with the 19th-century conception of psychology as the science of the mind and was embraced by a number of European scholars, it was incompatible with the new behaviorist perspective in the United States that emerged during the early years of the 20th century.

Underlying behaviorism was a philosophy known as logical positivism, which contended that knowledge should be expressed in terms that could be verified empirically or through direct observation. This new science of behavior had little use for Wundt's conception of social psychology and his admonition that social scientists rely on nonexperimental methodology. An emerging American brand of social psychology defined itself in terms of both behaviorist principles and the reliance on the experiment as its chosen research method. This was especially true for the social psychology developing in psychology, but less so for sociological social psychology. Psychological social psychology in America, which would become the intellectual core of the discipline, developed largely outside the realm of Wundtian influence. In contrast, American sociological social psychology was indirectly affected by Wundt's writings because one of its intellectual founders, George Herbert Mead, paid serious attention to the German scholar's *Völkerpsychologie*. Today the Meadian-inspired symbolic interactionist perspective remains an active area of theory and research in American sociology.

## The Early Years: 1895–1935

An American psychologist at Indiana University, Norman Triplett, is credited with conducting the first empirical social psychological study in 1895. Investigating how a person's performance of a task changes when other people are present, Triplett asked children to quickly wind line on a fishing reel either alone or in the presence of other children performing the same task. As predicted, the children wound the line faster when in the presence of other children. Published in 1897, this study formally introduced the experimental method into the social sciences. Despite this accomplishment, Triplett did nothing to establish social psychology as a distinct subfield of psychology.

Credit for establishing social psychology as a scientific discipline is traditionally given to the first authors of textbooks bearing that title, namely, English psychologist William McDougall and American sociologist Edward Ross, who each published separate texts in 1908. Consistent with the contemporary perspective in psychological social psychology, McDougall identified the individual as the principal unit of analysis, while Ross, true to the contemporary sociological social psychology perspective, highlighted groups and the structure of society. Ross's focus was consistent with previous work on crowd psychology by French social scientist Gustave Le Bon. Unfortunately for McDougall, his brand of social psychology proposed that social behavior was rooted in instincts and Darwinian evolutionary processes, a theoretical assumption soon opposed by the emerging behaviorist perspective that emphasized learning and the importance of the immediate environment in shaping behavior. Thus, McDougall's social psychology did not gain an adequate foothold among American psychologists to become an effective orientation toward theory and research. Indeed, evolutionary-based explanations of social behavior remained largely outside the theoretical domain of social psychology for the next 80 years.

If McDougall failed to properly rally fellow social scientists around his explanation of the root cause of social behavior, who is generally recognized as providing this emerging discipline with a specific focus? The common answer is Floyd Allport. In 1924, Allport published a third social psychology text that went a long way in establishing a distinct identity for psychological social psychology in America. Reading his words today, one can see the emerging individualist

perspective that would soon permeate the psychological branch of the field:

I believe that only within the individual can we find the behavior mechanisms and consciousness which are fundamental in the interactions between individuals. . . . There is no psychology of groups which is not essentially and entirely a psychology of individuals. . . . Psychology in all its branches is a science of the individual. (p. 4)

Allport's conception of social psychology was proposed 11 years after John Watson ushered in the behaviorist era in American psychology. His brand of social psychology emphasized how the person responds to stimuli in the social environment, with the group merely being one of many such stimuli. Beyond this emerging individualist and behaviorist stamp, Allport further shaped the identity of American social psychology by extolling the virtues of the experimental method in studying such topics as conformity, nonverbal communication, and social facilitation. Allport's call for the pursuit of social psychological knowledge through carefully controlled experimental procedures contrasted with the more philosophical approach that both Ross and McDougall had taken 16 years earlier.

The advantage of the experiment for social psychology was that it allowed the researcher to systematically examine the effects of single variables, either alone or in selected combination, while holding all other variables constant. However, by stressing laboratory experiments in the study of social phenomena, Allport's conception of social psychology downplayed or altogether ignored cultural and historical levels of reality and, instead, emphasized how individuals respond to the presentation of social stimuli. The individual was studied as an object that was either on the receiving end of these social influences or on the manipulating end of them. In such analyses, there was little consideration given to the possibility that people's social behavior was influenced by their actively considering how the present situation was understood based on their previous social and cultural experiences. During this same time period, the less experimentally focused version of American sociological social psychology was much more likely to consider the cultural and historical context of social behavior.

During the 1920s, one notable indication that social psychology had become a legitimate area of inquiry

within the larger discipline of psychology was Morton Prince's decision in 1921 to change the name of the publication, *Journal of Abnormal Psychology*, to that of the *Journal of Abnormal and Social Psychology* and to add Floyd Allport as a cooperating editor. At this time, the personality perspectives employed by American psychologists to understand mental disorders reflected both European psychoanalytic ideas and American formulations (such as the trait and behaviorist approaches) that expressly rejected Freud's basic assumptions concerning infantile conflicts and unconscious motives. Including social psychology within this discussion was a public recognition within American psychology that a more complete understanding of human interaction would be achieved by studying both personality and situational factors. Furthermore, this alignment of Allport's behaviorist brand of social psychology with the area of clinical or abnormal psychology was another means of strengthening the behaviorist stamp on American psychology.

As Allport's conception of social psychology gained adherents, one of his basic assumptions about the social group did not go unchallenged. In the early 1930s, Turkish-born Muzafir Sherif's research on social norm development was partly spurred by his disagreement with Allport's belief that a group was merely a collection of individuals and that no new group qualities arise when individuals form into a collective entity. Perhaps influenced by his culture's collectivist orientation, Sherif countered that a group was more than the sum of its individuals' nongroup thinking, and he tested this hypothesis by studying in the laboratory how norms develop in a group. These now-famous autokinetic experiments identified important social dynamics underlying socialization and the more general process of social influence. Ten years later, Theodore Newcomb extended Sherif's findings outside the laboratory with his longitudinal field studies of reference group influence at Bennington College. Sherif's social norm research was also important in the history of social psychology because it was one of the first demonstrations of how complex and realistic social situations could be studied in a laboratory setting.

Overseas, German social psychology was being shaped by the Gestalt perspective, which rejected both the existing European-inspired notion of a group mind and the American individualist stand that groups were not real in themselves. Instead, Gestalt social psychologists contended that the social environment is made

up not only of individuals but of relations between individuals, and these relationships have important psychological implications. Thus, Gestalt social psychologists promoted an understanding of groups as real social entities, which directly led to the tradition of group processes and group dynamics that still exists today. These two schools of thought within psychological social psychology, one in America and the other in Germany, which were developing independent of one another, would soon be thrust together due to events on the world scene.

### The Coming of Age: 1936–1945

During the first three decades of the 20th century, Allport's conception of social psychology emphasized basic research, with little consideration given to addressing specific social problems or broader issues bearing on reform. However, by the mid-1930s, the discipline was poised for further growth and expansion. The events that had the greatest impact on social psychology at this critical juncture in its history were the Great Depression in the United States and the social and political upheavals in Europe generated by World Wars I and II.

Following the stock market crash of 1929, many young psychologists were unable to find or hold jobs. Experiencing firsthand the impact of societal forces, many of them adopted the liberal ideals of the Roosevelt New Dealers or the more radical left-wing political views of the socialist and communist parties. In 1936 these social scientists formed an organization dedicated to the scientific study of important social issues and the support for progressive social action. This organization, the Society for the Psychological Study of Social Issues (SPSSI), had as members many social psychologists who were interested in applying their theories and political activism to real-world problems. One of the important contributions of SPSSI to social psychology was, and continues to be, the infusion of ethics and values into the discussion of social life. Its immediate impact on social psychology in the 1930s was to infuse a more applied character to research. New areas of research spawned during this decade were intergroup relations, leadership, propaganda, organizational behavior, voting behavior, and consumer behavior.

In other countries, world events triggered changes that further distinguished American social psychology from its scientific cousins abroad. For example, the

communist revolution in Russia at the end of World War I led to a purging of individualist-oriented research and theorizing, a development that stood in stark contrast to the increasing focus on the individual within American social psychology. In 1936, the Soviet Union's Communist Party forbade the use of psychological tests in various applied settings, which effectively prohibited the study of individual differences. At the same time, the rise of fascism in Germany, Spain, and Italy created a strong anti-intellectual and anti-Semitic atmosphere in these countries. To escape this persecution, a number of Europe's leading social scientists, such as Fritz Heider, Gustav Ichheiser, Kurt Lewin, and Theodor Adorno, emigrated to America. When the United States entered the war, social psychologists, both American and European, applied their knowledge of human behavior in a wide variety of wartime programs, including the selection of officers for the Office of Strategic Services (the forerunner of the Central Intelligence Agency), persuading housewives to cook with less desirable meat products, and developing propaganda to undermine enemy morale. The constructive work resulting from this collaboration demonstrated the practical usefulness of social psychology to those governmental and philanthropic bodies that would later fund research.

During this time of global strife, the most influential social psychologist was Kurt Lewin, a Jewish refugee from Nazi Germany. Lewin was instrumental in founding SPSSI and served as its president in 1941. He firmly believed that social psychology did not have to choose between being either a pure science or an applied science. His oft-repeated maxim "No research without action, and no action without research" continues to influence social psychologists interested in applying their knowledge to current social problems. By the time of his death in 1947 at the age of 57, Lewin had profoundly shaped the future course of social psychology.

With the end of the war, prospects were bright for social psychology in North America. Based on their heightened scientific stature, social psychologists established new research facilities, secured government grants, and, most important, trained graduate students. These future social psychologists were predominantly White, male, and middle class. As in other professions, many of these graduate students were returning soldiers whose education was funded by the federal government under the new GI Bill. Having grown up during the Depression and influenced by the

politics of New Deal Democrats, many young social psychologists held liberal values and beliefs that shaped their later research and theories. Many of their mentors were the European scholars who had fled their native countries and then remained in America following the war. Dorwin Cartwright suggests that the political leanings of these young social psychologists may partly explain why, up until the 1960s, it was difficult to establish strong social psychology programs in the Old South where firmly entrenched social conservativist and segregationist policies directly opposed liberal social reforms.

While social psychology was flourishing in America, the devastating effects of the world war seriously hampered the discipline overseas, especially in Germany. In this postwar period, the United States emerged as a world power, and just as it exported its material goods to other countries, it exported its social psychology as well. Beyond the influence exerted by the liberal leanings of its members, this brand of social psychology also reflected the political ideology of American society and the social problems encountered within its boundaries.

### **Rapid Expansion: 1946–1969**

With its infusion of European intellectuals and the recently trained young American social psychologists, the maturing science of social psychology expanded its theoretical and research base. To understand how a civilized society like Germany could fall under the influence of a ruthless demagogue like Adolf Hitler, Theodor Adorno and his colleagues studied the authoritarian personality, which analyzed how personality factors emerging during childhood shape later adult obedience and intolerance of minorities. Some years later, Stanley Milgram extended this line of research in his now famous obedience experiments, which examined the situational factors that make people more likely to obey destructive authority figures. Other social psychologists, inspired by Lewin's interpretation of Gestalt psychology, focused their attention on the dynamics of small groups.

At Yale University, Carl Hovland and his colleagues relied on behaviorist principles in investigating the power of persuasive communication. To a large degree, the impetus for this research came from concerns aroused during World War II about propaganda, military morale, and the integration of ethnic minorities into the armed services. Social psychology's overall

attention to research and theory involving social influence and social dilemmas during the 1950s were undoubtedly shaped by anxieties over the stifling of political dissent precipitated by a more general fear of communism and issues surrounding the international conflict with the Soviet Union.

Social psychology's concern with societal prejudice continued to assert itself during the 1950s. For example, the 1954 U.S. Supreme Court decision to end the practice of racially segregated education was partly based on Kenneth Clark and Mamie Phipps Clark's research indicating that segregation negatively affected the self-concept of Black children. In that same year, Gordon Allport (brother of Floyd Allport) provided a theoretical outline for how desegregation might reduce racial prejudice. What came to be known as the contact hypothesis was a social psychological blueprint for reducing hostility between groups by manipulating situational variables. This perspective toward understanding and "fixing" prejudice better fit the behaviorist social psychology practiced in America than the earlier developed authoritarian personality approach.

Another significant line of research begun during the 1950s was Leon Festinger's theory of cognitive dissonance. Festinger, a former graduate student of Lewin, asserted that people's thoughts and actions were motivated by a desire to maintain cognitive consistency. The simplicity of the theory and its often-surprising findings generated interest both inside and outside of social psychology for many years. However, the sheer volume of dissonance research declined during the latter part of the 1960s principally because the main propositions of the theory had been sufficiently confirmed in numerous studies.

The decade of the 1960s was a time of social turmoil in the United States, with the country caught in the grip of political assassinations, urban violence, social protests, and the Vietnam War. People were searching for constructive ways to change society for the better. Following this lead, social psychologists devoted more research to such topics as aggression, helping, attraction, and love. The groundbreaking research of Elaine Hatfield and Ellen Berscheid on interpersonal and romantic attraction, for example, not only was important in widening the scope of social psychological inquiry, but it also generated considerable controversy outside the field. A number of public officials and ordinary citizens thought social scientists should not try to understand the mysteries

of romance. Less controversial was the bystander intervention research conducted by Bibb Latané and John Darley, which was inspired by the 1984 murder of Kitty Genovese in New York City.

### **Crisis and Reassessment: 1970–1984**

During the 1960s, as the federal government expanded its attempts to cure societal ills with the guidance of social scientists, the number of social psychologists rose dramatically. Among these new social scientists were an increasing number of women and, to a lesser degree, minority members. Whole new lines of inquiry into social behavior commenced, with an increasing interest in the interaction of the social situation with personality factors. Today this interactionist perspective is reflected in the titles of social psychology's two premier journals, *Journal of Personality and Social Psychology* and *Personality and Social Psychology Bulletin*.

The explosion of research in the 1960s played a part in another explosion of sorts in the area of research ethics because a few controversial studies appeared to put participants at risk for psychological harm. The most controversial of these studies was the previously mentioned obedience experiments conducted by Milgram in the 1960s, in which volunteers were ordered to deliver seemingly painful electric shocks to another person as part of a learning experiment. In reality, no shocks were ever delivered—the victim was a confederate and only pretended to be in pain—but the stress experienced by the participants was indeed real. Although this study and others of its kind asked important questions about social behavior, serious concerns were raised about whether the significance of the research justified exposing participants to potentially harmful psychological consequences. Spurred by the debate surrounding these issues, in 1974 the U.S. government developed regulations requiring all institutions seeking federal funding to establish institutional review boards that would ensure the health and safety of human participants.

At the same time that concerns were being raised about the ethical treatment of human participants in research, social psychologists were questioning the validity of their scientific methods and asking themselves whether their discipline was a relevant and useful science. When social psychology first emerged from World War II and embarked on its rapid expansion, expectations were high that social psychologists

could work hand in hand with various organizations to solve many social problems. By the 1970s, when these problems were still unsolved, a crisis of confidence emerged. Indeed, Kenneth Gergen argued that social psychology should be regarded as a historical discipline, not a scientific enterprise, because the psychological principles underlying social behavior often change over time and across cultures. When this disappointment and criticism of social psychology was followed by accusations from women and minorities that past research and theory reflected the biases of a White, male-dominated view of reality, many began to reassess the field's basic premises. Fortunately, out of this crisis emerged a more vital and inclusive field of social psychology, employing more diverse scientific methods while also having more diversity within its membership.

The 1970s is also important in the history of social psychology because it was the decade in which a theoretical shift occurred in a recurring debate concerning the nature of human behavior. Over the years, some social psychologists assumed that people are moved to act primarily due to their needs, desires, and emotions. This "hot" approach to understanding human nature argues that cool, calculated planning of behavior is secondary to heated action that fulfills desires. The alternative viewpoint is that people's actions are principally influenced by the rational analysis of choices facing them in particular situations. Followers of this "cold" approach assert that how people think will ultimately determine what they want and how they feel. In the 1950s and 1960s, the hot perspective was most influential, but by the 1980s the cold perspective dominated the thinking within social psychology due to the importing of ideas from cognitive psychology and the resulting ascendancy of social cognition.

Attribution theory represented one of the early attempts by social psychologists to test models in which social judgments were thought to be determined by rational and methodical cognitive processes. The various attribution theories developed during this time drew considerable inspiration and insight from the separate earlier works of Austrian-born social psychologists Gustav Ichheiser and Fritz Heider. Whereas Heider's work has long been widely recognized as shaping the development of attribution theory, Ichheiser battled mental illness and his contributions are only recently being recognized. Beyond attribution theory, additional social cognitive theories began providing

numerous insights into how people interpret, analyze, remember, and use information about the social world, and this perspective infused new energy into areas such as attitudes, persuasion, prejudice, intimacy, and aggression. It remains the dominant perspective within contemporary social psychology.

Accompanying the social cognitive emphasis and the increased interactionist orientation of research was renewed interest in the concept of the self, which previously had been the focus of only sociological social psychologists. Although the self had been an implicit notion in attitude research and other areas of social psychological inquiry for many years, the radical behaviorism infusing American psychology since 1913 had relegated the study of the self into a Dark Age of sorts in academia. With the waning influence of behaviorism, psychological social psychologists rediscovered the insights of founding social scientists such as William James, John Dewey, Charles Horton Cooley, and George Herbert Mead. This renewed attention to the self was a fulfillment of a wish expressed by Gordon Allport in his 1943 presidential address to the American Psychological Association, in which he stated, "One of the oddest events in the history of modern psychology is the manner in which the self became sidetracked and lost to view." Thirty years after this pronouncement, the self was on its way in becoming a central concept within psychological social psychology.

### **Expanding Global and Interdisciplinary View: 1985–Present**

By the 1970s, both European and Latin American social psychological associations had been founded, and in 1995, the Asian Association of Social Psychology was formed. The social psychology that developed overseas placed more emphasis on intergroup and societal variables in explaining social behavior than did its American cousin. For example, French social psychologist Serge Moscovici examined the process by which shared cultural experiences shape people's social perceptions and how minority groups trigger social innovation and change. Similarly, Henri Tajfel and John Turner's analysis of group processes and social perception contended that social psychologists should analyze the relations between groups and how group life shapes the social identity and thinking of the individual. Tajfel's work on categorization was also used to understand the process of stereotyping.

The contributions of these European social psychologists are best seen as intellectual descendants of 19th-century scholars such as Durkheim and Wundt and more directly as the intellectual offspring of early 20th-century Gestalt psychology.

By the mid-1980s, the growing influence of social psychology beyond the borders of the United States was well on its way in reshaping the discipline, as scholars throughout the world actively exchanged ideas and collaborated on multinational studies. Many of the new ideas about social behavior were generated by scholars from collectivist cultures who were raised within societies that have a very different perspective on the relationship between the individual and the group than that within the societies of traditional social psychologists. Subsequent cross-cultural research found that certain social beliefs and behaviors that were previously considered universal were, in actuality, specific to the socialization practices of individualist cultures. Based on these findings, considerable research attention was devoted to determining which aspects of human behavior are culture specific—due to conditions existing within a particular culture—and which aspects are due to humans' shared evolutionary heritage.

This renewed interest in examining the evolutionary basis for human social behavior not represented only a second look at McDougall's call for an evolutionary-based social psychology but also an attempt to exchange ideas with biologists. Although evolutionary explanations were often presented as direct assaults against sociocultural explanations, a number of social psychologists understood that these two theoretical perspectives were not necessarily incompatible. Instead, they believed that a more complete understanding of social behavior could be achieved by acknowledging that evolutionary forces may have left humans with particular capacities (such as the capacity to behave helpfully) and by recognizing that current social and environmental forces encourage or discourage the actual development and use of those capacities.

Despite the dominance of social cognition in the 1980s, some social psychologists raised concerns about the relative lack of focus on emotions and motives in explaining social thinking. These critics of existing social cognitive theories argued that to think of motives and affect as merely end products in a central processing system was to dehumanize social psychology. In the early 1990s, a number of social

psychologists sought to establish a more balanced view by blending the traditional hot and cold perspectives into what some have termed the *warm look*. These revised social-cognitive theories proposed that people employ multiple cognitive strategies based on their current goals, motives, and needs. Theorists typically developed dual-process models, meaning that social thinking and behavior are determined by two different ways of understanding and responding to social stimuli. One mode of information processing—related to the cold perspective legacy—is based on effortful, reflective thinking, in which no action is taken until its potential consequences are properly weighed and evaluated. The alternative mode of processing information—related to the hot perspective legacy—is based on minimal cognitive effort, in which behavior is impulsively and unintentionally activated by emotions, habits, or biological drives, often below the radar of consciousness. Which of the two avenues of information processing people take at any given time is the subject of ongoing research.

This attention to both explicit and implicit cognition has recently prompted social psychologists to explore how neural activity in the brain is associated with various social psychological processes, including self-awareness, self-regulation, attitude formation and change, group interaction, and prejudice. Although the numbers of social psychologists who pursue such research is still relatively small, the knowledge they acquire concerning the biology of social behavior will undoubtedly play a role in reshaping existing theories. Indeed, the U.S. federal government's National Institute of Mental Health, which has an annual budget of \$1.3 billion, has recently given priority to research grants that combine social psychology and neuroscience.

Finally, relative to applied work, contemporary social psychologists have continued the legacy of Lewin and SPSSI by applying their knowledge to a wide arena of everyday life, such as law, health, education, politics, sports, and business. This interest in applying the principles and findings of social psychology is a natural outgrowth of the search for understanding. However, in this quest for scientific insight, some social psychologists contend that the discipline has focused too much attention on negative social behavior and the flaws in human nature. There are those in the profession who disagree with this critique, but others reply that focusing on the problems humans have as social beings will result in more long-term benefits than would focusing on human strengths.

If the life of a science is analogous to a person's life, then contemporary social psychology is best thought of as a young adult in the social sciences. Compared to more established sciences, social psychology is "barely dry behind the ears." Yet it is a discipline where new and innovative ideas are unusually welcome, where new theoretical approaches and scientific methods from other scientific disciplines are regularly incorporated into the study of social thinking and behavior, and where members of the discipline regularly question the social significance of their findings. In this ongoing critical self-assessment, most social psychologists are confident that their still-young science will continue revealing important insights into how humans function as social creatures.

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*See also* Social Cognition; Social Facilitation; Sociological Social Psychology; Symbolic Interactionism

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## HOME-FIELD ADVANTAGE AND DISADVANTAGE

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### Definitions

The home-field advantage refers to the tendency for sports performers to win more often when competing at their home facility. Studies of professional, collegiate, and high school sports have consistently found that home performers defeat visiting performers in more than half of total games played. The aggregated winning percentages of home performers vary between sports and across eras, but they typically range from just above 50% to as high as 70%. Home-field advantage effects are common in team sports like baseball, basketball, and football as well as in individual sports such as tennis and wrestling.

Although performing at home is clearly an advantage more often than not, the home-field advantage can be eliminated or reversed in some situations. Some studies suggest that competing at home can actually handicap performers during crucial, high-stakes contests. Such home-field disadvantage effects—when home performers win fewer than 50% of games—have been found in high-pressure contests such as the seventh games of World Series and National Hockey League championships and the final rounds of major golf championships.

### Explanations for the Home-Field Advantage

Evidence of the home-field advantage is easily obtained by examining archival records of the outcomes of competitions, but isolating the mechanisms responsible for this phenomenon has proven more challenging to researchers. A number of variables contribute to home-field advantage effects. One factor is the extent to which the sport gives home performers an explicit strategic advantage, such as the baseball tradition of allowing home teams to bat last. In major college football, home-field advantage effects are magnified for powerhouse programs simply because they pay to fill their nonconference schedule with home games against inferior opponents with less funding. However, home-field advantage effects are also found in sports without such obvious built-in competitive advantages for home performers.

Additional explanations for the home-field advantage include factors related to performers' comfort with their physical environment. For example, home performers are more easily able to maintain their routines of practice and rest compared with visiting performers, particularly when the visitors must travel long distances to compete. Moreover, familiarity with the unique physical characteristics of the competition venue (such as the outfield walls at Boston's Fenway Park) could provide a competitive advantage to home performers. To date, however, research shows that the effects of performers' comfort with the physical environment are surprisingly weak predictors of home-field advantage effects.

A potentially powerful contributor to the home-field advantage is the confidence that performing at home inspires. Performers recognize the home-field advantage and therefore expect to win more often at home and lose more often on the road. A large body

of research has linked expectations of success with positive performance outcomes while linking failure expectancies with poor performance outcomes. One factor that has been found to increase the confidence of home performers is the presence of a supportive audience. Most competitors believe their home audience helps them perform better, and this mere belief may promote superior performance.

Audience factors can influence the home-field advantage in several ways. A home audience may motivate performers to invest extra effort to reward the audience for their support. In sports like football, home audiences selectively raise their noise levels to disrupt the on-field communications of the visiting team. The emotional intensity of home audiences also seems to influence decisions made by judges and referees. Several studies have shown that referee decisions tend to favor home competitors, and home-field advantage effects are most evident in sports that rely on subjective scoring by judges.

### Explanations for the Home-Field Disadvantage

A notable exception to the home-field advantage has been found for crucial contests that determine championships. The home-field advantage is most apparent in relatively low-stakes contests that comprise the bulk of most sport seasons, but performing at home is often unhelpful in the pressure-packed key moments of the most meaningful games. This home-field disadvantage phenomenon is often obscured by home-field advantage effects and has received comparatively less research attention, but several psychological factors can make home performers more susceptible to choking (i.e., underachieving) under pressure.

Performers prefer to compete at home in part because they expect playing at home will help them win. In the initial stages of a competition, the superior confidence of the home performers can become self-fulfilling, propelling them to easy victories. However, if home performers have not separated themselves from their opponents by the late stages of competitions, they may struggle to remain confident (and the confidence of their opponents should increase). When this occurs, home performers may feel significant performance pressure, and the competitive advantage can shift to the visiting performers.

Performance pressure naturally increases for all competitors in key moments of big games, but home

performers have more reason than other performers to feel pressure in these situations. One reason is that home performers know others expect them to defeat opponents of similar ability. Research has shown that people perform poorly when observers expect success, but the performers lack this confidence. The pressure for home performers is especially great when they recognize and care about the disappointment their failure would cause their home audience. Such elevated levels of perceived pressure often causes performers to choke by focusing too much on automatic aspects of performance they normally ignore (trying too hard), or by failing to concentrate due to heightened anxiety.

The relatively high cost of failure for home performers may also lead them to focus more on avoiding failure than striving for victory. Performers who strive to avoid failure usually fare less well than those oriented toward achieving success, so home performers are handicapped to the extent that the high costs of failing at home causes them to play not to lose. The relationship between performing at home and failure avoidance motives is supported by studies linking supportive audiences with an overcautious performance style.

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*See also* Choking Under Pressure; Social Facilitation

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## HOPE

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### Definition

A typical dictionary definition of *hope* suggests that it reflects a goal-related expectation of success. In psychology, a definition that has gained considerable attention basically expands on this dictionary one. More specifically, hope is said to involve goal-directed thinking in which people perceive that they have the

capacities to produce the routes to desired goals (called pathways thinking), along with the necessary motivations to use those routes (called agency thinking).

## History

The most famous story about hope is the tale of Pandora. Zeus was angry with mortals for having stolen fire from the gods, and, accordingly, he developed a plan to extract revenge against humans. To do this, Zeus created a maiden, Pandora, whom he sent to earth with a dowry jar. Pandora was instructed that, no matter what, she was not to open this jar. Zeus evidently was using reverse psychology here, for he knew that Pandora could not resist taking a peak at what was inside. Indeed, upon coming to earth, Pandora opened the lid. Out poured a plague of negative forces, including colic, rheumatism, and gout for the body, along with envy, spite, and revenge for the mind. Pandora was horrified at what she had done, and she quickly tried to replace the lid. At this point, however, she supposedly noticed that hope was stuck under the lid.

Although mythology is vague on whether hope actually escaped, the usual conclusion is that it did. Moreover, hope has been viewed as being just as evil as the forces that did escape. For example, Sophocles believed that hope only prolonged human suffering. Plato called hope a foolish counselor. Francis Bacon said that hope was a good breakfast but a bad supper. Similarly, Benjamin Franklin cautioned people with the observation, “He who lives on hope will die fasting.” Therefore, much of history has been quite negative about hope. On this latter point, therefore, it should be noted that the Judeo-Christian viewpoint has been in the minority when making hope one of its virtues (along with faith and charity).

It was not until the 1950s that psychologists and mental health professionals (e.g., psychiatrists, nurses) began using scientific approaches for exploring hope. These early scholars generally agreed with the dictionary definition of hope as involving positive expectancies for reaching desired goals. Moving into the 1970s and 1980s, there was yet more interest in hope by psychologists. Of the various theoretical approaches, a model known as *hope theory* has gained considerable attention. According to hope theory, hope reflects goal-directed thinking in which people believe in their capacities to produce the routes to desired goals (pathways thinking), along with the

mental energies or motivations to use those routes (agency thinking). Furthermore, the consensus was that such hope thinking was learned through childhood experiences rather than being a product of genetic inheritance. Finally, as psychology began to pay more attention to human strengths in the 1990s and beyond, hope has been one of the key concepts.

## Evidence

There have been two general approaches taken in hope research. A first approach has involved the development of self-report scales and the subsequent study of how the scores on such hope measures were related to other variables. A second approach has entailed attempts to teach people how to become more hopeful, along with any benefits that may accompany such increases in hopeful thinking. These lines of research will be explained briefly in this section.

The scale that has been used frequently in research is called the Hope Scale. It is an eight-item self-report measure on which adults rate each item according to how true it is of them (going from “definitely false” to “definitely true”). Using the hope theory model to guide its content, this scale has four pathways items (e.g., “I can think of many ways to get out of a jam”) and four agency items (e.g., “I energetically pursue my goals”). The scores on these eight items are summed, with higher scores reflecting higher hope. There are two versions of these trait-like hope scales that tap thinking across circumstances or situations, with one being for adults and the other for children. Moreover, there is a situation-specific hope scale that taps adult hope in particular circumstances (e.g., work, relationships, school), and another state hope scale version that measures hope at any given moment in time (i.e., “here and now”).

Results from studies that used these various hope scales have shown consistently that higher scores are related to (a) better performances in academics (from grade school to graduate school) and sports; (b) more positive outcomes on psychological indices involving happiness, satisfaction, self-esteem, optimism, and meaning in life; and (c) superior coping with stressors stemming from physical injuries, diseases, pain, and a variety of life impediments. In these previous studies, it should be noted that the magnitudes of the hope correlations with the various other markers did not diminish when measures of natural ability were taken into account through statistical procedures. In other

words, hope still predicted school achievements when intelligence was added to the equation. Likewise, hope still predicted athletic performances when natural athletic talent was added to the equation.

Hope has long been thought to be the underlying common process in all successful psychotherapy approaches. Thus, it should come as no surprise that the second line of research pertains to teaching people how to increase their levels of hopeful thinking. In this regard, there have been successful attempts to enhance hope in the context of one-on-one settings, couples, and groups of people. In regard to groups, researchers have implemented an intervention for depressed older adults. In 10 group sessions, these elderly adults underwent activities based on hope theory (to lessen their depression and raise their physical activities), and the results showed significant improvements for the people in this group when compared to people who underwent a commonly used intervention. In another hope intervention, the outpatients who were visiting a community mental health center were taught the basic principles of hope theory before they entered treatment. Results showed that these outpatients improved in their later treatments, and they did so more than clients who had not been given these pretreatment preparations. In yet another study, a videotaped treatment involving hopeful narratives was given to women who had survived childhood incest. After viewing this tape, these women had higher levels of hope than did the women who viewed a control tape (on the topic of nature). In addition, there have been successful hope educational programs for teaching goal-directed thinking to students of varying ages (grade school to college).

Both the correlation-based research using self-report measures of hope and the causation-based interventions aimed at raising the hope levels have shown that higher hope is beneficial. Likewise, the power of hope in producing robust correlations to various other variables cannot be explained by natural talents (e.g., intelligence or athletic ability). Thus, there appears to be something particular to hopeful, goal-directed thinking that makes it effective in yielding its benefits.

### Importance and Implications

In contrast to the negative historical views that hope is a counterproductive force in the lives of human beings, the emerging research in positive psychology shows that hope yields benefits in a variety of life

arenas. Not only is hopeful thinking adaptive during normal times, but it also appears to be crucial when people encounter impediments or blockages to their desired goals. Perhaps the best news in regard to hope is that it does not appear to reflect genetic endowment; it is a pattern of thinking that is learned during childhood. Furthermore, research suggests that should adults be low in hope, there are ways to teach them to raise their hopes. Whether it is through educational or psychotherapeutic approaches, therefore, the principles of hopeful thinking can be conveyed so that people can reap its benefits.

C. R. Snyder

*See also* Coping; Goals; Motivated Cognition

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## HORMONES AND BEHAVIOR

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### Definition

A hormone is something produced in the body that circulates in the bloodstream and then influences the activity of living cells that are far from where it was produced. Because hormones travel to their target tissue, they are sometimes referred to as *signaling molecules*. For example, estrogen is produced by the ovaries, but effects the functioning of cells in the heart, uterus, breast, liver, and brain. Any molecule produced

in the body that travels to another tissue via the bloodstream for its effect is classified as a hormone.

Many hormones affect social behavior, often by directly influencing some aspect of brain function, although there are certainly other routes to influencing behavior. Hormones can only affect tissue that has receptors for them. If there is no receptor for a hormone in the brain, it cannot affect brain function. However, many hormones do have receptors in the brain. In social psychology, some of the most researched hormones include testosterone and estrogen (often called sex hormones), as well as vasopressin and oxytocin. Although it is often said that testosterone is the male hormone and estrogen a female hormone, it should be stated that all people have all of these hormones—it is just the amount that differs.

Hormonal links to human behavior are of interest to a variety of social psychologists but perhaps especially to those who are trying to understand topics like falling in love and sexual motivation, dominance hierarchies, and the reasons that differences exist in the behavior of men and women.

### **Testing for Hormone and Behavior Connections**

Psychologists who are interested in understanding the role that hormones play in shaping human behavior rely on several types of research approaches. These would include animal research where hormone levels are experimentally altered, studies of humans with certain types of disorders that change the levels of hormones, direct measurement of hormone levels via immunoassay, and studies that take advantage of natural variations that occur in the levels of some hormones. With each approach, the psychologist is trying to see if changes in hormone levels relate to changes in behavior in a predictable way. For example, a social psychologist might be interested in the reasons that more females choose to major in psychology (study of human behavior), while more males major in engineering (study of mechanical objects). Although most psychologists would certainly agree that social attitudes play a major role in career choice, the potential role of biological differences could also be important. In fact, girls from a very young age appear to be more people oriented (playing with pretend people, drawing more people) and are shown to be more empathic and interested in feelings on a variety of indicators, while

boys from a young age seem more drawn to nonliving mechanical objects and later show better spatial skills, such as the ability to visualize complex objects from a variety of angles. Because this sex difference is found all over the world, one might wonder if there is some biological basis for this difference. To test this, a psychologist might look at whether levels of hormones relate to differences in people orientation, empathy, or mental rotation skills.

First, one might measure the level of hormones in the bloodstream via immunoassay, or saliva samples could be used. If the psychologist thinks that testosterone might relate to performance on a test of spatial skills, it would be testosterone that would be measured. If persons with high testosterone levels have better spatial skills, the idea would be supported. It is also true that the levels of hormones vary in a predictable way across time; this knowledge can be used to test the effects of hormones without taking direct measures. In women, the levels of estrogen and progesterone change across a month due to the menstrual cycle. A psychologist might wonder if high estrogen levels actually worsen performance on spatial skills tasks. Thus, he or she might give a test of spatial skills at day 12 (when estrogen is high) and at day 1 (when estrogen is low). If the scores at day 12 are lower than would otherwise be expected, the idea would be supported. Testosterone, too, follows a predictable pattern of rises and ebbs, though not a monthly one. The average testosterone level is higher in the fall and lower in the spring, so a psychologist could measure a behavior at two times in the year in a similar fashion.

Animal models are often very useful, as many of the sex differences of interest to a social psychologist can be seen in other species as well. Although a person might suppose that the question of college major could never be investigated via animal models—after all, mice do not go to college—but male rats do show better spatial skills than females. There are tests of spatial skills for rodents that rely on maze-solving ability. If a psychologist wonders if prenatal levels of testosterone are affecting spatial skills, a developing mouse can be injected with extra testosterone if it is a female, or, if male, testosterone effects can be eliminated. If the females with extra testosterone grow up to be unusually good at solving mazes, especially if the males denied testosterone grow up to unusually poor maze solvers, the role of testosterone on maze solving would be supported. Of course, mice are not people, and ideally a psychologist would do an

experiment with people, but the obvious problem is that parents are (of course) reluctant to allow the hormonal environments of their unborn children to be manipulated. However, some children are born with conditions that alter prenatal hormone environments. A condition called congenital adrenal hyperplasia (CAH) causes a lack of an enzyme needed to tell the adrenal glands to stop making the male hormones, so they are exposed to levels that are much too high during prenatal development. The problem can occur in either males or females. Upon birth, the problem is almost always diagnosed and the enzyme supplied via medicine, and the problem is no longer present. Girls with CAH are of great interest to a social psychologist interested in the role of prenatal hormonal environments on behavior. These girls self-identify as girls, and society sees them as girls (i.e., they are getting all the same social messages about what it is to be a girl as any other girl); the difference is in the prenatal hormonal environment. In the example about college majors, a psychologist might try and find out if girls with CAH have better spatial skills or were more likely to play with mechanical objects over dolls as children.

Generally, a psychologist would want to see several different types of research approaches coming together to support a role for a particular hormone on an aspect of human behavior (referred to as converging evidence) before concluding a behavior is influenced by hormone levels. In the previously mentioned examples, all of these types of research have been done, and all support the idea that hormones do have some influence on spatial skills. It should be noted that psychologists who conduct this type of research differentiate between organizational effects of hormones and circulating effects. Organizing effects refer to prenatal exposure and how this might alter the brain and behavior; circulating effects refer to current levels and how current amounts of hormones in the body might affect behavior. It is possible for a hormone to have one type of effect on a behavior but not the other, both effects, or neither.

## **What Is Known**

### ***Estrogen***

Estrogen has myriad effects on the brain and body. Those relevant to social psychologists include pathology (depression, borderline personality disorder),

verbal memory, motivation for sex, and emotional jealousy. The brain has estrogen receptors, and estrogen has the direct effect of raising the levels of the neurotransmitter serotonin. This is important because serotonin is important to understanding depression, and perhaps schizophrenia and borderline personality disorder as well. Estrogen supplementation has been shown to alter the symptom expression of these disorders, whose courses and prevalence rates are different for males and females. As for cognition, several types of research suggest that estrogen may increase performance on tasks that can be related to verbal skills or verbal memory and may decrease performance on certain tests of spatial skills.

### ***Testosterone***

Although it has been widely believed that testosterone promotes aggression, this is only partially true. The best research suggests that testosterone is more related to a desire for social dominance and power, rather than aggression per se (although desire for power may lead to aggression at times). Other research suggests that testosterone increases sex drive. As for cognition, several types of research support that testosterone has some effect on the expression of spatial skills, both organizational and circulating levels. Most research on circulating levels suggests that the low male range is optimal for enhancing spatial skills.

### ***Oxytocin and Vasopressin***

Oxytocin acts directly on both the nucleus accumbens and amygdala and increases after sex, promoting a feeling of bonding. Oxytocin has also been found to increase positive feelings about other people. Vasopressin levels and receptors within the brain for this hormone are higher in species in which males and females form monogamous relationships and who provide care for their young. Both of these hormones seem to promote affiliation needs in humans. These hormones increase when a person falls in love. Animal research suggests that these hormones are actually causing affiliative behavior and social bonding since experimentally altering these levels of these hormones leads to major changes in pair bonding and parenting behaviors. Many social psychologists think of these as being attachment hormones, and oxytocin is sometimes called the mothering hormone.

### Reciprocal Effects

It is important to realize that hormone–behavior effects are not one-way. This means that hormone levels affect behavior, but behavior also affects hormone levels. The best example of this might be the relationship with testosterone and competitive behavior. Raising testosterone levels seems to make animals more competitive, and with enough of a boost, this translates into an increase in fighting behavior. But, it is also true that being in a competition has the effect of changing testosterone levels. It has been shown that even competition by proxy, such as watching your favorite sport team win or watching a movie character win an important battle, leading to an increase in power will cause a rise in circulating testosterone levels. Thus, when psychologists find that circulating levels of hormones are related to a behavior of interest, they consider that the direction of cause and effect may go both ways, and conclusions about whether the hormone is causing a difference in behavior are tentative without converging evidence in the form of experimental designs.

M. C. DeSoto

*See also* Erotic Plasticity; Gender Differences; Genetic Influences on Social Behavior; Health Psychology; Research Methods

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## HOSTILE ATTRIBUTION BIAS

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### Definition

The hostile attribution bias (HAB) is the tendency to interpret the behavior of others, across situations, as threatening, aggressive, or both. People who exhibit the HAB think that ambiguous behavior of others is hostile and often directed toward them, while those who do not exhibit the HAB interpret the behavior in a nonhostile, nonthreatening way. Furthermore, people who make the HAB often respond to the other person's behavior in an aggressive manner because they perceive it as

a personal threat. When they respond aggressively, this action is often viewed as inappropriate because the other person's original behavior was not intended to be aggressive. For example, imagine that José accidentally bumps his shopping cart into Melissa's cart in a busy grocery store. Then Melissa mistakenly assumes that José aggressively bumped her cart to get ahead of her in the aisle. If Melissa then intentionally hits José's cart, she has reacted in an aggressive manner that was inappropriate to the situation.

An important point is that individuals who show the HAB often misperceive the *intent* of the other individual's behavior as aggressive or harmful to themselves or another person, wrongly believing that the person meant to cause harm in performing the action. This biased judgment of the other's intent represents a disruption in normal cognitive processing of events. Nicki Crick and Kenneth Dodge developed the social information processing model, which describes the steps that are experienced when people cognitively process information in social interactions. Crick and Dodge have also conducted several studies that have identified how aggressive children show different patterns of information processing than nonaggressive children. Once these cognitive patterns are developed, they are considered to be relatively stable through adulthood.

### Social Information Processing

According to the social information processing model and other cognitive theories, children process and act on information from the social environment through sequential steps, including (a) absorption of social stimuli (encoding of social cues), (b) assignment of meaning to the stimuli (interpretation), (c) determination of goals, (d) accessing of possible responses, (e) selection of a response, and (f) performance of a behavioral act. Progression through these steps usually occurs rapidly.

Aggressive children have been found to experience disruptions at most of the stages, particularly at the encoding, interpretation, and response generation stages. They tend to focus their attention on threatening social cues (such as potentially angry facial expressions of the person talking to them), interpret that information in a hostile manner, and generate aggressive responses. An important theoretical concept that affects how people encode, interpret, and utilize information is *schemas*.

## Aggressive Schemas

Processing social information is cognitively demanding; therefore, humans use schemas—mental frameworks of beliefs about people, events, and objects—to rapidly understand stimuli. Schemas are automatically activated (brought to mind) when the schema is available in memory and information relevant to that schema is encountered. Schemas direct people's attention to particular information and guide their interpretation of it, even to the extent that they may fill in missing pieces by utilizing the schema. Schemas can also act like a filter; people tend to pay attention to information that is consistent with their schemas and ignore inconsistent information.

People who exhibit the HAB appear to have more elaborate and complex aggressive information in their schemas for various events and concepts than do nonaggressive people. For example, in contrast to a nonaggressive person, an aggressive person's schema for bars might include that they are places where people get into fights, which may cause the person to perceive more threats and act aggressively in bars.

Because they have many stored memories of hostile situations, people who exhibit the HAB may also more easily bring to mind and apply hostility-related schemas to social situations. Consistent with the way that schemas function, a person with hostility-related schemas would initially attend to more hostile social cues and fail to pay attention to nonhostile cues. The schema would also be used to interpret ambiguous cues. To illustrate, a person with a hostile schema for bars will enter a bar with this schema easily accessible. Once the schema is activated, that person will tend to notice individuals who act in a potentially hostile way, pay more attention to hostile than nonhostile cues, and interpret ambiguous behavior (such as the poke of an elbow in a crowd) as hostile.

Schemas frequently have self-confirming effects. Crick and Dodge defined *reactive aggression* as occurring when ambiguous social information is misinterpreted as more threatening than it is and the person tends to respond aggressively to it, often to defend him- or herself or to retaliate against perceived provocation. Reactive aggression therefore incorporates the HAB process, as individuals displaying a HAB generate aggressive responses to the other's behavior and respond aggressively. This response, in turn, is perceived by others as aggressive and can result in a hostile reaction. Ultimately, the person with a HAB experiences a confirmation of their original, but distorted, belief, and the hostile schema is strengthened.

## Development of Aggressive Schemas

Hostile schemas form through repeated exposure to and experiences with aggressive responses to interpersonal conflict. Children who are aggressive, or who experience hostile situations frequently in their daily lives, are expected to have more well-established and accessible hostility-related schemas. Such children may include those who are exposed to community and/or marital violence, watch violent television, and play violent video games. Research has shown that children who frequently experience violent situations, even who play violent video games, show the HAB. Adults who have aggressive personalities and who experience physical pain have also been found to perceive ambiguously hostile information as more aggressive than did aggressive and nonaggressive individuals who did not experience pain. Therefore, certain violent or uncomfortable situations may induce the HAB, especially in people with aggressive personalities.

## Implications

The reduction of exposure to and positive experiences with aggressive resolutions of conflict should reduce the HAB and aggressive responses that result from this biased processing. Therefore, reduction in aggressive children's access to violent media and to witnessing reinforcing or positive outcomes to aggression should reduce the accessibility of hostile event schemas, or at least reduce the likelihood of acting upon them. Interventions that help people to control their anger during conflict and to think of nonaggressive solutions have been shown to be effective in reducing aggressive responses in children who display reactive aggression.

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*See also* Aggression; Attributions; Frustration–Aggression Hypothesis; Schemas

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## HOSTILE MASCULINITY SYNDROME

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### Definition

Hostile masculinity syndrome refers to a personality profile that includes interrelated attitudes and emotions that may be grouped within two primary components: The first consists of hostile, distrustful, insecure feelings toward people, particularly women, accompanied by misogynous (woman-hating) attitudes, such as beliefs that rape victims secretly desire to be victimized. The second component consists of a desire to control and dominate women that results in deriving sexual arousal and gratification from such domination over women. Men who have such a syndrome typically also have an insecure sense of masculinity and are hypersensitive to rejection from women. They are frequently highly narcissistic as well.

### Analysis

Research has shown that not only are there differences among men within a society in the extent to which they fit such a profile, but there are some reliable differences in comparing societies to each other. Cross-cultural research focusing on some of the key components of hostile masculinity, such as men's hostility toward women, has found not only differences among different societies but also that such hostility is highly correlated with women's hostility toward women. Interestingly, however, the degree of women's hostility toward men was found to be highly correlated with women's status in the society. In societies where women's status was more equal to that of men's, there was relatively less hostility toward men than in societies with lower status for women. In contrast, men's hostility toward women was not found to be correlated with women's status in the various societies, and research continues to look at the factors that may be responsible for such cross-cultural variation. The United States was found to be relatively high in both men's hostility toward women and women's hostility toward men. India was found to be very high on both, whereas Scandinavian countries (e.g., Sweden) were found to be among the lowest in both types of hostility.

Males having such a hostile masculinity syndrome of feelings and attitudes are expected to be more motivated to behave in negative ways toward females and to condone such behavior in others. Research has found support for such expectations. This profile has

been useful in research predicting which males are more likely to be sexually aggressive toward females, with the findings revealing that men who are relatively high in this syndrome are more likely to sexually coerce females. This is particularly the case if the men also have a generally promiscuous sexual lifestyle whereby they are frequently in relatively short-term sexual relationships, without much personal attachment or intimacy.

Hostile masculinity, or some of its key components, has also been shown to predict other behaviors in addition to direct sexual aggression. For example, an association has been found with men's nonsexual physical and verbal aggression toward their marital partners as well as with sexual harassment of women.

In addition to these findings outside the laboratory, research in laboratory settings has shown some similar predictive ability of this personality profile. For example, after being mildly insulted in a laboratory setting, males who scored higher on hostile masculinity have been found to give more aversive "punishment" to females than those lower on this personality profile and to talk to them in a more domineering and hostile way. Interestingly, the same personality profile does not equally predict similar aggression or hostile speech toward other males, suggesting some specificity in these men's motivation to target women.

*Neil Malamuth*

*See also* Aggression; Date Rape; Narcissistic Reactance Theory of Sexual Coercion; Power; Rape

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## HOSTILE MEDIA BIAS

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### Definition

During George W. Bush's first presidency, conservative writers Ann Coulter and Bernard Goldberg published books accusing the U.S. mainstream media of liberal bias. Liberal writer Al Franken replied with a book that denied liberal media bias and claimed that

the same news outlets had right-wing economic and editorial leanings. Contradictory media critiques are also found in international political conflicts from the Middle East to Bosnia. The hostile media bias phenomenon happens when opposed groups of political partisans judge the same nonpartisan news coverage as biased against themselves.

### History and Modern Usage

In a typical lab study of hostile media bias, people recruited from opposing groups in an issue (e.g., the Arab–Israeli conflict) watch news coverage of that issue, then make judgments of its bias. Survey research is also used to study beliefs about media bias in general. The general finding is that each group judges the coverage to be biased against its own side and believes that it would turn neutral viewers against the group’s own cause.

Many studies in social psychology, however, show that people overestimate how much public opinion supports their own view—this is called the *false consensus effect*. If groups overestimate their own support from the people, why do they underestimate their own support in the media?

It was first thought that group members might actually selectively remember more material that opposed their viewpoint from news coverage. However, studies measuring what people remembered did not support this. People tended to remember content that supported their own side but then judged the presentation as biased against themselves anyway. There is more support for the explanation that because partisans believe that the truth is on their side, they judge an evenhanded report as not showing the truth, therefore biased. (Consider how you might react to a documentary evenhandedly assessing Adolf Hitler’s good and bad points.)

Another well-supported explanation, though, traces hostile media perceptions to activist culture: Group members learn claims of hostile media bias and apply them to coverage they see. At the group level, this protects group members from exposure to conflicting viewpoints and leads them to rely on like-minded media outlets for news. This may make them less optimistic about popular support, because beliefs about hostile, influential media tend to undermine the false consensus effect. These explanations of hostile media bias can be applied to any situation where a

third party catches flak from conflicting sides, from the United Nations to football referees.

Roger Giner-Sorolla

*See also* False-Consensus Effect; Self-Reference Effect

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## HOT HAND EFFECT

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### Definition

Many sports fans, commentators, players, and even coaches share a belief that a particular player can for some period of time have the hot hand; that is, be “in the zone,” “on a roll,” “unstoppable,” or “playing their A-game.” The hot hand effect refers to the tendency for people to expect streaks in sports performance to continue. For example, people believe that a basketball player’s chances of making a shot are higher if the player had just made the previous shots, and gamblers believe in bettors being “on fire” and having lucky winning streaks.

The hot hand effect is typically discussed in two ways. In the basketball-shooting example, the hot hand effect pertains to the belief that a hot player has an increased likelihood of making the next shot he or she takes. Recently, the term *hot hand effect* has been used more generally to refer to when people expect streaks to continue for any sequence of events with just two outcomes (e.g., hits vs. misses in basketball shooting, or wins vs. losses in roulette betting).

It is important to distinguish between two terms: the *hot hand effect* and the *hot hand* (also sometimes labeled *positive recency*). The former refers to people’s beliefs about hot hand performances, while

the latter refers to the actual occurrence of hot streaks in sports performances.

## Evidence

Although belief in the hot hand in basketball is quite common, analyses of the shooting statistics of professional basketball players playing for the Philadelphia 76ers, New Jersey Nets, New York Knicks, and the Boston Celtics showed that, in fact, basketball players do not get the hot hand. The disparity between people's perceptions of streaks and the existence of actual streaks was confirmed with a controlled experiment in which varsity college basketball players made free throws. Before each shot, both the players and observers predicted the outcome of the attempt. Both players and observers believed that some players were hot while shooting free throws, but only 1 out of the 26 players actually showed positive dependencies between shots and an unusual number of streaks.

Psychologists and statisticians have examined athletic performances from a variety of sports other than basketball to seek evidence for streaky performances. They have analyzed playing records and tested for one or more of the following indicators of the hot hand: positive dependencies, unusually long streaks, or an unusually high number of streaks. In addition to basketball shooting, researchers have failed to document evidence for the hot hand in baseball hitting and scoring, professional golf putting, volleyball scoring, and baseball and basketball game winning.

Altogether, the bulk of research findings indicate that actual hot (and cold) playing streaks are more rare in sports than people believe. However, some evidence for streaky performances was found in bowling, hockey goaltending, billiards, horseshoes, tennis, darts, and amateur golf putting in a laboratory setting. This seems to suggest that nonreactive, turn-based, uniform, individual sports are more likely to yield evidence of hot hand performances than are more reactive team sports events that involve more external and situational factors.

Research on gambling beliefs also supports the hot hand effect. Gamblers' responses to a survey indicated that they believe that three distinct factors contribute to winning: chance, skill, and luck. Belief in the power of skill and luck could account for the findings that gamblers playing roulette (a) had more confidence that they would win a bet after having won the previous

bet(s) and (b) also increased their bet amounts. Belief in lucky winning streaks persists even if the game is based purely on chance (e.g., roulette) and despite the fact that the odds of most casino games are not in the gamblers' favor.

## Psychological Mechanism

Belief in the hot hand has been explained within the framework of the representativeness heuristic. People believe that very short sequences should be representative of long sequences produced by the same process. For sequences produced by a random process, people expect the prototypical random sequence to be composed of approximately equal proportions of the possible outcomes (50–50), balanced in unrealistically short runs, and not patterned in any obvious manner. Hence, there is a tendency for people to expect an excessive number of alternations and short streaks in judgments of random sequences.

Given this concept of the prototypical random sequence, when people observe a sequence with seemingly few alternations and long streaks (as is often the case with basketball shooting), they will judge the sequence as being unrepresentative of a random process. The idea of a random mechanism is therefore rejected and replaced by an expectation of hot hand patterns.

For example, people's misconception of what a random sequence should look like leads them to perceive a basketball player who has just hit four baskets in a row as hot, when in fact it is not unusual for a truly random sequence to contain a streak of four.

## Implications

The hot hand effect has implications for financial decisions and behaviors, such as gambling or investing money. The tendency for people to perceive unusual streaks that do not actually exist can cause them to bet money on outcomes that they mistakenly believe they can predict. For example, research shows that people sometimes overinvest in stocks that are doing well in the short term and not think enough about the long-term behavior of stock prices. Predicting outcomes based on a misperception of streaks and short sequences can be financially costly.

*An T. Oskarsson  
Joanne Kane*

See also Gambler's Fallacy; Representativeness Heuristic

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## HYPERBOLIC DISCOUNTING

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### Definition

Hyperbolic discounting refers to the tendency for people to increasingly choose a smaller-sooner reward over a larger-later reward as the delay occurs sooner rather than later in time. When offered a larger reward in exchange for waiting a set amount of time, people act less impulsively (i.e., choose to wait) as the rewards happen further in the future. Put another way, people avoid waiting more as the wait nears the present time. Hyperbolic discounting has been applied to a wide range of phenomena. These include lapses in willpower, health outcomes, consumption choices over time, and personal finance decisions.

### Background and History

The notion of discounting future rewards relative to immediate pleasure has a long history. People generally want rewards sooner rather than later. Thus, options that delay a reward appear less attractive, and people discount them. The neoclassical view of economics assumes that people discount a future reward by a fixed percentage for each unit of time they must wait. If the discount rate is 10% per year, a person should equally like \$100 now and \$110 a year from now. As well, the same person should also equally like \$100 in 1 year and \$110 in 2 years. According to this view (called *exponential discounting*), the amount people discount a future reward depends only on the length of the wait and a discount rate that is constant across different wait times.

Although exponential discounting has been used widely in economics, a large body of evidence suggests that it does not explain people's choices. People choose as if they discount future rewards at a greater rate when the delay occurs sooner in time. To illustrate, many

people prefer \$100 now to \$110 in a day, but very few people prefer \$100 in 30 days to \$110 in 31 days. It appears people would rather wait 1 day for \$10 if the wait happens a month from now. However, they prefer the opposite if they must wait right now. More generally, the rate at which people discount future rewards declines as the length of the delay increases. This phenomenon has been termed *hyperbolic discounting* by the psychologist Richard Herrnstein.

There are several reasons why people might rationally choose a smaller reward now over a larger reward later. They may like the sure thing, their preferences could change, or they may have an urgent need such as hunger or paying the rent. Even so, people still seem to show inconsistencies in their choices over time. When choosing between \$100 or \$110 a day later as in the earlier example, people believe that in a month they will want to wait a day for an extra \$10. Yet after a month passes, many of these people will reverse their preferences and now choose the immediate \$100 rather than wait a day for an additional \$10. In sum, even when facing the same exact choice, people act impulsively in the short term but exhibit greater patience in the long term.

The amount that people discount future rewards has been mathematically represented in several ways. The classical economic view of exponential discounting reduces a future reward by a factor of  $1 / (1 + k)^t$  where  $k$  is the constant discount rate per time unit and  $t$  is the length of the delay. The amount a future reward is discounted depends only on the length of the delay, given a constant discount rate. Alternatively, hyperbolic discounting reduces a future reward by a factor of  $1 / (1 + kt)^{\beta/\alpha}$  where  $\alpha$  and  $\beta$  are greater than zero. The term *hyperbolic* is used because this formula is the generalized function for a hyperbola. With hyperbolic discounting, the rate of discounting decreases as the delay occurs further in the future. Thus, the amount a future reward is discounted depends on the length of the delay and when the delay occurs. Hyperbolic discounting will generally discount future rewards more than exponential discounting for short delays, yet less than exponential discounting for long delays.

Two simpler versions of hyperbolic discounting have also been proposed and widely used. First, the psychologist Richard Herrnstein has modeled some behaviors quite well by assuming that  $\alpha$  and  $\beta$  are equal. In this formulation, future rewards are discounted

by a factor of  $1 / (1 + kt)$ . Second, the economist David Laibson has accounted for several phenomena using a particularly simple form of “quasi-hyperbolic” discounting. Here, future rewards are discounted by a factor of  $\beta k^t$  for any  $t > 0$  where  $\beta < 1$ . This implies that people discount future rewards by a constant factor to reflect the presence of a delay. As well, they also discount by an exponential factor that grows at a constant rate with the length of the delay. Although not truly hyperbolic, this simpler formulation still captures many of the basic aspects of hyperbolic discounting, such as greater impulsivity in the short term.

### Applications of Hyperbolic Discounting

Of particular importance to personal well-being, hyperbolic discounting has been linked to the problems of addiction and self-control. As an example, overweight people may realize that they need to improve their health through more exercise and a better diet. For the future, they vow to forego all short-term temptations in exchange for the greater long-term rewards of improved health. Presumably, they prefer this because they use a small discount rate for all rewards in the distant future. However, after their next meal, they can not resist having chocolate cake for dessert. They focus on the instant pleasure the chocolate cake can provide and heavily discount the future rewards of better health. After eating the cake, they may once again intend to follow a diet in the future. They believe that next time they will want to, and be able to, turn down the cake. Although these people really want to follow the regimen necessary for better health, the immediate reward from short-term deviations drowns out the heavily discounted future benefits of healthier eating. Their preference for healthy eating simply does not hold up in the heat of the moment. Similar explanations have also been offered to help account for drug addictions, procrastination, and other problems of willpower.

Hyperbolic discounting also has important consequences for how people choose experiences over time. Given a fixed pool of resources (e.g., money or time), people might want to choose a sequence of experiences to maximize their overall enjoyment. Unfortunately, hyperbolic discounting makes this difficult. People fail to take advantage of liked options that become particularly pleasurable only when rarely

experienced. For example, the psychologist Richard Herrnstein proposes that people choose alternatives over time such that the average pleasure is the same across every alternative (this is called *melioration*). Here, people focus too much on how much pleasure an item provides at the current rate of consumption. They should also consider the potential pleasure that could be obtained by waiting to consume an item. For example, a steak dinner might be especially enjoyable when eaten once a month, yet it becomes nothing special when eaten every other day. In contrast, pizza might remain moderately enjoyable regardless of the rate of consumption. By meliorating between the two options, people fail to maximize their enjoyment. They choose their current favorites (e.g., steak) too often rather than keeping them special for a future occasion.

The economist David Laibson has used hyperbolic discounting to explain why people simultaneously have large credit-card debts at a high interest rate and pre-retirement wealth growing at a lower interest rate. As predicted by hyperbolic discounting, the rewards provided by buying something today often outweigh the discounted displeasure of future payments. This leads to a sizable credit-card debt. However, when thinking about their retirement savings in the far future, people use a much smaller discount rate for delayed rewards. This makes it more attractive to invest in alternatives providing a higher expected return in the long run. Consistent with hyperbolic discounting, people’s investment behavior exhibits patience in the long run and impatience in the short run. People choose to build up sizable credit-card debts while also prudently accumulating wealth in homes and retirement programs. The classical economic view of exponential discounting cannot easily account for these personal saving decisions using a single constant discount rate.

### Individual and Contextual Differences

The extent to which people exhibit hyperbolic discounting of future rewards depends on a number of factors. Some people (and species) show more hyperbolic discounting than others across most choice situations. People also tend to show less hyperbolic discounting with age, more favorable social comparisons, and more hedonic rather than utilitarian experiences. Likewise,

people find waiting for a larger reward more difficult when an immediate reward is physically close to them, openly visible, or partially sensed (e.g., aroma, noise). Across these diverse conditions, the phenomenon of hyperbolic discounting does not disappear; rather, it just influences behavior more or less.

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*See also* Delay of Gratification; Preference Reversals

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## IDENTITY CRISIS

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### Definition

Erik H. Erikson coined the term *identity crisis* to describe the uncertainty, and even anxiety, that adolescents may feel as they recognize that they are no longer children and become puzzled and confused about their present and future roles in life.

### Context and Importance

You may recall a time during the teenage years when you were confused about who you were, what you should be, and what the future might hold in store for you. Forming an adult identity involves grappling with many important questions: What career path best suits me? What religious, moral, or political values can I call my own? Who am I as male or female and as a sexual being? How important are marriage and raising children to me? Just where do I fit in to society? These identity issues, often raised at a time when teenagers are also trying to cope with their rapidly changing body images and more demanding social and academic lives, can add significantly to one's confusion about who he or she is (or can become).

### The Process of Forging Identities

Researchers have developed elaborate interviews, questioning adolescents and young adults to determine if interviewees have experienced a crisis (grappled with identity issues) and whether or not interviewees have

made commitments (i.e., resolved any issues raised) with respect to forging occupational, interpersonal, political, and religious identities.

Based on the answers provided, the interviewee is classified into one of four identity statuses for each identity domain:

*Identity diffusion:* Persons classified as “diffuse” have neither thought much about nor resolved identity questions and have failed to chart future life directions. *Example:* “I haven’t really thought much about religion and I’m not sure what to believe.”

*Foreclosure:* Persons classified as “foreclosed” have committed to an identity, or identities, without experiencing the crisis of deciding if these commitments really suit them well. *Example:* “My parents are Lutherans and so I’m a Lutheran; it’s just how it is.”

*Moratorium:* Persons in this status are currently experiencing an identity crisis and are asking questions about various life choices and seeking answers. *Example:* “I’m exploring my religious teachings, hoping to determine if I can live with them. I like some of the answers provided by my Baptist upbringing, but I’m skeptical about so much. I’ve been looking into Unitarianism to see if it might help me overcome my doubts.”

*Identity achievement:* Identity-achieved individuals have raised and resolved identity issues by making well-thought-out personal commitments to various life domains. *Example:* “After much soul-searching about my religion, and other religions too, I finally know what I believe and what I don’t and how my beliefs will affect the way I’ll live my life.”

Although Erikson assumed that the painful aspects of identity crises occur early in adolescence and are often resolved between the ages of 15 and 18, his age norms are overly optimistic. Research with 12- to 24-year-olds consistently reveals that the vast majority of 12- to 18-year-olds are identity diffuse or foreclosed, and not until age 21 and older had the majority of participants reached the moratorium status (crisis) or achieved stable identities in any life domain. There is one intriguing sex difference. Although today's college women are just as concerned as men are about achieving an occupational identity, they attach greater importance than men do to aspects of identity that focus on sexuality, personal relationships, and how to balance career and family goals.

The process of identity achievement is often quite uneven. One study assessed the identity statuses of participants in four domains: occupational choice, gender-role attitudes, religious beliefs, and political ideologies. Only 5% of participants were in the same identity status in all areas, with 95% being in two or even three statuses across the four domains. So adolescents and young adults may have achieved a strong sense of identity in one area but still be searching in others.

### How Painful Are Identity Crises?

It may be unfortunate that Erikson used the term *crisis* to describe a young person's search for identity, because adolescents in the moratorium status do not appear all that stressed out. In fact, these active identity seekers typically feel much better about themselves and their futures than do same-age peers still stuck in the diffusion or foreclosure statuses. So the active search for identity is often more uplifting than deflating.

What is most painful or crisis-like about identity seeking is a long-term failure to establish one. Older adolescents and young adults still stuck in the diffusion status are often apathetic and sometimes even suicidal; alternatively, they may adopt a negative identity, drifting into antisocial or delinquent behaviors. These are the individuals who may experience a true identity crisis after all.

### Parenting and Identity Crisis

Parenting clearly affects how adolescents experience and manage the identity crisis. Individuals who feel alienated from parents often remain diffuse and experience serious adjustment problems, whereas those

who feel close to controlling parents often simply foreclose on identities that parents suggest or dictate to them and that may prove unsatisfying. Adolescents who forge healthy identities that suit them well typically have warm and accepting parents who encourage identity explorations and who permit their teens to take their own stands on issues and to become individuals in their own right.

*David R. Shaffer*

*See also* Identity Status; Self; Self-Concept

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## IDENTITY STATUS

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A widely read book by Erik H. Erikson launched a set of ideas that stimulated the formulation of the concept of identity status. Writing from a psychoanalytic perspective, Erikson construed that individuals at each stage of life (e.g., infancy, childhood, adolescence, adulthood) have a crisis to resolve, with all positive resolutions enhancing the foundation of ego identity that is created during adolescence. Each society is thought to provide early enhancements of a child's imitation and identification with parents. This process stimulates, in the early years of childhood, an identity that is based on parental ideals, values, or beliefs. But during adolescence, society offers a psychosocial moratorium for the youth to experiment with ideas about roles, values, goals, and possible commitments that could expand identity beyond parental ideals to a more self-constructed identity. During the psychosocial moratorium (i.e., a time to be free to explore personal and career goals and options), adolescents struggle with an identity crisis and formulate an identity or experience an unsettling state of role confusion and self-consciousness. By resolving the identity crisis, an extreme occupation with self-consciousness is

diminished, and a youth identifies a set of goals, values, and commitments that become the foundation for an adult identity. Identity resolution brings with it several strengths in personality, particularly, when the identity is well received by adult society and is encouraged and recognized by adults as a useful direction to life. This recognition can occur through ceremonies, rituals, or rites of passage (e.g., graduation, scout badges, or communion).

James Marcia used Erikson's theory to devise a concept and research tool to assess identity. The identity-status paradigm utilizes Erikson's concepts of crisis and identity commitments. Crisis means a turning point, a time for action, a period of exploration and discovery. Identity commitments refer to the establishment of goals, accepted values, and faith of the use and importance of ideologies (such as capitalism, denominational faith, or political party affiliation). When crisis or exploration is crossed with commitments, four identity statuses are defined. These identity statuses are labeled *diffusion*, *foreclosure*, *moratorium*, and *achievement*. Diffusion status represents a person who has little or no sense of crisis or exploration and no firm set of commitments. Foreclosure represents an individual who has accepted commitments but not based on exploration or searching. The foreclosed person has commitments based on parental or adult values without the experience of exploration. This form of identity is mostly based in imitation, identification with parental ideals, and conformity without critical inspection. The moratorium status involves a person who is in a deep state of exploration and discovery but is not ready to make lifelong commitments. Identity achievement is the pinnacle of identity development. Individuals who report a state of exploration and firm commitments are identity achieved.

Identity statuses are categories of four different states in identity formation. Therefore, identity statuses are a set of typologies. Four identity statuses are readily found in any population of adolescents or emerging adults. Furthermore, over time and with increasing maturity, a youth can evolve into another typology. Most longitudinal evidence suggests that diffused youth can become foreclosed or move into a moratorium status. And most moratorium-status youth become identity achieved. However, youth can also reverse their growth from moratorium back to diffusion or maybe foreclosure. Also, identity-achieved individuals can return to moratorium but usually mature back into a new form of identity-achievement status. There is always a possibility of progression to

more exploration, commitment, or both, but regression is possible where a youth reverses direction to a simpler or less complex form of identity.

Each identity status is associated with very different kinds of personal and social characteristics. Diffused youth tend to be isolated; conform to peer pressure; go along with fads; manifest depression, self-consciousness, and lower self-esteem; and are likely to engage in delinquent or criminal acts. The absence of values and goals leave the diffused youth vulnerable to undesirable social influences. Foreclosed youth conform to current social norms or rules, are rigid, and have shallow or pseudo intimacy with their friends and romantic partners. Moratorium youths are inclined to be anxious, have positive self-concepts, feel incomplete and in need of direction, but have good emotional relationships with others. Identity-achieved youth are goal directed, make judgments about life from a firm set of values, and manifest many positive personality characteristics indicative of positive mental health. They also have intimate and mature social relationships with peers and opposite-sex partners.

Identity achievement is associated with several positive ego mechanisms or cognitive operations. Identity-achieved youth have greater understanding of the self, have goals and directions in life, feel they are consistent and coherent as a person, see themselves as having free will to choose who they are or can become, and see that their futures have many positive possibilities. The other identity statuses have very little of these ego-identity strengths. Identity achievement also brings a feeling of fidelity, that is, a feeling that whatever they commit to will be received positively by others.

There are several social conditions that enhance identity achievement with its states of exploration and commitment. Parenting that is warm, democratic, and allows for increasing emotional and physical autonomy as a youth matures is connected with identity achievement. Schools that provide supportive and involved faculty are facilitative of identity achievement. Positive peer relationships, whereby the adolescent feels he or she matters to friends, are associated with identity achievement.

Each of the forms of identity can also be unproductive in certain social contexts. Diffused status makes it very difficult for adolescents and emerging adults to profit from educational environments. Foreclosed youth become anxious and depressed when their personal values are threatened or when they lose close relationships that force them to move on. Moratorium youth are anxious and unhappy in environments

that demand conformity and little or no room for exploration. Identity-achieved youth become uncertain and self-conscious when they find their firm goals and values are not proving to help them achieve success.

*Gerald Robert Adams*

*See also* Identity Crisis; Influence; Moral Development; Self

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## IDEOLOGY

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### Definition

Ideology refers to a system of interrelated beliefs and values belonging to an individual or group, usually but not exclusively in the political realm. It is typically measured on a left or right (or liberal or conservative) dimension. Research in psychology focuses largely on the extent to which people's attitudes are organized according to ideological schemata and whether they are linked to personality and other individual differences.

### History of the Concept

The concept of ideology originates in the late 18th century and was used first to refer to the *science of ideas*, a discipline that is now called the *sociology of knowledge*. The term was later adopted by Karl Marx and Friedrich Engels and was used in two different senses, both of which are still common: (1) a neutral sense, in which ideology refers to any abstract or symbolic meaning system; and (2) a pejorative (insulting) sense, in which ideology denotes a web of ideas that

are systematically distorted, contrary to fact, and subject to false consciousness. Typically, an ideology stands in relation to a social system, either as an affirmation of the status quo or in opposition to it.

Although specific ideologies can pertain to cultural, economic, political, religious, and even scientific matters, the most common use of the term is in the political realm. Examples of political ideologies include communism, socialism, liberalism, conservatism, and fascism. Most political ideologies can be located parsimoniously on a single left–right dimension that captures attitudes toward social change versus traditionalism and egalitarianism versus hierarchy.

### Research in Social Psychology

Research at the intersection of psychology and other social sciences has adopted the value-neutral definition of ideology but reframed it as an attribute of individuals rather than collectivities. Thus, ideology is treated as a complex belief system that is highly integrated (i.e., logically or psychologically consistent) within the mind of an individual. Two research questions have guided much empirical work over the past 50 years. First, does ideology exist? And second, are there psychological differences that accompany ideological differences?

P. E. Converse's 1964 analysis of public opinion data concluded that the general public is not very "ideological" in the sense of being constrained by scholarly definitions of terms such as liberalism and conservatism. Nevertheless, most people are able to reliably locate themselves on ideological dimensions, and doing so seems to have at least symbolic meaning for them. It is also clear that ideological belief systems are internally coherent in people who are highly educated, politically involved, or both, as noted in 1981 by Charles Judd, Jon Krosnick, and Michael Milburn.

In one of the earliest attempts to link personality and ideology, Theodor Adorno, Else Frenkel-Brunswik, Daniel Levinson, and R. Nevitt Sanford found in 1950 that a rigid, closed-minded, and "authoritarian" personality style characterized people who are drawn to right-wing ideologies. Although this work was harshly criticized, many of its claims have been vindicated. The weight of evidence indicates that right-wing conservatives are, on average, lower in open-mindedness and cognitive complexity and higher in mental rigidity and personal needs for order, structure, and closure, in

comparison with moderates and liberals, as noted in 2003 by John T. Jost, Jack Glaser, Arie W. Kruglanski, and Frank J. Sulloway.

*John T. Jost*

*See also* Attitudes; Authoritarian Personality; Beliefs; Political Psychology

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## ILLUSION OF CONTROL

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### Definition

The illusion of control (also known as illusory control) refers to the tendency for people to exaggerate their ability to produce a desired outcome. Even when it comes to controlling random events, people believe they have control.

### Factors That Influence Illusory Control

Traditionally, people assumed accurate self-knowledge was crucial for survival and health. In this formulation, people possessed the ability to correctly judge control over their environments; accurate knowledge of when one's actions produced particular outcomes—and when they did not—was thought to be critical for functioning effectively in the world. In a broad sense, this is true. For example, mentally healthy people know they cannot control whether the sun rises and sets each day. At the same time, though, a feeling of being in control is vital for self-esteem and mental health. The

problem is people generally overestimate the amount of control they have over events.

People do not always overestimate their control, however; contextual factors and characteristics of the people involved are both very important. At least six factors contribute to an illusion of control. First, people must themselves produce the action; others cannot act for them. Second, the situation is familiar, rather than unfamiliar. Third, people know in advance their desired outcome. Fourth, people believe they exert more control in successful situations than in failure situations: No one wants to assume unnecessary responsibility when things go wrong. Fifth, people in depressed moods tend to believe they have less control over events than people in nondepressed moods. (Interestingly, depressed individuals are usually less susceptible to the illusion of control than nondepressed individuals; their apparent underestimation of control actually turns out to be somewhat more realistic.) Sixth, a personality variable that researchers call the *need for control* seems to influence illusions of control, though this topic requires further study.

### Evidence

A large body of evidence supports the illusion of control. Gambling, for example, would likely lose much of its appeal without people's slightly altered perceptions of control. When gambling, people believe they can control chance events. For example, studies have demonstrated people think they have more control over the outcome of a dice game if they throw the dice themselves than if someone else throws the dice for them, and they are less apt to sell a lottery ticket they chose than a ticket chosen by someone else (presumably because people errantly infer the odds of winning increase because *they* threw the dice or bought the ticket). In another study, participants cut cards against a competitor (the person drawing the highest card was the winner). In one condition in the experiment, the competitor dressed poorly and appeared nervous; in the other condition, the competitor dressed elegantly and looked poised. Even though the appearance of the competitor has no objective influence on the outcome of the game, participants wagered more money when playing against the nervous competitor than when playing against the composed competitor.

Research also seems to confirm that depressed individuals are less susceptible to illusions of control

than nondepressed individuals. In an early experiment on this topic, researchers told participants that pressing a button might (or might not) turn on a green light (in reality, whether the light turned on was pre-arranged; button pressing actually had no effect). In one condition, participants gained \$0.25 for every time the light appeared. In another condition, they lost \$0.25 each time they “failed” to make the light appear. Participants then rated the extent to which their actions (pressing the button) caused the result (the light turning on). Results of the study demonstrated nondepressed individuals thought they were more responsible for the light turning on than depressed individuals, especially when their actions brought about desired outcomes (i.e., gaining \$0.25 as opposed to losing \$0.25).

### Why People Overestimate Their Personal Control

Less research has examined the origins of the illusion of control, but some explanations have been offered. Originally, researchers thought people simply confused chance and skill, because situations conducive to the illusion of control are often similar to situations in which people demonstrate skill (i.e., a situation in which people are familiar with the outcomes, personally active, and successful). More recently, researchers have proposed the illusion of control might instead be a heuristic (a rule of thumb people use to make quick judgments without much thinking). The illusion of control, then, might result from the continued pairing of one’s own behavior in a situation with a desired outcome. Like most heuristics, most of the time this pairing is correct, but sometimes it is incorrect, as in situations in which the outcome occurs randomly.

### Implications: Is Illusory Control Healthy?

Feeling out of control is definitely not healthy. People who feel out of control develop a state of learned helplessness (i.e., they quit trying and give up). But is feeling in control healthy, even if it is only an illusion? On the positive side, perceiving unwarranted control leads people to experience positive emotions and try novel, challenging tasks. On the negative side, perceiving unwarranted control leads people to take foolish, unnecessary risks, especially in a gambling context. Overall, illusory control is a trade-off. There probably

exists an optimal level of illusory control, which depends on situational and personal factors.

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*See also* Apparent Mental Causation; Illusory Correlation; Positive Illusions

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## ILLUSION OF TRANSPARENCY

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There are times when people wish to conceal their thoughts, feelings, and emotions from others. Anxiety over approaching a potential romantic partner, feelings of disgust over a disagreeable entrée one is served at a dinner party, nervousness over delivering a public speech, or uneasiness stemming from telling a lie—all are internal states that people may wish, for a variety of reasons, to keep private.

How well can people conceal their internal states, and how well do they believe they can do so? Research suggests that people are often better at keeping their internal states hidden than they believe—that people tend to overestimate the extent to which their thoughts, feelings, and emotions leak out and are apparent to others. This tendency is known as the illusion of transparency because people seem to be under the illusion that others can “see right through them” more than is actually the case. The illusion of transparency is similar to the predicament depicted in Edgar Allan Poe’s classic tale, *The Tell-Tale Heart*. In that story, Poe’s character falsely believes that some police officers can sense his guilt and anxiety over a crime he has committed, a fear that ultimately gets the best of him and causes him to give himself up unnecessarily.

Researchers have examined the illusion of transparency in a wide variety of different studies. In one

experiment, for example, research participants were placed into a situation that was a mild version of the one from Poe's story; that is, they were asked to tell a number of true and false statements to an audience and then to predict the success with which the audience could spot their lies. Just like in *The Tell-Tale Heart*, participants in that study believed that they had leaked more cues to their deception than they actually had, causing them to overestimate the degree to which the audience could detect their falsehoods. Although observers can sometimes tell when people are lying, most people are better liars than they realize!

In another experiment, participants were asked to keep a straight face as an observer watched them sip a number of different drinks, one of which had an extremely disagreeable taste. When participants tasted the disagreeable drink, they felt as though their disgust was "written all over their face," despite their best efforts to conceal it, and that observers would therefore be able to tell which drink had been the disagreeable one based solely on their reactions. And yet, just like in the lie-detection study, observers who studied the tasters' facial expressions were hardly able to tell which drink was which, and tasters overestimated the degree to which their disgust was perceptible by a considerable margin.

Other experiments have demonstrated the illusion of transparency in a number of other domains. In one study, individuals who took part in a negotiation thought that their privately held preferences—that is, which issues they valued highly and which ones were less important to them—were more apparent to their negotiation counterpart than was actually the case. In another study, research participants who gave extemporaneous speeches in front of a video camera believed that their nervousness was more noticeable than it actually was. In yet another study, participants who committed a mock-crime (e.g., pretending to steal some money) overestimated the extent to which an interrogator could detect their guilt. Although all of these various studies differ from one another in many ways, the basic finding is the same across all of them: People feel as though their internal sensations leak out of them more than they actually do. People are simply not as transparent as they think.

Why do people succumb to the illusion of transparency? The phenomenon appears to stem from what is known as an *anchoring effect*. When a person attempts to determine how his or her internal state appears (or, more accurately, does not appear) in the eyes of others, the person is likely to have difficulty

getting beyond his or her own, private, phenomenological experience. In effect, individuals "anchor" their judgments on their own experience of their internal states, which can be quite powerful, and adjust insufficiently when they attempt to determine how things appear to others. It can simply be difficult to realize that the intensity with which one feels an internal state may not be matched by an outward expression that is equally as intense. As a result, people exaggerate the extent to which their internal states leak out and overestimate the extent to which others can detect their private feelings.

The illusion of transparency is similar to a number of other egocentric biases in human judgment. In particular, it resembles both the spotlight effect, people's tendency to overestimate the extent to which others notice their appearance and behavior, and the curse of knowledge, people's difficulty setting aside their own private stores of knowledge when they imagine how the world appears to others. In each case, people err in assuming that others are necessarily aware of or attentive to the same thing that they themselves are. Both of these phenomena may thus represent instances of a more general difficulty people have distinguishing between internal stimuli (e.g., how nervous one feels) and external perceptions (e.g., how nervous one appears)—a difficulty that can impair one's ability to take others' perspectives and see things (including oneself) as they do.

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*See also* Anchoring and Adjustment Heuristic; Deception (Lying); Self-Presentation; Spotlight Effect

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## ILLUSORY CORRELATION

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An illusory correlation occurs when a person perceives a relationship between two variables that are not in fact correlated. In the first study to demonstrate this phenomenon, participants were presented with pairs of words from two stimulus lists. Each word from the first list was paired an equal number of times with each word from the second list. Later, when participants were asked to estimate the number of times words from each of the two lists had been paired together, they consistently overestimated the number of pairings that had occurred between (a) pairs of words that differed visually from the others (i.e., unusually long words) and (b) pairs of words that shared some semantic association (e.g., *lion* and *tiger*). Thus, although all pairs occurred equally often, people gave higher frequency estimates for certain types of word pairs.

The importance of this bias for social psychology concerns its role in stereotyping. Historically, stereotypes were believed to result from defective personality types or were based on overgeneralization of some kernel of truth that existed in the world. Illusory correlation studies provided another basis of stereotyping by suggesting that people might form a stereotype about a group simply as a by-product of the way their minds normally process information about the world.

In a study to test this hypothesis, researchers presented participants with a series of statements about members of two groups, Group A and Group B. The statements described members of the groups performing desirable (e.g., “John, a member of Group A, visited a sick friend in the hospital”) or undesirable (e.g., “John, a member of Group A, always talks about himself and his problems”) behaviors. Each participant read 18 desirable statements and 8 undesirable statements about members of Group A and 9 desirable statements and 4 undesirable statements about members of Group B. The total number of statements about Group A was double that of Group B (i.e., 26 statements vs. 13 statements), but the ratio of desirable to undesirable statements was identical for both groups (i.e., 18 desirable and 8 undesirable vs. 9 desirable and 4 undesirable).

Because membership in Group B and the undesirable statements were the two less frequent occurrences (like the pairs of longer words in the original research), they were more noticeable. Later, participants overestimated the number of times they had read about a member of Group B doing something

undesirable. Moreover, participants also rated Group B less favorably than they did Group A. Thus, people perceived a relationship that didn't exist in what they read.

In another experiment, desirable behaviors were used as the novel social occurrence. Participants again read statements about Group A and Group B. However, this time both groups performed more undesirable than desirable behaviors (i.e., Group A: 16 undesirable and 8 desirable; Group B: 8 undesirable and 4 desirable). Again, the ratio of desirable to undesirable statements was the same for both groups. When asked to estimate how many undesirable versus desirable behaviors members of both groups had performed, participants consistently overestimated the frequency of members of the smaller group (i.e., Group B) performing the less frequent behavior (i.e., desirable behavior). Consequently, in this study, Group B was rated more favorably than Group A.

Although evaluatively equivalent information was provided about both groups, people perceived the groups differently because of the effect of distinctive information. This is known as a *distinctiveness-based illusory correlation* because a relationship is believed to exist between two variables as the result of the special attention given to distinctive (i.e., infrequent) information.

*Expectancy-based illusory correlations* are misperceptions of relationships due to people's preexisting expectations. They provide an explanation for how stereotypes are perpetuated based on an individual's preexisting belief about a group. They are often studied using similar techniques to those found in distinctiveness-based illusory correlation research.

In one experiment, participants read sentences describing people with different occupations. Each of the sentences described a person with a trait word that was stereotypic of the occupation (e.g., a helpful doctor, a busy waitress) or neutral (e.g., a humorous doctor, a humorous waitress). All of the adjectives were paired with all of the occupations an equal number of times. Yet when participants were asked to estimate the number of times each pairing occurred, they consistently overestimated the number of times that the stereotypic-traits had been paired with their corresponding occupations. The effect is known as an expectancy-based illusory correlation because people's stereotypic expectancies about certain occupations lead them to perceive a relationship where none actually exists.

Alternative theories have been provided to explain why illusory correlations occur. One alternative

suggests that research participants are motivated to make sense out of information they receive during a study. Because participants receive information about individuals from two different groups, the participants may assume that some difference must exist between the groups. The participants' attempts to distinguish between the two groups produce different evaluations. Another theory proposes that illusory correlations are due to information loss. Participants are not able to remember all of the information presented about the groups; however, because they learn more information about the larger group, they remember more information about this group when asked to make an evaluation about it later. Because they remember more information about the larger group and the majority of the information they remember is positive, participants evaluate the larger groups more favorably. Similarly, another explanation suggests that illusory correlations occur not because pairings of infrequent occurrences are more distinctive but rather because information about the most common pairings (i.e., larger group with the more frequent behaviors) is so easy to recall.

The findings from both distinctiveness-based and expectancy-based illusory correlation studies are important because they demonstrate how a perceptual bias can result from normally functioning cognitive mechanisms. When this research was first reported, it challenged the then-conventional beliefs that stereotypes were the result of individual personality syndromes or that they were derived from an underlying reality. Distinctiveness-based illusory correlation research demonstrates how stereotypes are constructed by the everyday cognitive mechanisms that are constantly operating within the human mind. Similarly, research on expectancy-based illusory correlations demonstrates how stereotypic beliefs are perpetuated through the biased processing of information when it is guided by a perceiver's prior beliefs.

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*See also* Availability Heuristic; Self-Fulfilling Prophecy; Stereotypes and Stereotyping

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## IMPLEMENTATION INTENTIONS

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A goal intention specifies a desired future state in the form of “I intend to perform/achieve Z!” (e.g., to exercise frequently/to be thin). However, merely setting a goal, or wanting very much to achieve it, is not sufficient to actually attain it. The correlation between goal intentions and actual behavior is quite low; the strength of one's goal intention typically explains only 20% to 30% of the variance in goal achievement. One strategy designed to improve goal attainment is to additionally form an implementation intention. An implementation intention is a simple plan in the form of “If X, then I will Y!” that specifies an anticipated goal-relevant situation, X, and a goal-directed response, Y, that will help achieve the goal. For example, an implementation intention formed to support the goal intention “to exercise frequently” would follow the form of “If it is sunny outside when I get up in the morning, then I will walk to work rather than take the bus.” In other words, saying “I want to exercise more” doesn't accomplish very much. But planning, “If it's a sunny morning, then I'll walk to work,” can increase one's chances of actually reaching that goal of exercising more.

### How Do Implementation Intentions Work?

An implementation intention is formed by a conscious act of will. Its effects, however, come about by automatic, effortless action control that is based on the following psychological mechanisms. First, specifying an anticipated critical situation in the if-component of the implementation intention (i.e., the sunny morning) serves to heighten the activation of its mental representation (i.e., sunny mornings are more noticeable to you). As a consequence, the critical situation is more easily recognized, more readily attended to, and more effectively recalled. Second, implementation intentions

facilitate goal pursuit by making the planned response (specified in the then-component) automatic in response to that critical situation. Once a link is formed between the anticipated critical situation and the goal-directed response in the form of an if-then statement, the individual encountering the situation is able to enact the response immediately, efficiently, and without a second act of conscious will. In other words, when our aspiring athlete sees the sun when she wakes up, she'll think "I'll walk to work"—right away, without effort, and without having to decide again what she should do on sunny mornings to achieve her goal of exercising more. This automaticity has been supported in several studies demonstrating immediacy (i.e., quicker responding), efficiency (i.e., requiring fewer cognitive resources), and the redundancy of consciousness (i.e., initiation occurred even without conscious awareness of the presence of the critical situation). By creating strong mental links between an anticipated situation and a planned response, implementation intentions allow people to work toward their goals automatically, like a habit formed through the pairing of situations and responses repeatedly in daily life. Implementation intentions, for this reason, have been said to create instant habits or strategic automaticity.

### What Kinds of Problems Can Implementation Intentions Solve?

Implementation intentions have been used to combat four potential problems for goal pursuit: failing to get started, getting derailed, becoming rigid, and overexerting oneself.

First, once a goal has been set, people often fail to initiate goal-directed responses when given the opportunity. There are a number of reasons for this: Individuals may fail to notice that an opportunity to get started on their goal pursuit has arrived, may be unsure of how they should act when the moment presents itself, or may simply forget about their goal when busy with other things. As described earlier, implementation intentions make the critical situation easier to notice and the response easier to perform. It is not surprising then that implementation intentions reduce this problem of getting started on one's goals even when busy with other things. In one study, implementation intentions helped individuals perform the necessary behavior when their goal intention (i.e., writing about their Christmas Eve) had to be performed at a busy time (i.e., during Christmas Day). Or, in another study, individuals who formed implementation intentions about when

and where to exercise were more likely to exercise at the place and time specified and therefore more likely to achieve their overall goal to exercise more. Implementation intentions have helped people achieve other health goals, such as regular breast self-examination, cervical cancer screenings, mammography, medication compliance, and healthy eating. Moreover, implementation intentions were found to facilitate the attainment of goals that are easy to forget (e.g., regular intake of vitamin pills).

Second, individuals may fail to achieve their goals because they get derailed from a goal-directed course of action. Because many goal pursuits entail continuous striving and repeated behavioral performances, one must shield goal pursuit from distractions. These distractions can come in the form of temptations, moods that can unknowingly affect one's ability to succeed, or habits that compete with one's chosen course of action. For example, implementation intentions were found to block the distracting effects of temptations in the form of entertaining advertisements (during a math test) by inhibiting attention to the distraction. Implementation intentions were also found to effectively counteract the adverse effects of moods for goal pursuit. Implementation intentions can also protect goal pursuit from unwanted habits (e.g., ordering unhealthy food in a restaurant) in favor of a newly set change goal (e.g., eating healthy food). Research has found that habitual eating behaviors and implementation intentions each have an independent effect on subsequent healthy eating. That is, no matter whether the old unhealthy eating habits were weak or strong, implementation intentions improved the individual's diet. Prejudicial feelings and stereotypical beliefs are another habitual response that can be managed with implementation intentions; implementation intentions helped participants suppress the automatic activation of prejudicial feelings and stereotypical beliefs when mere fairness goals could not.

Third, individuals may fail to achieve their goals because they become rigid in their goal pursuit. They may either need to disengage from their goals because of new information that changes the value of the goal, or they may need to switch their means of approaching that goal because it has become ineffective. Research has shown that there are a number of ways that implementation intentions combat rigidity in goal pursuit:

1. Goal pursuit by implementation intentions respects the quality of the superordinate goal, including its

level of situational activation (i.e., if the goal is relevant in a given situation), the degree to which the goal is still held, and the strength of the goal.

2. Specifying a good opportunity to act on one's implementation intention does not make a person oblivious to alternative better opportunities.
3. Forming implementation intentions does not make a person unresponsive to the effectiveness or ineffectiveness of his or her if-then plans (i.e., if these plans turn out to be counterproductive, they are discarded, and the individual is able to operate on the goal intention alone).
4. Implementation intentions can be used to disrupt the escalation of commitment (i.e., when one course of action isn't working, but the individual keeps increasing his or her effort rather than abandoning his or her pursuit).

A final obstacle to goal pursuit is overextending the self. Individuals who expend effort on a given goal pursuit experience a subsequent reduction in the ability to self-regulate; this is called *ego depletion*. Ego depletion results from having drained one's regulatory resources by exercising self-control in a demanding first task; the ego-depleted individual then shows lowered performance in a subsequent task because these self-regulatory resources are now lacking. Because implementation intentions make self-regulation more automatic, they can be used to prevent the emergence of ego depletion (on the first task) as well as to enhance performance (on the second task) once ego depletion has occurred.

Research on implementation intentions has demonstrated that making if-then plans is a very effective self-regulation strategy of goal striving. The positive effects of this strategy are based on intentionally switching action control from conscious guidance by a goal intention to direct control by preplanned critical situational cues.

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*See also* Ego Depletion; Goals

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## IMPLICIT ASSOCIATION TEST

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### Definition

Psychologists have long suspected the existence of thoughts and feelings that are not accessible by simply asking a person to report them. It may be that people are unwilling to report what they think and feel. Or, even more likely, people may not be aware of everything that they think and feel. Beginning in the 1980s, efficient alternatives to self-report measures were invented to study implicit or unconscious forms of thoughts and feelings. One such measure is the Implicit Association Test (IAT).

The IAT requires respondents to rapidly sort items from four different categories into groups. For example, imagine sorting a deck of playing cards—with red hearts, red diamonds, black clubs, and black spades—two times. For the first time, all the hearts and diamonds are sorted into one pile and all the clubs and spades are sorted into a second pile. This would be quite easy to do because the suits are being sorted by a common perceptual feature—color. Now imagine doing the same task but this time sorting clubs and hearts into one pile and diamonds and spades into the other. This would probably be harder and take longer to complete because clubs and hearts are not as related to each other as are hearts and diamonds. The simple idea is that things that are associated by some feature are easier to put together than things that are not associated.

Now translate the idea of sorting cards by their suit to sorting items by their social categories. A gender IAT, for example, would provide a measure of the relative strength with which *female* and *male* are associated with *family* versus *career* concepts. Like sorting cards by their suit, sorting *female* with *family* and *male*

with *career* would be easier than sorting *female* with *career* and *male* with *family*. The IAT can thus provide a measure of the strength of association between mental constructs: *categories* such as “female” or “male” on the one hand and *attributes* such as “family” or “career” on the other. A gender IAT of this type functions as a measure of implicit stereotype. It measures strength of association between category and attribute by using the time it takes to make the pairings, and the number of errors in classifying, while respondents are trying to respond rapidly. The strength of association between categories and evaluative attributes such as *good* and *bad* provides a measure of implicit attitude, and the strength of association between self and evaluative attributes provides a measure of implicit self-esteem. The IAT is best administered via computer and can use words, pictures, or sounds to represent concepts. This makes the IAT flexible enough to administer to the blind, young children, and others who are unable to read.

### How to Make an IAT

Several articles have described methods of constructing an IAT. Sample IATs may be found at <https://implicit.harvard.edu>, and background papers and information about programs appear at <http://projectimplicit.net/>.

### Facts About IAT Results

- The IAT has been used in research all over the world, revealing the pervasiveness of phenomena of implicit attitudes and stereotypes.
- Implicit biases revealed by the IAT are often not observed on parallel self-report (explicit) measures.
- Because of the frequent deviation of IAT measures from parallel explicit (self-report) measures, IAT results sometimes surprise a person—revealing information that was not consciously available.
- Implicit bias is observed even in children as young as 4 years of age.
- Implicit biases have been observed to vary as a function of one’s own group membership and life experiences.
- IAT measures have effectively predicted behavior such as friendliness, giving resources, and other preferential decisions about members of different groups. That is, those people who show stronger IAT-measured biases against a target social group are also more likely to discriminate against that target group and its members.

- IAT measures can be influenced by situations of administration but nevertheless show stability across time.

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*See also* Accessibility; Implicit Attitudes; Research Methods; Self-Reports; Social Cognition

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## IMPLICIT ATTITUDES

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Attitudes provide summary assessments that assist in decisions about how to interact with the world. An attitude is an association between a concept and an evaluation—positive or negative, favorable or unfavorable, desirable or undesirable. Attitudes help guide people’s judgment and behavior. Should I approach the bear with the big claws or run away? Should I eat this cactus? Do I like members of that group? In short, is this thing good or bad?

One way that attitudes can be measured is by asking people to report their feelings. For example, to find out someone’s attitude toward ice cream, we might ask

the person to rate his or her attitude on a response scale ranging from 1 (*dislike ice cream very much*) to 8 (*like ice cream very much*). Alternatively, attitudes might be inferred indirectly, based on performance on a task designed to measure associations between concepts and evaluations. For example, imagine a deck of playing cards that, instead of four suits, had examples of flowers and insects, such as tulip and beetle, and words with good or bad meaning, such as *wonderful* and *horrible*. Someone with positive associations with flowers and negative associations with insects would probably sort these cards into two piles faster if “flowers” and “good” things have to go in one pile (and “insects” and “bad” words in the other), compared to sorting “flowers” and “bad” things into one pile (and “insects” and “good” things in the other). The ease of putting flowers and insects with good things compared to bad things is an indirect indication of attitudes. This example describes the logic of the Implicit Association Test.

The two ways of measuring attitudes (described in the previous paragraph) are quite different. One requires that people self-assess their feelings and then provide a rating that summarizes the feeling (I like ice cream, “6”). The other does not require any direct thought about how one feels. Instead, a respondent sorts concepts as quickly as possible, and attitudes are inferred based on the performance. These two types of measurement approaches are interpreted to reflect different types of attitudes—explicit attitudes and implicit attitudes.

## Implicit Attitudes

Psychologists Anthony Greenwald and Mahzarin Banaji defined *implicit attitudes* as “introspectively unidentified (or inaccurately identified) traces of past experience that mediate favorable or unfavorable feeling, thought, or action toward a social object” (p. 8). What does that mean? The last part of the definition “favorable or unfavorable feeling . . . toward a social object” links the definition to attitudes—associations between evaluations and concepts. The phrase “introspectively unidentified” means that implicit attitudes exist outside of conscious awareness. People cannot just search their minds for these attitudes, and in trying to find them, they may be “inaccurately identified.” By this definition, people can have two types of attitudes: conscious, explicit attitudes that are experienced as their feelings and implicit attitudes that are not part of their conscious experience. This implies

that implicit attitudes could be quite different from explicit attitudes.

“Traces of past experience,” in Greenwald and Banaji’s definition, refers to the presumed origins of implicit attitudes. Implicit attitudes are thought to reflect an accumulation of life experience. For example, a person might regularly be exposed to negative ideas about old people and aging. Consciously, this person might disagree with the negative ideas and maintain a positive explicit attitude toward the elderly and aging. Implicitly, however, this negative information may be stored as associations between negativity and old age. As is evident in this example, implicit attitudes are not more real or true than explicit attitudes. Explicit attitudes reflect conscious values, beliefs, and desired responses. Implicit attitudes reflect experience—whether the person agrees with it or not. Both types of attitudes can be important in shaping thought, judgment, or action.

## Consequences of Implicit Attitudes

An active area of research seeks to identify when implicit and explicit attitudes predict behavior. The existing evidence suggests that explicit attitudes tend to predict deliberate behaviors that are fairly easy to control. For example, one’s explicit attitude toward ice cream might predict whether one chooses ice cream when given as much time as necessary to make a choice among snacks. Implicit attitudes, on the other hand, tend to predict behaviors that are more spontaneous and difficult to control. So, implicit attitudes might predict the snack choice when a person is in a hurry and just grabs the first snack item that seems appealing.

## Relationship Between Implicit and Explicit Attitudes

Another research area seeks to identify when implicit and explicit attitudes will be related or unrelated, and why. The most extensively studied influence is self-presentation—whether people are motivated to adjust their explicit responses because they are unwanted or they are unwilling to make them public. For example, it is generally not socially acceptable to express negative attitudes about African Americans, people with disabilities, or children. So, if people feel negatively about these groups, they may resist reporting those feelings explicitly. However, implicit responses are

relatively uncontrollable, so people may express negativity toward some groups implicitly even when they are trying to avoid it. Another predictor of consistency between implicit and explicit attitudes is attitude strength. Domains that are considered more important, or ones that people have thought about a lot, tend to show more consistency between implicit and explicit responses than those that are unimportant or rarely considered.

### Open Questions

Besides the issues already described, there are a variety of questions that researchers are actively investigating to better understand the implicit attitude concept; these include the following:

To what extent are implicit attitude measures assessing the concept “implicit attitude” as it was defined? For example, is it unconscious, or more like a measure of gut feelings?

How do implicit attitudes form?

How stable are implicit attitudes?

How do implicit attitudes change?

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*See also* Attitudes; Dual Attitudes; Implicit Association Test

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## IMPLICIT PERSONALITY THEORY

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### Definition

An implicit personality theory refers to a person’s notions about which personality characteristics tend to co-occur in people. Can one assume, for example, that a person with a sense of humor is also intelligent? Is a charming person likely to be honest or dishonest?

Is a leader someone likely to be friendly or aggressive? Implicit personality theories guide the inferences that social perceivers make of other people. For example, if a perceiver sees someone act in an energetic style and presumes that energy is linked to intelligence, then the perceiver will likely infer that the other person is intelligent.

### History and Background

The notion of implicit personality theories was introduced into modern psychology by Lee Cronbach in the 1950s, with his notion of “the generalized other.” This “other” contained the person’s beliefs about the attributes and abilities that the typical person exhibited, along with how those attributes and abilities interrelated. Importantly, Cronbach believed that people’s theories about attributes and abilities aligned those qualities into a few major dimensions of personality, and subsequent work by numerous researchers set out to discover what those dimensions were. Different researchers came to different conclusions about what the major dimensions of personality were, but some dimensions frequently uncovered were good versus bad traits, socially skilled versus unskilled, intellectually gifted versus not, active versus passive, friendly versus unfriendly, dominant versus submissive, and accepting versus rejecting of authority.

One major controversy regarding implicit personality theories is whether they reflect reality or distort it. For example, when people associate leadership with a dominant personality, are they merely reflecting the social world as it truly exists, or are they making an assumption not supported by real-world evidence—and perhaps only reflecting the fact that *leadership* and *dominance* are words that overlap in their dictionary meaning? Although any conclusion would still be contentious, one way to read the research is that implicit personality theories mirror reality somewhat but overstate it: Many people overestimate how related some traits really are in people, although those traits, in truth, are somewhat related.

It should be noted that the term *implicit personality theory* more recently has been used to denote another way in which theories about personality attributes may differ. According to the work by Carol Dweck, people differ according to whether they believe personal attributes, such as intelligence, can be modified or enhanced through effort versus remaining stable and immutable regardless of what the person does. This

use of the term *implicit personality theory* is completely separate from the one defined in this entry.

### Implications

Implicit personality theories carry many implications for social judgment. They have been shown, for example, to influence performance evaluations in organizations—if an employee shows one trait, a person evaluating them assumes that they have other traits as well. Such theories have also been shown to influence memory for other people, in that social perceivers tend to remember traits and behaviors heavily suggested by their implicit personality theories that were actually not present.

Two specific types of implicit personality theories have received special attention in psychological research. First, the *halo effect* refers to the tendency to conclude that a person has a number of positive attributes if they display a few good ones (and to infer a number of negative traits if the person exhibits an undesirable one). Second, physical attractiveness tends to lead people to infer that an individual has a number of desirable traits. Physically attractive people are assumed to be warmer, more socially skilled, and even more intelligent, for example, than their peers.

One notable example of the implications of implicit personality theories centers on HIV/AIDS prevention. People assume they can tell who is HIV-positive just by looking at them—and seeing, for example, whether the person is well dressed. There is no evidence of a link between attire and health status—and so using such an implicit personality theory in this realm is, at best, worrisome.

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*See also* Halo Effect; Illusory Correlation; Personality Judgments, Accuracy of

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## IMPRESSION MANAGEMENT

### Definition

Impression management refers to the activity of controlling information to steer others' opinions in the service of personal or social goals. Although people can manage impressions of almost anything (e.g., a clothing brand, a political position), people most commonly manage the impressions others form of themselves, a subtype of impression management that is often termed *self-presentation*.

### History and Modern Usage

Many writers and philosophers have observed that people engage in strategic behaviors to control the impressions that their audiences form. The sociologist Erving Goffman popularized this idea further, arguing that ordinary people in everyday life work to convey desired impressions to others around them, just as actors on a stage work to present their characters to audiences.

Of course, given that actors are pretending to be people they are not, this metaphor implies that impression management is intentional and duplicitous. While early research reflected this assumption, more recent research has revealed that people engage in impression management even when they are not intentionally trying to do so. For example, even if you feel like you can just “be yourself” around close friends and family members, you may find yourself acting quite differently—or presenting a somewhat different version of yourself—around your best friend than around your mother, without really thinking about it. You might exhibit such different behavior not only because of your own desire to be viewed somewhat differently by your friend versus your mother, but also because your friend and your mother have different expectations or demands regarding what sort of person you should be. Thus, engaging in impression management can help to ensure that social interactions go smoothly.

Impression management is not risk-free, however. Becoming excessively concerned over others' opinions can cause anxiety, thereby increasing health problems. And engaging in highly deceptive forms of impression management runs the risk that people will see through the act (although “getting caught” seems

to be the exception rather than the rule). Conversely, impression management may sometimes be *too* effective; for example, if you try to act like a rebel in one situation, your impression management may carry over such that you start to see yourself as relatively more rebellious and behave in a rebellious manner in subsequent situations. Of course, to the extent that people generally try to put their best foot forward, such carryover effects of impression management may have positive consequences.

Impression management can also be used prosocially to benefit friends. People commonly describe their friends in ways that help to support their friends' desired images. Thus, impression management can be undertaken in the service of self-serving or more other-oriented goals and represents a central component of everyday social life.

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*See also* Exemplification; Self-Enhancement; Self-Presentation

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## INDEPENDENCE OF POSITIVE AND NEGATIVE AFFECT

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### Definitions

Positive and negative affect are often referred to as the Big Two emotions. They each refer to superfactors of emotion, and according to Randy J. Larsen and Ed Diener, each consists of several subcomponents of different feeling states. Positive affect refers to all high-energy emotions that feel good or pleasurable. Some varieties of such positive emotions are feeling energetic, enthusiasm, engagement, and joy. The situation is similar with negative affect, which has subcomponents of high-energy ways of feeling unpleasant, such

as anxiety, worry, and distress as well as fearfulness, anger, hostility, and disgust. As such, positive and negative affect are each composed of several subfactors of emotion that go into defining them.

### Conceptual Distinctions

One important distinction concerns the difference between emotional states and emotional traits. Emotion states are feelings that come and go fairly quickly, often are intense, and their cause usually lies outside of the person. You might say you are in a state of anger and that you are angry because of a specific event. The anger may be intense, but it will likely dissipate. Trait emotions, on the other hand, last longer and refer the cause, in part, to some characteristic of the person. You might say, for example, that someone is an angry kind of person, meaning that this person is frequently angry or has a low threshold for becoming angry. This describes a characteristic of the person more than a particular state caused by some event in the environment. Positive and negative affect can be thought of as states or traits, as transient emotions caused by specific events or as relatively enduring characteristics of persons.

The following example makes clear the distinction between states and traits. Consider the two emotions sadness and anger. In terms of states, people are rarely sad and angry at the same time. A person may be angry, but it is very rare for the person to simultaneously be sad. However, if one thinks about traits over a longer time frame, say, over the past 6 months, and ask the question how angry and how sad has a person been over the past 6 months, it is likely that a person reporting a high level of anger will also report a high level of sadness, just not at the same time. So in terms of traits, people who are frequently angry are also frequently sad. Again, just not at the same time. At a trait level, anger and sadness can be highly correlated (they are both part of the negative affect superfactor), whereas at a state level, anger and sadness are not correlated because they do not co-occur at the same time.

Another important distinction is between categorical and dimensional views of emotion. In the field of psychology, some researchers prefer to think of emotions as distinct categories. These researchers often have a list of specific emotions that they consider to be fundamental, usually between six and nine different emotions. These researchers do not clump

emotions into positive and negative groups, but rather feel that it is important to maintain distinctions between specific emotions. On the other hand, another group of researchers find some value to the idea that all emotions fall along a few specific dimensions and can thus be grouped. Researchers who prefer to think about positive and negative affect as superfactors are in this camp.

An interesting finding is that there are many more negative emotions than there are positive emotions. It seems humans are constructed in such a way that there are only a few ways to feel positive but many ways to feel negative. For example, negative affect includes such emotions as anxiety, anger, fear, distress, guilt, embarrassment, sadness, disgust, and shame. All of these negative emotions may have distinguishable feeling states; anger feels different from anxiety, for example. Nevertheless, anger and anxiety are both negative. Plus, the empirical finding is that at a trait level, these negative emotions tend to correlate with each other. Researchers who believe in the dimensional approach find it useful to consider all negative emotions under the single dimension of negative affect and all positive emotions under the single dimension of positive affect.

## Background and History

During the early parts of psychology's history, emotion was a topic that received very little attention. When it was considered at all, emotion was thought of as disregulated cognition, as dysfunctional forms of mental activity. Starting in the late 1970s, psychology began a fresh consideration of emotion. At this time, positive and negative affect were thought of as separate ends of a single bipolar continuum. That is, it was thought that the more a person had of one emotion type, the less they had of the other. In fact, measures of positive and negative affect at this time were constructed in such a way that they ensured positive and negative affect would not be independent. It was simply felt at the time that positive and negative affect were the opposite sides of the same coin.

In the mid-1980s researchers began to question this view. They focused on constructing separate measurement scales, with positive affect being measured from zero to high levels and negative affect being measured on another scale from zero to high levels. Research began to accumulate showing that positive and negative

affect were uncorrelated and correlated with other variables in different ways.

One way to think about the independence of positive and negative affect is to consider what makes you happy and what makes you sad. Those things that make a person happy, when they are absent, do not guarantee that person will feel sad. Similarly, those things that make a person feel sad, when they are absent, do not guarantee that the person will feel happy. In other words, the positive and negative affect systems appear to respond differently to different events in people's lives. It is also likely that the brain centers that are responsible for generating the experience of positive and negative affect are separate. Reward circuits in the brain are partly responsible for positive emotions, and these positive emotions are transmitted through humans' nervous systems by the neurotransmitter known as dopamine. In fact, dopamine is activated by those events that typically create pleasurable feelings. For example, many drugs of abuse, such as cocaine, activate the dopamine system and are responsible for the intense feelings of pleasure that accompanies the ingestion of this addictive drug. Dopamine is also activated by other events that generate pleasure; for example, a kiss from someone a person loves or eating a meal that a person particularly likes. Similarly, other brain centers, particularly the limbic system, are responsible for feelings of negative affect (fear, anger, hostility, etc.) and are potentially distributed through the nervous system through the serotonin neurotransmitter system. As psychology has matured and its consideration of emotion has continued, evidence has accumulated that positive and negative affect function differently, have different biological bases in the nervous systems, and are responsive to different events in people's lives.

## Consequences

One consequence of the realization that positive and negative affect are independent is the creation of measures that tap each of these emotions separately. There are now a number of published measures for assessing these emotions, such as the Positive and Negative Affect Schedule. Another consequence of the independence of the positive and negative affect is research on the different operating characteristics of each of these emotional systems. One way to summarize this is the simple phrase that "bad is stronger than

good.” For example, a life event that is negative, say of the value  $-1$  will cause more negative emotion than a positive event of  $+1$  will cause positive emotion. The psychologist Danny Kahneman has shown that losses are more powerful than equally strong gains; for example, losing \$50 will make people feel sadder than winning \$50 will make them feel happy. In other words, gains and losses of equal magnitude nevertheless result in negative affect and positive affect of different magnitudes. Another example from the social psychological literature is that a negative first impression will last longer than an equally positive first impression. There are many examples where bad is stronger than good. In fact, this effect is called the *negativity bias*; people respond stronger to bad events than they do to equally good events. However, another concept applies to positive affect, which is called the *positivity offset*. This refers to the fact that most people, most of the time, are in a slightly positive state. In other words, the default human emotional condition is not zero but slightly positive.

Another consequence of the independence of positive and negative affect concerns overall well-being. If psychological well-being is thought of as the ratio of positive to negative emotions in a person’s life over time, then it suggests that there are two routes to well-being. One route would be to maximize the numerator in this ratio, that is, to try to maximize positive affect. The other route would be to try to minimize the denominator, that is, to limit the amount of negative affect. These two routes to well-being are a consequence of the finding that positive and negative affect are independent.

### Individual Differences

At a trait level, positive and negative affect correlate in different ways with measures of personality. Positive affect is highly correlated with Extraversion and many of its facets. For example, people high on positive affect tend to be very sociable persons: They are outgoing, like to be with other people, like being the center of attention, and tend to be talkative and engaging. Positive affect also correlates with high activity level: People high on positive affect tend to be lively and animated and engaged in whatever activity they are involved in. Finally, positive affect correlates with Agreeableness: People who experience high levels of trait positive affect tend to get along well with

others, are cooperative, are consensus builders, and work well in groups.

Negative affect at a trait level also correlates with specific personality dimensions. People high on negative affect tend to be high on a personality dimension known as Neuroticism. Neuroticism describes a cluster of traits that includes being pessimistic, always thinking on the negative side of things, and expecting the worst to happen. It also correlates with being dissatisfied in general, with the tendency to complain a lot about anyone or anything. People high on this dimension also report a lot of psychosomatic symptoms, such as backaches, stomachaches, and headaches. And finally, people high in negative affect tend to worry a lot; they expect the worst to happen and they worry whether they will be able to cope with what the future holds.

These personality correlates of positive and negative emotion raise the interesting question about which is causing which. That is, from a correlation perspective, researchers don’t know whether personality is causing the emotion or whether there may be a third variable that may be related to both. For example, it could be that extraverts engage in the kind of activities that generate positive emotions, and it is these activities, not Extraversion per se, that are responsible for heightened positive affect. However, an alternative model is that extraversion represents a lower threshold for experiencing positive emotions. Research has come in on both sides of this debate. Nevertheless, there is a great deal of evidence to suggest that extraverts, in fact, do have higher levels of positive emotions in their lives and that people high on the dimension of Neuroticism have high levels of negative emotions in their lives.

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*See also* Affect; Emotion; Positive Affect

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## INDEPENDENT SELF-CONSTRUALS

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### Definition

Self-construal refers to the way in which a person thinks about and defines the self. Importantly, self-construal is not only a way of viewing oneself but also a way of understanding one's relationship to the larger social world. When people are construing or thinking about themselves in an independent way, they are likely to think first and foremost about the personality traits (e.g., "I am outgoing"), abilities (e.g., "I am a great cook"), and preferences (e.g., "I love the purple jellybeans but hate the green ones") that, in combination, create a profile of the self that is uniquely their own. An independent self-construal, because of its emphasis on internal and distinctive personal characteristics, is thus one in which the self is seen as a unique individual, fundamentally separate from others. Interestingly, thinking of the self in this independent way has been shown to have a profound influence on both cognition and behavior.

### Background

Given that viewing the self relative to one's unique personality and distinct abilities and attitudes is what has traditionally been thought of as *self-definition*, one could argue that much of the existing research on the self has explored independent self-construals. Indeed, the recognition that an independent construal of the self might be just one of several types of self-views wasn't widely accepted until the early 1990s, after cross-cultural research by Hazel Markus and Shinobu Kitayama revealed that describing the self in terms of unique attributes was a typical North American and European construal of the self but did not adequately portray the self-views of members of East Asian and Latin American cultures, because they typically describe the self in a more social fashion through referring to important relationships and groups. The recognition that thinking about the self as unique was a distinct type of self-construal opened the door to research that would better reveal its cognitive and behavioral consequences.

Subsequent research also paved the way by revealing that independent self-construals could be activated in everyone, regardless of culture. Independent

self-construal can be understood as thinking of the self as only a "me" rather than as part of a larger "we." Researchers discovered that an independent self-construal could be encouraged by either directly asking participants to describe themselves in ways that made them different from others, or by indirectly priming them to think of the self this way by reading independently focused stories or even having them circle the words *I*, *me*, and *mine*. This methodological discovery allowed research to be conducted that could specifically assess what effects holding an independent construal had, regardless of cultural context.

### Cognitive Effects

One of the most interesting discoveries about independent self-construal concerned its impact on overall perception and cognition. Researchers have found that defining the self in an independent way encourages one to perceive the world in a more independent or context-free way. In an ingenious set of studies, Uli Kuhn and Daphna Oyserman showed that when one is thinking of the self as a unique individual regardless of social relations, one also attends and processes the physical world in terms of unique objects rather than their relations. In other words, people with an independent self-construal truly do ignore the forest by paying too much attention to the trees! This finding has implications for social perception—and may explain why North Americans so easily fall prey to the *fundamental attribution error*, or failing to think about the pressures of the social situation when explaining another person's behavior (e.g., assuming someone who is late to a meeting is irresponsible, rather than considering that he may have been caught in traffic). Interestingly, this focus on other people's dispositions rather than the situation as the cause of their behavior could be simply a social side effect of the more general cognitive processing style of paying attention to individual actors and objects rather than considering their broader context.

### Values and Social Behavior

When people construe the self as independent, it increases the importance of maintaining autonomy from others. Values like freedom, choosing one's own goals, and leading a pleasurable life take precedence,

and independent people are uncomfortable with punishing people who engage in negative interpersonal behavior and break social norms to the extent that it could interfere with the individual right to “do your own thing.” In addition, the construal of the self as separate from others means that personal pleasures and accomplishments are the primary basis for life satisfaction and well-being. Researchers who study the influence of self-construal on well-being have consistently found that for people with an independent self-construal, personal self-esteem has much more of an impact on their reported life satisfaction than does the quality of their social relationships. Moreover, when individuals are thinking of the self in an independent fashion, they pay more attention to, and more actively pursue, tasks that seem to offer a high likelihood of personal success.

As for social behavior, the data concerning independent self-construal are mixed. On the one hand, several researchers have shown that thinking of the self in an independent fashion appears to have detrimental consequences for social interaction and behavior. Many studies have shown that independent construals result in people’s behaving more competitively with one another, working less hard on group tasks, becoming less helpful to others, and performing poorly at group problems and social dilemmas. However, a recent line of research by Sonja Utz has revealed that the relationship between independent self-construal and social behavior may be more complex than it originally appeared. Her work points out that an independent self-construal fundamentally focuses the person inward, activating the self-concept, and motivates the person to behave in a way that is consistent with his or her unique personality. Thus, to the extent that someone holds a strong and central value for cooperation, making the person think of the self as independent may actually result in cooperative rather than competitive behavior because of the coherence of the behavior with the person’s own self-concept. In other words, it seems that an independent self-construal may encourage a person’s core personality characteristics, whether prosocial or selfish, to drive behavior.

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*See also* Interdependent Self-Construals; Self

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## INDIVIDUAL DIFFERENCES

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Individual differences are the more-or-less enduring psychological characteristics that distinguish one person from another and thus help to define each person’s individuality. Among the most important kinds of individual differences are intelligence, personality traits, and values. The study of individual differences is called *differential* or *trait psychology* and is more commonly the concern of personality psychologists than social psychologists. Individual differences are neither a fiction nor a nuisance; they are enduring psychological features that contribute to the shaping of behavior and to each individual’s sense of self. Both social and applied psychology can benefit by taking these enduring dispositions into account.

### Background and History

Individual differences in cognitive abilities have been studied since the 19th century, when Sir Francis Galton published *Hereditary Genius*, and they have continued to occupy the attention of psychologists, including Alfred Binet and David Wechsler, who produced some of the most widely used measures of intelligence. Individual differences in personality traits were studied conceptually by Gordon Allport and more empirically by Raymond Cattell and Hans Eysenck. Current views on individual differences in personality are dominated by the Five-Factor Model or Big Five.

Most individual differences are a matter of degree. Although it is convenient to talk about introverts and extraverts as if these were two distinct classes of people, in fact most people have some features of both introversion and extraversion and would fall near the middle of the distribution. Most traits are distributed in the familiar bell-shaped curve; there is little evidence for distinct types in psychology.

At any given time, people differ in their moods and their opinions of the weather. But the individual differences of greatest interest are those that reflect some enduring aspect of the individual. Both cognitive and personality traits meet this description. Longitudinal studies conducted over periods as long as several decades show that in adults, traits like verbal intelligence, emotional stability, and musical ability are exceptionally stable, with very gradual changes and high rank-order consistency. Young adults who are bright, unflappable, and tone-deaf are likely to be bright, unflappable, and tone-deaf 40 years later.

Several explanations have been offered for the stability of traits. For example, it is sometimes said that people build a life-structure that sustains their traits. The intellectually curious woman subscribes to magazines that continue to stimulate her curiosity and exercise her intellect. The sociable man acquires a circle of friends who reinforce his sociability. In addition, however, there is now compelling evidence from hundreds of studies that both cognitive and personality traits are substantially heritable, and the same genes that make one, say, suspicious at age 30 make one suspicious at age 70.

Ralph Waldo Emerson, the American transcendental philosopher, was dismayed by the evidence of trait consistency he saw, because it seemed to him to deprive people of freedom of will: "Temperament," he wrote, "puts all divinity to rout." But people generally embrace their own traits, recognizing them as integral parts of their identity. People might sometimes wish to be more assertive, organized, or imaginative, but in the long run, most accept their traits as their own authentic selves.

The consistency of traits over time is not matched by their consistency over situations. Sometimes friendly people smile at strangers; sometimes they don't. They may be preoccupied by an upcoming interview or depressed by the morning's news. When, in the 1960s, psychologists began to document this inconsistency in laboratory studies of behavior, it

ignited one of the most celebrated controversies in the history of psychology, the person–situation debate. Some researchers were so struck by inconsistency that they came to believe that traits were completely fictional, that is, stories people made up about themselves or adopted from others. The consistency of traits over time was, these skeptics thought, merely the stability of a myth.

Eventually a more sophisticated understanding of traits emerged. Traits are only one of many influences on behavior at any particular time, so consistency between one situation and another is quite limited. But traits are enduring, so over a period of days or months, they have a cumulative effect on the pattern of behavior that we recognize as sociability or nervousness or stubbornness, and it is this general pattern that is stable over time. In gambling casinos, the house sometimes wins, sometimes loses—but in the long run, owning a casino is almost guaranteed to make you rich. Traits operate in the same probabilistic way.

## Individual Differences and Social Psychology

Curiously, individual differences first came to the attention of experimentalists as a source of consistent error. In the 19th century, astronomy depended on human recordings of the precise moment when an object crossed a specified point in the sky, and different astronomers reported slightly different values. Charles Wolf noted that these discrepancies were consistent, and he developed personal equations to correct the reports of different observers. Studies of perceptual speed and reaction time grew out of this observation.

For some social psychologists, individual differences are nuisance variables that make life more difficult. In the typical social psychology experiment, subjects are randomly assigned to different conditions and exposed to different experimental manipulations; their behavior is then recorded. In this way, the experimenter hopes to learn how people respond to different situations. For example, terror management theory suggests the hypothesis that people should become more patriotic when reminded of death. So subjects might be shown scenes either of a cemetery or a parking lot and then be asked their evaluation of the national flag. One would expect a range of responses, but if the theory is right and the experiment well done, then on average

those individuals who saw the cemetery should report more positive feelings about the flag.

But there are also enduring individual differences in patriotism, and those are likely to cloud the results. By randomly assigning subjects to conditions, one hopes to equalize the effects of individual differences, but they still contribute noise. In principle, one could assess patriotism separately (perhaps a month before the experiment) and remove its effects statistically. In practice, this is rarely done.

Other social psychologists, however, realize that individual differences can be utilized as a natural experiment. Arie Kruglanski and colleagues proposed that decisions are often made on the basis of a need for closure—the need to reach a definite conclusion (regardless of its correctness). Experimentally, this need can be manipulated by varying time pressure on subjects or even by making the task unpleasant by conducting the study in the same room as a noisy computer printer. Under these conditions, people tend to seize on the first information they are given and freeze their opinions. But Kruglanski also realized that there may be individual differences in the need for closure (in fact, related to the personality trait of low Openness to Experience) and that individuals who are high in need for closure may habitually react like people put under time pressure. A series of experiments confirmed this hypothesis.

Individual differences may also interact with experimental manipulations. The sight of a cemetery may be a much more powerful cue to death for someone chronically high in anxiety and thus may have a correspondingly stronger effect on subsequent patriotism. A stubborn and antagonistic subject may resent the experimenter's attempted time pressure manipulations and deliberately ignore them. Social psychologists routinely examine their data to see if the effects are different for men and women; perhaps they should routinely assess traits and their interactions with manipulations.

Most of the topics of interest to social psychologists, including attachment, achievement motivation, risk-taking, prejudice, altruism, and self-regulation, are associated with enduring individual differences. Social psychologists usually study the mechanisms by which these phenomena operate or the conditions that enhance or reduce them. By understanding the processes that give rise to behavior, social psychologists hope to be able to develop interventions to change them. Individual differences are, by and large, not easily altered, so they sometimes seem irrelevant to interventionists.

But it makes sense to consider trait levels in attempting to change behavior. For example, researchers may wish to help dieters control their eating behavior. Researchers know that people high in Conscientiousness are more self-disciplined than those low in Conscientiousness, and this information can figure into the approach to the problem. For conscientious dieters, researchers might need only to focus on education: If they understand the principles of nutrition and the health risks of obesity, they may have enough incentive to change their eating habits. Dieters low in Conscientiousness need more help; extra encouragement, group support, or a locked refrigerator may be required. Other individual differences might also be relevant to the selection of treatments. Some people eat less when alone or when eating with other people who are also dieting. Assigning introverts to the former condition and extraverts to the latter might facilitate self-control in a congenial setting.

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*See also* Big Five Personality Traits; Genetic Influences on Social Behavior; Personality and Social Behavior; Research Methods; Traits

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## INFERENCE

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### Definition

Inference is the act of judging a person, even when limited information is available. People usually form their inferences by paying attention to important

information around them and then using a set of rules to come to some decision. When people infer why something happened, they often consider whether the outcome was positive or negative. Positive outcomes tend to be socially desirable, whereas negative outcomes are perceived as socially undesirable. Thus, the social desirability of a behavior determines the qualities people infer about the person who committed the act.

### Prominent Perspectives

Fritz Heider's attributional perspective tries to explain how regular people decide where the behavior of others originates. When people infer that someone's behavior was the result of stable personality traits, they make a dispositional inference, but when behavior is thought to result from external, contextual sources, they make a situational inference. Research generally finds that people make dispositional inferences about others because it provides a template for how the others will behave in other situations.

Harold Kelley's covariation theory predicts that people make inferences by estimating the extent to which causes and outcomes are related. More simply, people are more likely to infer that A caused B if they both occurred similarly in time. If an outcome has more than one potential cause, then people tend to discount all those potential causes, making it hard to determine the actual cause of the outcome. When the sole cause of an outcome can be determined, the inference is easier to make.

### Inferential Errors

The inferential process is imperfect and subject to systematic errors. The *correspondence bias* is the perception that behaviors correspond with underlying traits, even when this may not be the case. The *actor-observer effect* is the tendency to overemphasize the situation when inferring about one's own behavior but not the behavior of others. One's inferential errors are usually self-serving, in that they tend to enhance positive perceptions of the self and negative perceptions of others.

### Why Is Inference Adaptive?

Inference serves three adaptive purposes: understanding, controlling, and self-enhancement. In an unpredictable social world, making causal inferences

creates a sense of understanding with the added possibility to influence outcomes. The inferential process also fosters a sense of control over the environment, as people come to expect some relationship between causes and effects. By making trait inferences for other peoples' negative acts, people view themselves more positively by comparison, simultaneously maintaining a positive sense of self. In general, the inferential process is both functional and adaptive.

*Devin L. Wallace*

*See also* Attributions; Kelley's Covariation Model; Self-Enhancement

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## INFLUENCE

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Every species of social animal and eusocial insect must have a means of social influence—a way for one or more members of the species to direct, coordinate, and influence other members of the species. Such social influence tactics determine the allocation of resources within a community of the species and also provide an evolutionary advantage to social species in their quest to gain the resources needed for survival. For example, *Pogonomyrmex barbatus* (red harvester ants) dynamically allocate tasks within their colonies (e.g., forging, patrolling, midden work) by having each ant follow a social consensus rule of “the more contact with another ant succeeding at a task, the more likely I should switch to that task.” *Pan troglodytes* (chimpanzees) use a number of social influence tactics to establish social relationships and to allocate resources, including coalition formation, reciprocity, submissive greetings to establish a dependency relationship, empathy, and the establishment of norms. Humans (*Homo sapiens*) employ a variety of social influence techniques that are highly adaptive to a range of social and environmental situations.

Social influence means any noncoercive technique, device, procedure, or manipulation that relies on the social psychological nature of the organism as the means for creating or changing the belief or behavior of a target, regardless of whether or not this attempt is

based on the specific actions of an influence agent or the result of the self-organizing nature of social systems. It can be contrasted with two other forms of influence: (1) *power* or the control of critical resources, including its most extreme application of war; and (2) outright *deception* to lead an organism to believe he or she is doing X but in reality is doing something else. In other words, social influence uses tactics that appeal to the social nature of the organism. Among humans, it is their nature to fear, feel dissonance, return a favor, value what is scarce, empathize with others, make judgments dependent on context, seek phantom goals, and easily adopt the social roles of their social group, along with other characteristics. Social influence tactics make use of these attributes of human nature to invoke such processes as conformity (creating or changing behavior or belief to match the response of others), persuasion or attitude change (change in response to a message, discourse, or communication), compliance (change in response to an explicit request), yielding to social forces (change in response to the structure of the social situation), or helping (change in response to someone's need).

### History of Social Influence Research

Throughout human history as a species, human beings have attempted to understand what influences and persuades them. Some of these attempts were based on superstitions and pseudoscientific beliefs and thus have missed the mark. For example, at various times in human history, people have believed that the stars and the planets (astrology), bumps on our head (phrenology), the four humors (or special fluids of blood, yellow bile, black bile, and phlegm), magnetic forces (Mesmerism), and witches, demons, and angels have mysteriously controlled human behavior.

Nevertheless, some members attempted to use empirical observation to understand persuasion and influence. The first recorded attempt to classify social influence tactics was conducted by the Sophists (including Protagoras, Isocrates, and Gorgias) of 5th century B.C.E. Greece. (In China in the 3rd century B.C.E., Han Fei Tzu developed a handbook with a similar goal.) The Sophists were itinerate teachers of persuasion and created handbooks of "common-places"—general arguments and techniques that could be adapted for a variety of persuasive purposes. Sometime around 333 B.C.E., Aristotle began compiling a list of these influence techniques (mostly taken from the

Sophists) in his book *Rhetoric*, the earliest surviving book on influence. The next great attempt to codify the ways of influence occurred in Rome with the efforts of the lawyer Cicero and the rhetoric instructor Quintilian.

However, it was not until the late 19th century that the scientific method was used to explore the ways of social influence. In 1898 Norman Triplett conducted the first social influence experiment by having people turn fishing cranks either alone or in the presence of others. He found evidence for social facilitation or faster cranking turning when others were present. Also in the late 19th century, Gustave Le Bon popularized a theory of crowd behavior based on the metaphor of hypnosis or the notion that the crowd took over the will of the person much like the suggestions of a hypnotizer commands the unconscious of the hypnotized. Although popular in his day, Le Bon's theory has not stood the test of time, but it did serve as a foil to stimulate later research.

World War I changed the trajectory of social influence research. In the United States and Britain, the war was marked by a period of patriotism; after the war, many citizens became disillusioned by the results and came to feel that they had been duped by propaganda. The zeitgeist of the times championed the belief that social influence and mass propaganda were all-powerful (based on either suggestion theories from psychoanalysis or behaviorism's belief in malleable human behavior). Researchers and scholars began documenting this belief as well as attempting to find ways to inoculate citizens from propaganda. Social influence research during the interwar period featured the use of the experimental method to document that "persuasion happens," case studies of propaganda, and the development of survey methods. In the 1930s, a group of scholars formed the Institute for Propaganda Analysis with the expressed goal of teaching Americans about how to counter propaganda.

As with World War I, World War II also changed the trajectory of social influence research. As part of the war effort, many scholars became deeply involved in social influence research, including campaigns to maintain and promote the morale of the public and troops and to counter Nazi propaganda. After the war, these researchers returned to their universities and began (along with their students) to study social influence phenomena that had been at the heart of the war effort, such as conformity, mass communications, prejudice, power, and obedience to authority. The result was a flourishing of exciting scientific research on

social influence and the development of a large body of knowledge about how influence works and why. To give a flavor for research on social influence during the 1950s and 1960s, this entry briefly describes three lines of research.

At Yale University, Carl Hovland conducted a program of experimental research investigating the effects of various variables (e.g., source credibility, individual differences, organization of the message) on persuasion. The results, in contrast to assumptions made during the interwar years, showed weak effects of these variables on social influence. Similar minimum effects were being obtained in survey research, which found, for example, that few voters changed their voting preferences as a result of mass media content. The resulting model of influence was termed *minimum effects* and posited that persuasion was the result of a series of steps (attention to the message, comprehension, learning of message, yielding, and behavior), each with a decreasing probability of occurring.

In 1968 to account for empirical anomalies in the Hovland model, Anthony Greenwald presented a revision, which replaced the intervening steps with one core process: cognitive response. The resulting approach to persuasion, known as the Ohio State School, states that influence is the result of the thoughts running through a person's head as he or she processes a persuasive communication. (In this case, the power of the mass media is dependent on its ability to change cognitive responses, which can vary as a result of a number of factors.) Subsequent research has focused on the question, "What determines a person's cognitive response to the message?" with one of the most comprehensive answers provided by the elaboration likelihood model of Richard Petty and John Cacioppo.

A second line of research stems from Leon Festinger's 1957 book, titled *A Theory of Cognitive Dissonance*. In this book, Festinger puts forth a deceptively simple thesis: When a person is confronted with two conflicting thoughts, it creates a tension state; that individual is highly motivated to reduce that tension or dissonance. This simple theory stimulated a wealth of interesting research hypotheses and experiments about the nature of social influence. The research on dissonance has been very useful for identifying and understanding a range of social influence tactics, such as effort justification, insufficient justification, commitment, and guilt, and has provided researchers a means of understanding seemingly counterintuitive instances of influence.

The final line of research obtained what is perhaps the single most important discovery in social influence research and most likely within the discipline of psychology itself—that situations are more powerful in controlling human behavior than most people think. This line of research began by questioning research results presented in a dissertation in 1935 by Muzafer Sherif. In that research, groups of people judged the movement of the autokinetic effect (an illusion that a light moves when placed against a dark background). Sherif's results showed that groups quickly developed norms for making these judgments and that these norms would guide their subsequent judgments. In the late 1940s, Solomon Asch looked at the conformity results obtained by Sherif to conclude that the findings were dependent on the nature of the ambiguous autokinetic stimuli used in the research; Asch further reasoned that surely conformity would not occur if a group of people made obviously incorrect judgments of an unambiguous stimulus. In the true spirit of science, Asch promptly designed a set of experiments to prove himself wrong. In his studies, Asch had a group of confederates judge the length of lines and clearly provide a wrong answer. Surprisingly, he found that a majority of subjects went along with the group.

In the early 1960s, Stanley Milgram was interested in explaining obedience to authority in terms of personality and culture-based character traits (e.g., "Germans are most obedient" as an explanation for the Holocaust). He also believed that Asch's line judgment task had no personal consequences for the subjects and thus was not a full test of conformity. Milgram designed his famed "obedience to authority" procedures to take account of these hypotheses. The results showed that a majority of people were willing to give another person painful shocks when commanded to do so by an authority and that character and personality did not explain these results. Instead, Milgram's research was a powerful demonstration of the power of the social situation to control behavior—a finding that has been repeatedly demonstrated in studies such as Bibb Latané and John Darley's bystander apathy research and Philip Zimbardo's Stanford prison experiment.

The modern era of social influence research began with the 1984 (last revised in 2001) publication by Robert Cialdini of his book *Influence*. This seminal work summarized past social influence research, categorizing it into six core principles of influence: reciprocity, scarcity, consistency, authority, liking, and social proof. More importantly, it serves as an

inspiration for a new generation of social influence researchers. In no uncertain terms, Cialdini showed that complex influence processes can be understood in terms of basic principles and that these principles can be powerful in understanding and changing the social world. In his empirical work, Cialdini has shown that seemingly intractable social influence processes can be untangled and made sense of through the careful application of the experimental method, thereby inspiring the next generation of researchers to do the same.

### Social Influence Analysis

To understand a eusocial or social species and to predict the behavior of its members, it is essential to analyze the nature of social influence within that species. Such a social influence analysis consists of a description of the social influence tactics used by species members, principles or psychological processes underlying those tactics (e.g., dissonance, social cognition principles), how influence is exchanged within a community (e.g., likely tactics employed, profiling of influence agents), patterning of influence within a species and its communities (e.g., communication networks, channels of influence, social institutions), and theories and models of the operation of influence.

While a complete presentation of a social influence analysis is beyond the scope of this entry, this entry will present examples of such analyses and give an overview of how to make sense of the power of the situation. At the heart of a social influence analysis is an understanding of the social influence tactics used in the situation. Table 1 presents a list of 21 common influence tactics culled from a list of 107 experimentally investigated tactics presented by Anthony R. Pratkanis. These tactics can then be used to understand the influence occurring in any situation. For example, the Milgram obedience experiments made use of authority, foot-in-the-door, and increasing levels of commitment. Pratkanis and Doug Shadel recently analyzed undercover investigation tapes of con criminals attempting to convince victims to part with their hard-earned cash. They found that con criminals serve up an “influence cocktail” by using such tactics as phantom fixation, authority cues, friendship relationships, scarcity, norm of reciprocity, along with other tactics. The value of such a social influence analysis is that the seemingly mysterious power of a situation can be understood in simple terms, resulting in the ability of an influence agent to intervene and change the dynamics of the situation (hopefully) for positive results.

*Anthony R. Pratkanis*

**Table 1** Some Common Social Influence Tactics

| <i>Tactic</i>             | <i>Description</i>  |
|---------------------------|---|
| Authority                 | Authority increases obedience and compliance with commands. <i>Example:</i> Con criminals play the role of law enforcement, bank president, or CEO.   |
| Commitment                | Securing a commitment to a course of action increases the likelihood that a person will comply and perform that behavior. <i>Example:</i> The frequency of recycling can be increased by obtaining a commitment to recycle.           |
| Comparison Point or Set   | Options are evaluated by comparison to salient alternatives with an advantage gained by making certain comparisons more salient. <i>Example:</i> Sales agents selectively compare their products to make them appear more attractive. |
| Define and Label an Issue | How an issue is labeled controls and directs thought that then facilitates persuasion. <i>Example:</i> A lawsuit against quack medicine is defined as “anti–freedom of choice” not “pro–consumer protection.”                         |
| Door-in-the-Face          | Asking for a large request (which is refused) and then for a smaller favor. <i>Example:</i> Commonly used in fund-raising appeals.  |
| Emotional See-Saw         | Inducing a change in emotions (happy to sad or vice versa) increases compliance. <i>Example:</i> Used in interrogations to extract confessions.   |

| <i>Tactic</i>        | <i>Description</i>  |
|----------------------|---|
| Expectations         | Expectations guide interpretations to help create a picture of reality that is congruent with expectations. <i>Example:</i> Politicians set expectations low so that a victory can be claimed when expectations are exceeded.   |
| Fear Appeals         | Fear is aroused, and a simple, doable recommendation for eliminating the fear is suggested. <i>Examples:</i> The “Daisy” ad and the “Willie Horton” ad used in the 1964 and 1988 U.S. presidential campaigns, respectively.   |
| Foot-in-the-Door     | Asking for a small request (which is granted) and then for a larger favor. <i>Example:</i> The Viet Cong infiltrated villages by asking for a small favor (glass of water) followed by larger requests.   |
| Friend (Liking)      | Close relationships such as friendships and love relationships create obligations to place the needs of others before our own and to go along with their requests for help. <i>Example:</i> Con criminals play the role of friend and even lover to secure compliance with their demands.   |
| Granfalloon          | A social identity is used to tell a person what to do (people believe X because they are Ys) and to provide a source of self-esteem. <i>Examples:</i> Nazi, al Qaeda, Ku Klux Klan member.  |
| Imagery Sells        | Imagining the adoption of an advocated course of action increases the probability that that course of action will be adopted. <i>Example:</i> Effective sales agents have customers imagine using the product.  |
| Misleading Questions | Ask questions to structure information and to imply certain answers. <i>Example:</i> False memories of child sexual abuse can be elicited by symptom questionnaires.  |
| Norm of Reciprocity  | Provide a gift or favor to invoke feelings of obligation to reciprocate. <i>Examples:</i> Hare Krishna members gave potential donors a flower in hope of obtaining a donation.  |
| Phantom              | An unavailable option that serves as a reference point and as a source of motivation for obtaining a goal. <i>Example:</i> Cult leaders dangle worthy but phantom goals of a perfect world and bliss to motivate members.   |
| Projection           | To cover one’s misdeed, one accuses another person of the negative behaviors to deflect attention away from one’s own misdeeds and toward the accused. <i>Example:</i> During the Korean War, North Korea claimed U.N. forces were using chemical warfare resulting in illnesses, when in fact the sicknesses were the result of typhus brought to Korea by Chinese soldiers. |
| Repetition           | Repeating the same information increases the tendency to believe and to like that information. <i>Example:</i> The Marlboro man has been repeated in ads many times since the 1950s.  |
| Scarcity             | Scarce items and information are highly valued. <i>Example:</i> “Offer available for a limited time only.”  |
| Social Consensus     | If others agree, it must be the right thing to do. <i>Example:</i> Mao’s propaganda posters often showed many people engaged in a state-approved behavior.  |
| Storytelling         | A plausible story serves to guide thought and determines the credibility of information. <i>Example:</i> Lawyers embedded the facts of their cases in compelling stories.   |
| Vivid Appeal         | Vivid (concrete and graphic) images can be compelling. <i>Example:</i> War propaganda often consists of vivid pictures and reports.   |

*Source:* Adapted from Pratkanis, A. R. (2007). Social influence analysis: An index of tactics. In A. R. Pratkanis (Ed.), *The science of social influence: Advances and future progress* (pp. 17–82). Philadelphia: Psychology Press.

See also Compliance; Conformity; Helping Behavior; Persuasion

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## INFORMATIONAL INFLUENCE

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### Definition

Informational influence refers to new information or arguments provided in a group discussion that change a group member's attitudes, beliefs, or behavior. Informational influence is likely to be stronger when a person is uncertain about the correct interpretation of reality and/or the correct behavior in a given context and therefore looks to other group members for guidance.

### History and Usage

The concept of informational influence was originally proposed by Morton Deutsch and Harold B. Gerard,

who were trying to understand why group members holding a minority view tended to adopt the group majority's view. They argued that there were two ways that groups can affect individuals. Deutsch and Gerard sought to clarify earlier research that failed to distinguish between these two ways and the related types of motivation that people may have for "going along with the group majority." One motivation is the desire to have an accurate view of reality: When the group majority provides information to a person about reality that is not consistent with that person's view, the person may change his or her view to be correct. This change can be said to result from informational influence.

The second motivation is the desire to be liked by the group. Here, influence occurs when a person changes an attitude, belief, or behavior to be more similar to the group's attitude, belief, or behavior to be accepted by that group. This second form of group influence is often called *normative influence* because the individual follows the group norm—which is what the group believes the individual ought to do—regardless of whether it reflects that individual's attitudes or beliefs.

The effects of informational influence have been clearly demonstrated in social psychological research. The leading explanation for these effects is known as the *persuasive arguments theory*, which states that the persuasive argument or information the majority uses to influence a person must be perceived by the person to be both novel (new to the person) and valid.

Informational influence has often been examined in the context of group decision making. For instance, a jury may be divided as to the guilt or innocence of a defendant. The group majority will attempt to convince members of the minority to change their votes to match the majority's vote. The majority will be better able to exert informational influence over the minority if it offers new arguments that the minority perceives to be valid or correct. Simply stating the same old arguments again and again or making arguments that the minority views as incorrect will not typically produce informational influence.

One issue that has been raised with regard to informational influence is whether it is truly distinct from normative influence. The question boils down to how people decide if the information or argument provided by the group majority that is designed to influence the minority is itself true. The group majority has already decided that the information or argument is true, and it expects the minority to agree. Since the information provided by the majority also represents what it wants

the minority to accept, that information acts like a group norm. Influence stemming from this informational norm reflects both informational and normative influence.

*Daniel W. Barrett*

*See also* Conformity; Normative Influence

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## INGRATIATION

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The term *ingratiation* refers to behaviors that a person illicitly enacts to make others like him or her or think well of his or her qualities as a person. There are many ways in which people can ingratiate themselves. One that is frequently used is to show interest in another person; ask questions, pay attention, and single out the person so that you make him or her feel special. A second strategy is do favors or to help or assist a person. For instance, you can bring your colleague a cup of coffee or help an attractive stranger with car trouble. Third, you may show support and loyalty, for instance during a meeting, when you express agreement with your supervisor. A fourth way to make people like you is simply to smile and be friendly, cheerful, and positive. Fifth, you can directly express admiration by flattering people and telling them what you like or admire about them. There are many other ways to make people like you; the bottom line is that any behavior that potentially has the effect of enhancing your likeability and is enacted for this reason can be seen as an instance of ingratiation.

This does not mean that all likeable behaviors are examples of ingratiation; the crucial point is what the motive for the behavior is. For instance, if you support your boss in a meeting because you really agree with him or her, or if you help someone for totally altruistic reasons, the behavior is not ingratiating. Of course, the boundary is quite fuzzy here, because people are not always aware of their true motives. You may

consciously think that you really agree or that you are really being altruistic, whereas unconsciously you may want to ingratiate yourself. Many instances of ingratiation are unconscious, so ingratiation happens a lot more than one might think.

On the part of the target—the person being ingratiated—too, ingratiation is not always recognized as such. Whereas observers tend to quickly notice when ingratiation occurs (especially when a person behaves more favorably toward people he or she depends on than toward others), targets of ingratiation are less suspicious. Thus, the behavior is generally quite effective precisely with respect to the person for whom it is intended, the target. So, when you flatter a teacher or go out of your way to assist him or her, your fellow students who see this may immediately suspect your motives, but the teacher may simply appreciate your help or your excellent judgment of character and like you as a result.

One of the causes of this difference between observers and targets is that most people aim to have a positive view of themselves (the self-enhancement motive), and when they are ingratiated, this bolsters their self-esteem. This makes them feel good, even if they might not entirely trust the ingratiator's motives. Importantly, there is a difference between cognitive and affective responses to ingratiation. Cognitively, you may suspect someone's motives, especially if the person flatters you on qualities that you really do not have in your own view. Affectively, however, it feels good when someone is interested in you, likes you, supports you, and compliments you. Many people say that they do not care for this, but unconsciously all people like to feel good about themselves, and they feel good most of all when they feel valued by others.

As a consequence, the effects of ingratiation are generally as intended: The target likes the ingratiator and is more willing to do favors for the ingratiator. Thus, ingratiation can be a way to influence people. For instance, people buy more from someone who flatters them. So if you are fitting a shirt and the sales person compliments you on your figure and your excellent taste in clothes, you are more likely to buy the shirt, and maybe a whole lot more! In part, this happens because people like the person who ingratiates them. Also, being ingratiated enhances their mood, which in turn may affect their behavior in desired ways (e.g., spending more money, thinking “what the heck”). Another reason why ingratiation works is the reciprocity principle: If someone does something good for you, you want to do something in return.

A strong motive for ingratiation, then, is simply that a person can affect others' behavior with it. But there are other motives as well. For one thing, ingratiation is the lubricating oil of social traffic. If a waiter asks you how your meal was, or if a colleague inquires what you think of her new hairdo, you will probably say something nice even if you don't entirely mean it. Saying exactly what you think can make people feel awkward and uncomfortable. A related motive for ingratiation is that, if a person gets along well with people, they will like the person and respond favorably to him or her, which in turn is good for the person's self-esteem. In effect, then, ingratiation can be seen as a social skill.

As noted, targets of ingratiation typically like the ingratiator, and this happens even if the flattery is quite extreme. However, observers are in a different position, and they give quite harsh judgments of ingratiators. The strongest cue for detecting ingratiation is dependence: When a person is likeable toward someone with higher status or power, observers instantly become suspicious of the person's motives. At this point, their judgments are not yet quite negative because they cannot be certain: For all they know, the person might simply be very likeable. But once they notice that a person behaves less friendly toward those with less power, they immediately identify the person as a brownnoser and judge the person very negatively. In fact, a person who is likeable toward superiors and dislikable toward subordinates is judged just as negatively as someone who is dislikeable toward everybody. This effect is called the *Slime effect* because it was first reported in the Netherlands, where people are more wary of ingratiation than in the United States and where the common word for ingratiation is *slime*. Because likeable behavior toward more powerful people can easily be caused by ulterior motives, it is seen as utterly uninformative, so it does not carry any weight in impression formation. Of course, in everyday life, people with powerful positions typically do not see how their subordinates behave toward others, so the slimy subordinate may easily get away with it. Leaders in organizations usually have multiple subordinates whom they must pay attention to, so they cannot be expected to keep track of how everybody behaves toward everyone else. Also, they typically have high self-esteem, so when they are flattered excessively, this will simply confirm what they already know, and they are not likely to question the ingratiator's motives. Moreover, people generally attach more weight to how a person behaves toward them than toward others (hedonic relevance); this is another

reason why flattery toward powerful people will usually have the intended effect. As a result of all this, powerful people rarely get to hear the truth and may end up with a rather inflated and unrealistically favorable image of themselves.

Power and status are cues that can alert observers to the true motives of an ingratiator, but so can other cues related to dependence. For instance, a man helping a beautiful woman fix a flat tire may be suspected of ulterior motives. This situation, too, reflects a form of dependence. In dating settings, ingratiation is typically used to make people interested. It is in fact a much better idea to use ingratiation than other kinds of self-presentational strategies, such as self-promotion (showing people how capable and successful you are). The difference is that self-promotion is about oneself, whereas ingratiation is about the other person. The latter strategy is much more likely to get people interested in you, especially in settings in which it is important to be liked rather than admired. You can be exposed as an ingratiator if you use the same lines with different people. If a person discovers that you say the exact same nice things to someone else, that would be a sure way to instantly lose the credit you gained with the flattery.

The examples used here are prototypical instances of ingratiation, where the ingratiator is not sincere (e.g., buttering up the boss). It is important to realize that, in everyday life, there is a large fuzzy area between not saying exactly what you think (as in the example with the waiter or the bad hairdo, or when someone is telling you a story that is boring you to death) and blatantly deceiving people to accomplish your goals (as in the con man who pretends to be in love with the rich widow). If you think that the world would be a better place if people were totally honest with each other, think again—and try to practice this for a while! You will quickly realize the value of ingratiation in everyday social interaction. Most people do not know the truth as to what others really think of them, and they may actually be a lot less happier if they did.

*Roos Vonk*

*See also* Ingratiator's Dilemma; Self-Enhancement

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## INGRATIATOR'S DILEMMA

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Ingratiation and ulterior motives underlying friendly behavior are most easily detected when the ingratiation in some way is dependent upon the target. This can occur, for instance, when the ingratiation is a single man out to find a date, and the target is beautiful woman; or when the target is the ingratiation's teacher in school or supervisor at work, or is generally a powerful person in a company or in politics. Because such asymmetry in power makes it more likely that friendly behavior by the low-status person is seen as ingratiation, this presents the ingratiation with a dilemma: When it matters most, that is, when you depend very strongly on someone, ingratiation is most likely to backfire because people will easily see through your hidden agenda, and you lose your credibility.

Conversely, it is relatively easy for powerful people to ingratiate lower-status persons without being suspected of insincere motives. However, the incentives for doing so are also smaller, because high-status persons usually do not need favors from those with less power. This dependence is probably underestimated by lower-status persons. Because ingratiation is less easily noticed in these cases, ingratiation by powerful people may actually go on a lot more than we think.

Ingratiators in low-status positions use several strategies to resolve the ingratiation's dilemma, that is, to make their efforts more credible when flattering

someone they depend on. These have been described by Edward Jones in his seminal book on ingratiation, which appeared in 1964, and it seems the world has hardly changed since then. The first strategy is to build a power bank, by starting the flattery long before you need a favor from someone. By ingratiating yourself for a longer period, you build up credit, which you can later withdraw. Obviously, this is a lot more effective than walking up to your boss and saying, "Wow, you are such a great supervisor, and by the way, can I have the day off tomorrow?"

A second strategy around the ingratiation's dilemma is to find a setting where the power imbalance is less salient. For instance, people take their boss out to the pub or invite them to their house for dinner, thus creating a setting where it is not that obvious who is in charge and who is not.

Third, people sometimes obscure their behavior, for instance, by disagreeing with their supervisor on trivial matters. This way, they won't look as though they blindly follow and support their supervisor, and they convey the impression that they are independent.

Finally, it is a good idea to flatter someone via somebody else. For instance, it could be very strategic to tell the boss' secretary that you have never had a better supervisor than this one, and that you are happy to work very hard for this boss because he or she is inspiring the best of you. With a little luck, the secretary will tell your boss you said this, and your flattery will have a great deal of impact because you are not suspected of ulterior motives at all.

*Roos Vonk*

*See also* Impression Management; Ingratiation; Power

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## INGROUP–OUTGROUP BIAS

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Evidence of conflict and discrimination between groups is all around, which is not to say that this is inevitable, as many groups coexist peacefully most of

the time. Ingroup bias refers to a form of favoritism toward one's own group or derogation of another group. Many theories of intergroup relations in social psychology try to explain this phenomenon. Ingroups are groups to which a person belongs, and outgroups are groups to which a person does not belong (and which could therefore become target for ingroup bias). There is an almost infinite number of groups to which a person belongs, depending on how he or she categorizes the social world. Gender, ethnicity, occupation, economic and social position are all meaningful dimensions by which a person can define him- or herself and others in terms of ingroups and outgroups; this is a process of social (and self) categorization. Ingroup bias can take many forms and on many dimensions, both evaluative and behavioral. Evaluative ingroup bias refers to the rating of one's own group as better (more positive, less negative) on dimensions of judgment, and as such, it is closely related to the concept of prejudice. In behavioral terms, ingroup bias refers to the tendency to favor the ingroup over the outgroup in some way, for example, in terms of the allocation of resources or rewards: a form of discrimination. Outgroup bias—the tendency to favor the outgroup over the ingroup—is much less common than ingroup bias but by no means absent in intergroup relations.

One of the key objectives of research in intergroup relations has been to understand and explain evidence of ingroup bias in its various forms, as a necessary step to reduce and resolve intergroup discrimination. One obvious and recurring explanatory factor is self-interest: People may favor their own groups, and derogate outgroups, because it benefits them through resources or rewards. This is the basic idea behind the realistic group conflict theory, which explains such bias in terms of real conflicts of interests between groups that are competing with each other for scarce resources (e.g., land, jobs, status). This provides a straightforward and compelling explanation for many of the intergroup conflicts seen around the world, especially where resources are at stake.

However, research has also shown that conflicts of interests and self-interest motives may not even be necessary for ingroup bias to occur. The so-called minimal group studies show that people tend to favor their own group in terms of reward allocations even when they are categorized on a trivial basis (e.g., preference for painters, by a coin toss), such that they do not even know who is in the ingroup or the outgroup, and even when they do not meet them. This is true even when they do not allocate rewards to the group

as a whole (where they could benefit personally) but only individual members of the ingroup. One feature of these experiments was the development of reward matrices designed to measure different reward strategies. It was possible to distinguish between strategies that simply favored the ingroup (maximizing ingroup profit) from a form of discrimination that maximizes the difference in rewards given to ingroup and outgroup (i.e., even potentially at the cost of the absolute reward to the ingroup), which could be seen as genuinely more discriminatory. These experiments found evidence of this maximizing difference strategy. These findings led to the development of social identity theory, which aimed to explain why people might discriminate in favor of their group for more symbolic psychological reasons than because of mere self-interest. The explanation proposed for this was that such discrimination provides the group with a positive distinctiveness that can enhance the social identity and self-esteem of ingroup members.

However, the explanations for discrimination in minimal groups remain hotly contested. Some have argued that ingroup bias can be explained by self-interest after all, if it is assumed that there is an expectation of reciprocity of mutual reward among ingroup members. This still leaves open the question of why the ingroup should feel this ingroup reciprocity. Evolutionary arguments have been advanced, proposing that people may have good reasons to trust and reward those within their ingroup, who may in turn help them in the future. This may explain ingroup favoritism but may less easily explain evidence of maximum differentiation or outgroup derogation. More recently social identity theory has been extended by emotion theory to explain the more malicious forms of prejudice and discrimination toward outgroups and the different forms this may take, depending on the specific relations between the groups (e.g., depending on power, status relations). Clearly ingroup bias is not just a matter of rational self-interests but may also include more symbolic and emotional benefits to the group.

One weakness of the realistic conflict approach is that it seems to imply that ingroup bias should occur when there are conflicts of interest, and this is clearly not always the case. Although intergroup conflict is newsworthy, intergroup stability is more common despite pervasive differences in wealth status and other resources. Sometimes groups seem to accept their disadvantaged status and even show examples of outgroup bias. A good example of this is the classic doll

studies in which African American children presented with a Black or White doll to play with chose the White doll (at least in the early demonstrations), an apparent outgroup preference. Social identity theory is able to explain this because it only predicts conflict and social competition when the group relations are unstable and perceived as illegitimate (and thus insecure). After the civil rights movement, the doll studies no longer showed outgroup bias, indicating that African Americans no longer accepted their lower status as legitimate.

*Russell Spears*

*See also* Intergroup Relations; Realistic Group Conflict Theory; Social Identity Theory

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## INOCULATION THEORY

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### Definition

Inoculation theory was devised by William McGuire in the early 1960s as a strategy to protect attitudes from change—to confer resistance to counterattitudinal influences, whether such influences take the form of direct attacks or sustained pressures.

### Nature of Inoculation

Inoculation theory consists of two elements: threat and refutational preemption. The threat component of an inoculation treatment raises the possibility that a person may encounter persuasive challenges to existing attitudes. It is designed to get people to acknowledge the vulnerability of existing attitudes to potential change. Threat functions as the motivational catalyst to resistance. Once a person accepts that attitudes are vulnerable to change, they will expend the effort to strengthen attitudes. The refutational preemption component of an inoculation treatment raises—and then refutes—specific arguments contrary to attitudes. It is

designed to provide the specific content that people can use to defend attitudes and to provide people with a model or script for how to defend attitudes.

Studies by McGuire in the 1960s proved, convincingly, that inoculation works. Subsequent studies by Michael Pfau indicated that inoculation works, in part, through the theorized mechanisms of threat and counterarguing, but also by eliciting anger, making attitudes more certain, rendering attitudes more accessible, and altering the structure of associative networks.

Evidence of threat's motivational role in resistance is found in the consistency of findings by McGuire and Pfau that *inoculation-same* and *inoculation-different treatments* are equally effective in conferring resistance to attacks. *Refutational-same* inoculation treatments cover the same counterarguments raised in later attacks, whereas different treatments employ counterarguments that are completely different than those raised in subsequent attacks. Because inoculation-different treatments feature unique content, effectiveness can not be attributed to the refutational-preemption component of the treatment; instead, it can only be explained by the threat component, which motivates people to bolster their attitudes. The power of inoculation stems from the fact that treatments spread a broad umbrella of protection—not just against specific counterarguments raised in subsequent treatments, but against all potential counterarguments.

### Applications of Inoculation

Inoculation is an interesting and useful theory. Research during the past 20 years has revealed numerous real-world applications of inoculation theory. For example, studies indicate that it is possible to inoculate, for example, political supporters of a candidate in a campaign against the influence of an opponent's attack ads; citizens against the corrosive influence of soft-money-sponsored political attack ads on democratic values; citizens of fledgling democracies against the spiral of silence which can thwart the expression of minority views; commercial brands against the influence of competitors' comparative ads; corporations against the damage to credibility and image that can occur in crisis settings; and young adolescents against influences of peer pressure, which can lead to smoking, underage drinking, and other harmful behaviors.

*Michael Pfau*

*See also* Applied Social Psychology; Attitude Change; Persuasion; Resisting Persuasion

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## INTEGRATIVE COMPLEXITY

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### Definition

Integrative complexity deals with how people process information. Some people may view things in simple terms (e.g., John is always introverted), and some may view them in more complex ways (e.g., whether John is introverted depends on how well he knows the people in the situation). More formally, level of complexity depends on two underlying variables:

1. the capacity and willingness to accept that there is more than one way to look at an issue and to acknowledge that these differing perspectives are all legitimate (differentiation), and
2. the ability to form conceptual links among these perspectives and to integrate them into a coherent overall judgment (integration).

Low differentiation implies lack of awareness or acceptance of alternative ways of looking at an issue. For example, a person who thinks of abortion as cold-blooded murder and thinks that those who believe it is a woman's right to choose are completely wrong would be considered cognitively simple. Only one way of looking at an issue is accepted as reasonable. Other alternatives are dismissed and viewed as illegitimate. It suggests a reliance on rigid decision rules for interpreting events and making choices. A more differentiated statement would recognize the legitimacy of looking at the same issue in different ways or along

different dimensions. For example, if a person was to accept that some people view abortion as an act of murder while others view it as a civil liberties issue concerning a woman's right to choose, he or she would be considered more complex. And yet, even though each point of view is considered valid, each is considered in isolation. No connections or links are made between the different perspectives. This response, therefore, indicates differentiation but not integration.

Indeed, differentiation is a necessary but not sufficient prerequisite for integration. That is, without acknowledging that there is more than one legitimate way to think about an issue, no connection between perspectives can be created. The complexity of integration depends on whether the person perceives the differentiated characteristics as existing in isolation (low integration), in simple interactions (moderate integration), or in multiple, contingent patterns (high integration). For example, statements reflecting moderate integration might specify why two contradictory views are both legitimate (e.g., whether abortion is viewed as murder or as a civil rights issue depends on one's view about when the developing organism within the mother becomes a human being). Importantly, complexity focuses on how people think and process information. It is concerned with cognitive structure. The content of people's thoughts is irrelevant.

### Background and History

Originally, integrative complexity was viewed as a relatively stable personality trait. It was used to capture individual differences in styles of social thinking. Cognitively simple individuals were viewed as people who dislike ambiguity and dissonance and seek rapid cognitive closure in judging others and in making decisions. They form dichotomous (good vs. bad) impressions of people, events, and issues. In contrast, cognitively complex individuals adopt a more flexible, open-minded, and multidimensional view of the social world. They recognize that life has many inconsistencies and contradictions and realize that there is more than one side to every story when forming their impressions.

Empirical research focused on how to measure complexity and on how level of complexity affects behavior in various situations. Early efforts to measure complexity relied on the Paragraph Completion Test. This test presented participants with several sentence stems (i.e., topic sentences) that focused on issues such as

interpersonal conflict and relations to authority. Participants were asked to complete each stem and write at least one additional sentence. Two trained coders then assessed the responses on a 7-point complexity scale ranging from complete lack of differentiation to high-order integration. In the mid-1970s, researchers adapted this methodology to content-analyze archival data and free-response protocols that were not necessarily written for the purpose of complexity coding. As result, the range of research applications has expanded enormously. Researchers were able to analyze materials as varied as the diaries of historical figures, diplomatic communications, and Supreme Court decisions.

Early research on individual differences in integrative complexity proved fruitful. For example, studies found that integratively complex individuals tend to construct more accurate and balanced perceptions of other people, notice more aspects of the environment, use more information when making decisions, be more open to disconfirming information, and hold less extreme views than do cognitively simple individuals. They also tend to be less susceptible to information overload and prejudice, better able to resolve conflicts cooperatively, and more creative.

And yet, viewing complexity as a stable personality trait proved too confining. Researchers began to realize that level of complexity may not be as stable as once thought. Rather, it can also be affected by a variety of situational and environmental factors. Two lines of research emerged. One area of work focused on the impact of environmental stressors on the complexity of thinking. Some stressors, such as time pressure, information overload, and threat, were found to reduce level of complexity, whereas other stressors, such as moderately negative life events, were found to elevate complexity. A second line of research focused on the effects of value conflict, accountability demands, and audience characteristics on complexity. For example, it was shown that when confronted with a conflict between two values (e.g., social equality vs. economic efficiency), individuals who viewed both values as equally important resolved the conflict in more complex ways than did individuals who believed more strongly in one value than the other. This work also found that individuals could think in complex ways on certain topics but think in simple ways on others. By treating integrative complexity as a domain-specific and situation-specific construct, research was able to shed light on the conditions under which people can be motivated to think complexly as well as increase their

understanding of when complexity is likely to prove adaptive.

### Is Complexity Good or Bad?

The most widely held view of integrative complexity appears to be “the more the better.” Indeed, complex individuals have been found to be resistant to a number of judgmental biases. For example, they are more willing to change their initial impressions in the face of contradictory evidence, they are more likely to take into account situational constraints on individuals’ behavior, and they are less likely to become overconfident in the correctness of their judgments and predictions. However, for each bias reduced due to complexity of thought, there is a different bias that may be exasperated. For example, complex individuals tend to get bogged down in insignificant details, rendering them less capable of making a decision and less willing to take risks. They are also more likely to choose a middle-of-the-road option not because it is truly preferable but simply because it is easier to justify and defend. Finally, they are also more likely to procrastinate, pass responsibility to others, or both, in the face of difficult decisions. Therefore, a more realistic view of complexity is that the situation will determine when it should be considered an asset and when a hindrance. It is also possible that individuals might be able to avoid the potential pitfalls of higher levels of integrative complexity if they cultivate an overarching capacity to switch between more complex and simpler ways of reasoning depending on what is more appropriate for a given situation.

### Implications

The study of integrative complexity has increased researchers’ understanding of a wide variety of issues in social psychology. Experimental research has concentrated on the effects of different information processing styles on social perception, attitude and attitude change, attribution, work performance, cross-cultural communication, and acculturation. Archival research has focused on issues such as the effects of social and political roles, predicting international crisis, and even the expected success and duration of leader careers.

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See also Accountability; Need for Closure; Value Pluralism Model

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## INTERDEPENDENCE THEORY

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### Definition

Interdependence theory describes the structural properties that characterize interactions and the implications of such structure for human psychology. Whereas most psychological theories focus on the individual, suggesting that people behave as they do because of their unique experiences or cognitions or personalities, interdependence theory regards the relationships between people as important as the people themselves. Thus, the theory represents a much-needed model of the nature and implications of interdependence; it is a truly *social* psychological theory.

### Background and History

Harold Kelley and John Thibaut developed interdependence theory over the course of 4 decades, beginning in the 1950s. Its initial formulation was contemporaneous with early social exchange and game theories, with which it shares some postulates. The theory analyzes interdependence structure, identifying crucial properties of interactions and relationships, as well as interdependence processes, explaining how structure influences motivation and behavior.

### Interdependence Structure

Interdependence theory presents a formal analysis of the abstract properties of social situations. Rather than examining concrete social elements such as “professor teaches student” or “man seduces woman,” the theory identifies abstract elements such as “dependence is mutual” or “partners’ interests conflict.” Why emphasize abstract properties? Although two situations may differ in concrete ways, they may share abstract properties that cause people to think, feel, and behave in predictable ways.

The basic unit of experience is an interaction: Each of two or more people can enact any of two or more behaviors. As a result, each person experiences good versus poor outcomes, consequences that are more versus less satisfying or pleasurable. All social situations can be described in terms of six structural dimensions. Given that most situations are defined by their properties with respect to two or more structural properties, these dimensions are the building blocks of interdependence structure.

*Level of dependence* describes the degree to which an individual’s outcomes are influenced by another’s actions. John is more dependent on Mary to the extent that through her actions, Mary can cause John to experience good versus poor outcomes. He is independent when her actions do not influence his well-being. Thus, John’s dependence on Mary is the converse of her power over him—when John is more dependent, Mary is more powerful.

*Mutuality of dependence* describes the degree to which people are equally dependent. Mutual dependence exists when Mary is as dependent on John as he is on her. Unilateral dependence involves vulnerability on the part of one person, in that the less dependent person may behave as he or she wishes without concern for the other’s well-being. Mutuality constitutes balance of power, yielding fewer opportunities for exploitation and more congenial interaction.

*Basis of dependence* describes whether dependence rests on partner control, where John’s outcomes are governed by Mary’s unilateral actions, versus joint control, where John’s outcomes are governed by John’s and Mary’s joint actions. Partner control is absolute and externally controlled, in that John’s outcomes are entirely governed by Mary’s behavior. Joint control is contingent, in that John’s outcomes rest on coordination with Mary (e.g., if he can predict her

actions, he can modify his behavior and achieve good outcomes).

*Covariation of interests* describes the degree to which partners' outcomes correspond, whether events that benefit John are similarly beneficial for Mary. Covariation ranges from correspondent situations (what is good for John is good for Mary) through mixed motive situations to situations with conflicting interests (zero sum situations; i.e., what is good for John is bad for Mary). Interaction is simple when interests correspond: John can simply pursue his interests, knowing that this will also yield good outcomes for Mary. And interaction is simple when interests conflict: One person must lose if the other is to gain, so each person simply tries to win. Mixed motive situations are more complex, in that they involve a blend of cooperative and competitive motives, combining desire to benefit the other with temptation to exploit.

*Temporal structure* describes the fact that interactions are dynamic and evolve over time. Interaction must be understood not only in terms of the immediate outcomes produced by partners' choices, but also in terms of the future behaviors and outcomes that are made available (or eliminated) as a result of interaction. For example, John and Mary may make an extended series of investments to develop a committed relationship. Or by behaving in a particular manner today, they may create desirable future opportunities for themselves or proceed down a path where only poor outcomes are available.

*Availability of information* is the sixth structural dimension. John and Mary may possess adequate versus inadequate information about their own or the other's outcomes for various combinations of behavior ("How does Mary feel about marriage?"); a partner's motives ("Will Mary use her power benevolently?"); or future interaction possibilities ("If we do this today, where will it take us?"). Inadequate information gives rise to ambiguity and misunderstanding, challenging the flow of interaction.

## Interdependence Processes

*Affordance* describes what a situation makes possible or may activate in interaction partners. Specific situations present people with specific problems and opportunities and therefore logically imply the relevance of specific motives and permit the expression of those

motives. For example, situations with conflicting interests afford the expression of self-centeredness versus concern with another's well-being: John can behave in such a manner as to yield good outcomes for him or for Mary, but not for both. Therefore, conflicting interests inspire predictable sorts of cognition (greed, fear) and invite predictable forms of attribution and self-presentation ("Does Mary care about me?" "Trust me!").

People do not always react to situations in ways that maximize their immediate outcomes. *Transformation* is the psychological process whereby people set aside their immediate, gut-level desires and instead react to a situation on the basis of broader considerations, including the well-being of others, long-term goals, or stable personal values. The transformation process may rest on systematic thought or automatic habits. It is through the transformation process that people reveal their social selves—motives deriving from the fact that people sometimes have a past and a future with interaction partners.

Through *attribution processes*, people attempt to uncover the implications of another's actions; for example, Mary may try to discern whether John's behavior is attributable to the situation (desire for good immediate outcomes) or to John's transformation of the situation (intent to sacrifice his interests so as to give her good outcomes). In like manner, through self-presentation, people attempt to communicate the implications of their own actions; for example, John may try to communicate that in a given situation it is in his interest to behave selfishly, yet he has sacrificed so as to benefit Mary. People cannot communicate or discern all motives in all situations, in that specific motives are relevant to specific types of situations. For example, in situations with perfectly corresponding interests, John cannot display trustworthiness; if he behaves in ways that benefit Mary, he is likewise benefited, such that it is impossible to determine whether he is driven by self-interest or prosocial motives.

Where do the motives that guide the transformation process come from? People initially react to situations as unique problems. In a novel situation, John may carefully analyze circumstances or react impulsively. Either way, he acquires experience: If his reaction yields poor outcomes, he will behave differently in future situations with parallel structure; if his reaction yields good outcomes, he will react similarly in future, parallel situations. Repeated experience in situations with similar structure gives rise to stable transformation tendencies

that on average yield good outcomes. Stable adaptations may reside within persons, relationships, or groups.

*Interpersonal dispositions* are actor-specific inclinations to respond to specific situations in a specific manner across numerous partners. Over the course of development, different people undergo different experiences with family members and confront different opportunities with peers. As a result, people acquire dispositions to perceive situations in specific ways, to anticipate specific motives from others, and to transform situations in predictable ways. For example, a child who encounters unresponsive caregiving may develop fearful expectations about dependence and therefore avoid situations in which she must rely on others. Thus, the interpersonal self is the sum of one's adaptations to previous interdependence problems.

*Relationship-specific motives* are inclinations to respond to specific situations in a specific manner with a specific partner. For example, trust reflects an individual's confidence in a partner's benevolence. Mary develops trust when John behaves prosocially by departing from his immediate interests to enhance her outcomes. His actions communicate responsiveness to her needs, thereby promoting Mary's trust in his motives, increasing her comfort with dependence, strengthening her commitment, and enhancing the odds of reciprocal benevolence.

*Social norms* are rule-based, socially transmitted inclinations to respond to particular situations in a specific manner. For example, societies develop rules regarding the expression of anger; such rules help groups avoid the chaos that would ensue if people were to freely express hostility. Likewise, rules of etiquette represent efficient solutions to interdependence dilemmas, regulating behavior in such a manner as to yield harmonious interaction. Sometimes behavior is influenced by societal-level norms; dyads may also develop relationship-specific norms.

*Caryl E. Rusbult*

**See also** Altruism; Close Relationships; Cooperation; Discontinuity Effect; Prosocial Behavior; Reciprocity Norm; Social Dilemmas; Social Exchange Theory; Social Power; Social Value Orientation; Trust

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## INTERDEPENDENT SELF-CONSTRUALS

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### Definition

Self-construal refers to the way in which a person thinks about and defines the self. Importantly, self-construal is not only a way of viewing oneself but also a way of understanding one's relationship to the larger social world. When people are construing or thinking about themselves in an interdependent way, they are likely to think first and foremost about their roles in relationships (e.g., "I'm Nancy's best friend" or "I'm the youngest son in my family") and their important group memberships (e.g., "I'm a sorority sister" or "I'm an Asian American"). An interdependent self-construal, because of its emphasis on relationships and groups, is thus one in which the self is seen as fundamentally embedded in the larger social world. Interestingly, thinking of the self in this relatively social way has been shown to influence a wide range of values, emotions, and social behavior.

### Background

Interdependent self-construals were first explored primarily in terms of cultural differences, because it was found that members of East Asian and Latin American cultures were much more likely to think of the self in an interdependent way than were North Americans, and it was thought that this social way of construing the self could potentially explain some well-known cultural differences. For example, an interdependent self-construal is very common in Japanese, Korean, and Indian cultures, and it was thought that this might explain why members of these cultures place a higher value on belonging, emphasize social obligations, and are more likely to view the causes of other people's behavior as rooted in the social situations they faced rather than in terms of being driven by their individual personalities.

Of course, to say that interdependent self-construal is a causal factor in these cultural differences, one would need to be able to look at the effects of self-construal apart from culture. Fortunately, the capacity to construe the self as interdependent is not limited by

one's cultural upbringing. Everyone, regardless of cultural background, sometimes construes the self interdependently. Indeed, anytime one views the self as part of a "we" instead of only a "me," this represents an interdependent construal. For example, when individuals are playing a team sport or spending time with their family, they are more likely to construe the self as interdependent. From this, researchers found that there were ways to study the effects of self-construal directly, by encouraging people to construe the self in a more or less interdependent fashion before they engaged in other tasks. Because the effects of experimentally manipulated self-construal were often found to be very similar to cultural differences, researchers who study self-construal can now do so in a variety of ways: Some look at members of East Asian cultures, who maintain relatively interdependent self-construals; some experimentally prime or activate interdependent self-construal; and some use personality scales to look at individual differences in interdependent self-construal. The effects of interdependent self-construal that are reviewed in this entry have been discovered using all of these methods.

### Values, Emotions, and Social Behavior

When people construe the self as interdependent, it increases the importance of social connections and maintaining harmony with others. Values like belonging, friendship, family safety, and national security take precedence, and interdependent people become significantly less tolerant of others who break social norms or fail to live up to social obligations.

Certain emotions are also more likely to be experienced by those with an interdependent self-construal. Because of the increased importance of social obligations, people with a more interdependent self-construal judge the self through others' eyes; thus, some negative emotions that are experienced when one disappoints another person or fails to live up to social standards (e.g., anxiety, guilt, and shame) are experienced more frequently and intensely for those with interdependent construals. However, interdependence has emotional benefits as well as costs. For example, more ego-focused emotions, such as anger, are less likely to be experienced. Finally, when people view the self as interdependent, they take greater pleasure and pride in the accomplishments of close others and groups, and so in some ways, they have more opportunities for happiness than if limited to taking pleasure in individual accomplishments alone.

In terms of social behavior, maintaining a more interdependent self-construal appears to benefit society at large. People are more cooperative than competitive, work harder at group endeavors, and are better at resolving social dilemmas when they are construing the self as interdependent. They are also more likely to put the good of a relationship partner or social group above their own desires; thus, in many ways it appears that interdependent construal leads to less selfish behavior. However, the benefits of interdependence only extend to those relationships and groups that are incorporated as part of the self; interdependence has also been associated with greater prejudice toward outgroups. Thus, the prosocial behaviors that are seen in interdependent people may actually be equally selfish; the self has simply been broadened to encompass one's own relationships and groups.

### Gender Differences

A powerful stereotype in American society is that women are more social than men. It is thus perhaps not surprising that psychologists originally expected women to be more likely to construe the self in a social fashion as well. However, research has revealed that men and women are equally likely to maintain an interdependent self-construal. Gender differences do exist, but it is in the type of interdependence, rather than in the extent of interdependence. Recall that interdependence may be based on both roles in close relationships and memberships in social groups. Women appear to place greater emphasis on the relational aspects of interdependence, whereas men place greater emphasis on the collective or group-based aspects of interdependence. In other words, women define the self with more close relationships, experience more emotional intensity in close relationships, and are more willing to sacrifice for a close other when compared to men. Conversely, men define the self with more group memberships, experience more emotional intensity in group contexts, and are more willing to sacrifice for their groups when compared to women. However, despite these minor differences in emphasizing one type of social connection over another, interdependent self-construals appear to be equally prevalent and powerful for both sexes, understandable when one considers the profound importance of social connections for all humans.

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*See also* Collectivistic Cultures; Independent Self-Construals; Self

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members of the outgroup. If there are substantial differences in status between the two groups, this disparity can also arouse anxiety. Members of low-status groups have reason to fear being rejected and exploited by members of high-status groups. Members of high-status groups may also feel anxious, either because they are concerned about the resentment that might be directed at them or because they feel guilty about the ways their own group has treated the other group in the past. Another factor that has been found to increase intergroup anxiety is strong identification with one’s ingroup. People who strongly identify with their ingroup typically consider outgroups to be inferior, an attitude that is sometimes referred to as *ethnocentrism*. Ethnocentrism leads to anxiety concerning interaction with outgroup members because of the disdain ingroup members have for them. In addition, being ignorant of the outgroup and its norms, beliefs, and behaviors can also lead to intergroup anxiety. For example, when people interact with individuals from another culture, about which their knowledge is limited, they commonly feel anxious. Although a simple lack of personal contact with an outgroup can cause intergroup anxiety, past negative personal contact is an even more potent cause of intergroup anxiety.

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## INTERGROUP ANXIETY

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### Definition

People often feel uncomfortable when interacting with others who belong to a different social group than they do. *Intergroup anxiety* is the term used to describe this discomfort. When interacting with members of a different social group (called an *outgroup*), people often anticipate a variety of negative outcomes, such as being taken advantage of or rejected. In extreme cases, they may be concerned that outgroup members will physically harm them. They may also worry that members of their own group (called the *ingroup*) will disapprove of interactions with outgroup members. Intergroup anxiety can arise in relations between almost any two groups, from racial and ethnic groups to different political parties.

### Origins

Research on intergroup anxiety indicates that it has its origins in the past relations between the groups. If the past relations have been characterized by conflict, people will naturally be anxious about interacting with

### Effects

Intergroup anxiety can lead to a number of negative consequences. The most frequently studied effects of intergroup anxiety are prejudice toward the outgroup and an unwillingness to interact with outgroup members. These effects have been found for attitudes between a wide variety of groups including Blacks and Whites, Mexicans and Americans, Europeans and immigrants to Europe, Native Canadians and Canadians of English origin, heterosexuals and gays, people with HIV/AIDS or cancer and those who do not have these diseases, and women and men, among others. Put simply, people do not like others who make them feel anxious. Moreover, the negative evaluations of outgroups created by intergroup anxiety can extend to social policies that are perceived to favor outgroups, such as affirmative action. When intergroup anxiety escalates to feeling threatened by an outgroup, people experience fear and anger, which have further detrimental effects on intergroup relations. This type of anxiety also causes people to rely on established patterns of thought, such as stereotypes. Stereotypes consist of the predominantly

negative characteristics attributed to particular outgroups. Intergroup anxiety may also cause people to perceive outgroups to be homogeneous; that is, the members of these groups are all thought to be the same. In addition, intergroup anxiety may interfere with the ability to perform complex cognitive reasoning tasks. One of the most intriguing effects of intergroup anxiety is that it can lead to exaggerated behaviors toward outgroup members. In most cases, this means people respond to outgroup members more negatively than ingroup members, but intergroup anxiety can also lead to exaggerated positive behaviors if people are concerned that acting in negative ways may lead others to perceive them as being prejudiced.

Because intergroup anxiety has such negative effects on intergroup relations, it is important to take steps to reduce it. Intergroup anxiety can be reduced when people feel empathy toward members of the outgroup. Also, certain types of intergroup contact can reduce intergroup anxiety. To reduce this anxiety, the contact should be among people equal in status, it should be focused on the individuals involved rather than their group memberships, it should involve cooperation, and it should have the support of relevant authority figures. Programs that have been created specifically to improve intergroup relations, such as those emphasizing cooperative learning and structured intergroup dialogues, can be effective as a means of reducing intergroup anxiety. In instances where there has been long-standing conflict, such as between racial, national, or cultural groups, the mass media can also play a positive role by providing information about outgroups that reduces ignorance and emphasizes the common humanity and common goals shared by the groups. And, of course, individuals who are aware that others may be subject to feeling intergroup anxiety can take steps to put outgroup members at ease during intergroup interactions.

*Walter G. Stephan  
Cookie White Stephan*

*See also* Ethnocentrism; Ingroup–Outgroup Bias

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## INTERGROUP EMOTIONS

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### Definition

Intergroup emotions refer to the specific emotional reactions that people feel toward a social group and its members. Intergroup emotions are closely related to the concept of prejudice. Both intergroup emotions and prejudice involve individuals' feelings about social groups to which they do not belong; however, these two terms differ in the level of detail used to characterize people's feelings toward groups. Prejudice generally refers to one's overall general feeling (e.g., favorable vs. unfavorable) toward a social group, whereas intergroup emotions generally refer to one's specific feelings (e.g., respect, anger, guilt) toward a social group. Compared to general prejudice, then, a focus on intergroup emotions often reveals a more complex and differentiated picture of how individuals feel about social groups.

### Variations in Intergroup Emotions

Intergroup emotions take many forms, varying in both the nature of the specific emotional reaction and the kind of social group that evokes the emotional reaction. First, people can experience qualitatively different types of specific feelings toward a social group. For example, when contemplating a particular group, an individual may feel specific emotions that are mainly positive, such as respect, gratitude, or joy. Alternatively, when thinking about the same group, this individual may feel specific emotions that are mainly negative, such as fear, anger, or guilt. And very often, an individual experiences *both* positive and negative specific emotions toward the members of a particular group.

In addition, people can experience these specific feelings toward the members of qualitatively different types of social groups. That is, people may feel intergroup emotions toward individuals belonging to social groups defined by a wide range of characteristics, such as ethnicity (e.g., Asian Americans), nationality (e.g., Germans), age (e.g., elderly people), religion (e.g., Muslims), sexual orientation (e.g., gay men), personal values and beliefs (e.g., members of the National Rifle Association), and profession (e.g., lawyers).

## Antecedents and Consequences of Intergroup Emotions

Fundamentally, intergroup emotions emerge from the psychological distinctions people tend to make between their own groups and other groups. That is, to feel specific emotions toward a group, an individual must see oneself as a member of a particular social group (e.g., Americans) and see others as members of a different social group (e.g., Japanese). Once these lines are drawn, intergroup emotions can then arise from subjective assessments of the relationship between one's own group and this other group. For example, if a man believes he and his fellow group members are competing for jobs with the members of another group, then he may experience anger or envy toward the members of this other social group.

These assessments and the resultant intergroup emotions often play important roles in the social interactions between individuals belonging to different groups. More precisely, different specific emotional reactions should prompt different behavioral reactions. For example, anger toward members of a social group may stimulate an individual to behave aggressively toward members of this group, whereas respect toward members of a social group may stimulate an individual to pursue mutually beneficial interactions with members of this group.

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*See also* Ingroup–Outgroup Bias; Intergroup Anxiety; Prejudice

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## INTERGROUP RELATIONS

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Social psychological research on intergroup relations concerns the perceptions, attitudes, and behaviors humans express when they think of themselves and others as members of social groups. All humans belong to many different types of social groups, ranging from smaller groupings of people (such as one's

circles of friends) to larger social categories (such as gender and race). When people think and act as group members, they tend to accentuate similarities between themselves and members of their own groups, and exaggerate differences between members of their own group and other groups (social categorization). People also tend to evaluate people differently depending on whether they are members of one's own groups (ingroup members) or members of other groups (outgroup members); specifically, people typically show a preference for members of their own groups, such that they evaluate them more positively and make more positive attributions for their behaviors, as compared to how they evaluate outgroup members (this tendency is called ingroup favoritism).

Many factors can affect whether people will be inclined to think of themselves and others as individuals or as members of social groups. Some of these factors involve features of the social situation, the broader social context, or both. For example, long-standing histories of tension and conflict between groups, whether based in competition over resources or contrasting beliefs, can compel people to view themselves and others in terms of group membership. Even in the absence of such conflicts, merely perceiving that certain people are more similar to each other than others can lead people to categorize themselves and other people as members of distinct groups; these perceptions can be enhanced further depending on how strongly people appear to represent the characteristics that define their groups (prototypicality), how similar members of each group appear to be to each other (homogeneity), and how many members of each group are present in the immediate social situation (numerical representation). In addition, other factors that lead people to think of themselves and others as group members involve the characteristics and accumulated social experiences people bring to new social situations and contexts. For example, people who identify strongly with their groups, or who are often stigmatized or rejected because of their group membership, might be especially likely to perceive their interactions with others in terms of their identities as group members.

People often try to discern whether other people perceive them as individuals or as group members, so that they know what to expect in interactions with them. Generally, when people think they are being viewed as group members, they expect that outgroup members will evaluate them negatively and think of

them in terms of the negative stereotypes associated with their groups. Still, sometimes social situations can be ambiguous, such that people feel unsure about how they are being seen by outgroup members and whether the outgroup members' evaluations of them reflect who they are as individuals or as group members (attributional ambiguity).

Whether because of the anticipation of negative evaluations or uncertainty about how they will be perceived, people often feel anxious about interactions with outgroup members. In part, anxieties about cross-group interactions can motivate people to avoid them, thereby making interactions between groups less likely to occur. Still, when these interactions do occur, anxieties can have a negative impact on how members of different groups interact with each other, which curbs the potential for achieving positive relations between their groups. For example, when people feel anxious in cross-group interactions, they tend to act in less spontaneous and relaxed ways; not only may such negative behaviors make cross-group interactions unpleasant, but they may also be interpreted as signs of prejudice by members of the other group. In addition, feeling anxious can make it harder for people to attend to personalized information about outgroup members, thereby leading them to rely more heavily on stereotypes as they interact with members of other groups.

Given these tendencies, a great deal of research on intergroup relations has sought to identify strategies that can be used to improve relations between groups. Much of this work has focused on how to structure conditions of the social situation so that contact between groups will lead to positive intergroup outcomes, such as establishing equal status between groups, showing that their interactions are supported by institutional authorities, and having them work together cooperatively toward common goals. Researchers have also debated about the extent to which group differences should be emphasized when members of different groups interact with each other. Integrating distinct approaches, recent theorizing suggests that people should initially de-emphasize group differences when members of different groups interact—by focusing on either personal characteristics or group memberships they share in common—so that they can develop relationships beyond the confines of their distinct group memberships. Once these relationships are established, group distinctions should then be emphasized so that any positive effects of their relationships

would be likely to translate into more positive attitudes toward all members of their groups. Developing close relationships across group boundaries can also be effective in reducing anxiety about future cross-group interactions and encouraging people to look beyond their own interests and express more concern for the welfare of members of other groups.

Linda Tropp

See also Attributional Ambiguity; Ingroup–Outgroup Bias

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## INTERPERSONAL ATTRACTION PROCESSES

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See ATTRACTION

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## INTERPERSONAL COGNITION

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### Definition

Interpersonal cognition is the set of mental processes by which people think about their interactions and relationships with others. Research in the area of interpersonal cognition aims to understand how people perceive the many layers of information present in social interactions and how they process this information and

store it in memory. A major goal of this research is to understand how people's thoughts, feelings, and behavior in social interactions are influenced by expectations based on past interactions. In particular, researchers often consider the idea that how people think about themselves is influenced by the relationships that they have with others.

### Background and History

Interpersonal cognition research grew rapidly in the 1990s, as researchers expanded their view of social cognition beyond looking at social objects in isolation and acknowledged the importance of considering interpersonal experiences. That is, whereas the broader area of social cognition looks at how social information about self and about others is dealt with, interpersonal cognition research considers that complex patterns of interaction between self and others are also perceived, processed, stored, and recalled. A person might come to believe that trusting others makes that person likely to be taken advantage of, for example, or that treating others with respect leads them to respond warmly in return. This expectancy might influence the kinds of information the person pays attention to in new interactions, the kinds of inferences he or she draws about other people's behavior, and the kinds of memories the person stores to draw on in the future.

Thought processes about interpersonal interaction are strongly linked with motivation and emotion. It has been argued, for example, that through evolution humans have developed a powerful need to belong. Thus, people are motivated to assess, process, and encode their interpersonal encounters in terms of whether they are being rejected or accepted. Perceptions of rejection can trigger powerful negative emotions, such as shame, anxiety, and sadness. Other motives, including desires to be respected, admired, or feared, can trigger other emotions as well.

### Measuring Interpersonal Cognition

Assessing interpersonal cognition is done in two primary ways: explicitly and implicitly. An explicit measure of interpersonal cognition relies on a person reporting how he or she feels about his or her social interactions. For example, measures of attachment ask people about how they feel in a romantic relationship (e.g., "When romantic partners disapprove of me, I feel really bad about myself"). On the other hand,

implicitly measuring variables associated with interpersonal cognition allows researchers to tap into thoughts and feelings that a person might not be aware of. For example, a lexical decision task can measure people's automatic cognitive associations between failure and rejection, and success and acceptance. In this task, participants classify letter-strings that appear on a computer screen as either a word or not a word. If a person is faster to identify a rejection-related word (e.g., *disliked*) right after seeing a failure-related word (e.g., *mistake*), this can be taken as evidence that the person holds a cognitive association between failure and rejection. Studies have shown that associations of this kind give rise to an interpersonal script, which usually takes the form of an "if-then" contingency. For example, people with low self-esteem are most likely to show the expectancy that "If I fail, then I will be rejected (by others)" and also to show a general sensitivity to social rejection.

Many researchers have explored the effect of past interpersonal experiences on current interpersonal expectancies. For example, a person may act or respond differently depending on whether he or she is interacting with a close friend versus a romantic partner versus a person in authority, because the person has learned specific expectancies and scripts about how interactions will likely proceed. A common method used to tap into this phenomenon is *priming*. Priming research involves presenting a participant with a cue that activates a construct in memory and subsequently influences behavior. For example, having a person visualize a person who "will accept you, no matter what," activates a sense of social acceptance and leads to less critical thoughts following a difficult task.

### Relational Selves and Attachment

In theoretical terms, the type of research described in the previous section, common in the domain of interpersonal cognition, explores the mental representation of the self in relation to others (e.g., romantic partner, friend), which gives rise to *relational selves*. The idea here is that people do not have a single, unified self-concept but rather have a series of relational selves in memory, each linked to specific significant others. Furthermore, people tend to act the same way around similar types of people. For example, meeting a person who is reminiscent of one's father is likely to activate the relational self experienced with one's father, leading to expressions of behavior and expectations of how the other person will act. Other research has found that

people often incorporate knowledge about an “other” into knowledge about the self. This can be described as a shared resources type of knowledge, where a person relies on and draws from shared knowledge, perspectives, and resources to determine whether or not a goal can be achieved (e.g., “I can do this because my partner will show me how”).

An important topic studied by interpersonal cognition researchers is people’s general attitude toward close relationships with others, in other words, their *attachment style*. Repeated positive and supportive interactions with significant others leads to more positive appraisals of stressful situations, a stronger belief that life’s problems are manageable, and more positive beliefs in the good intentions of others. Furthermore, positive social interactions with significant others leads to a greater sense of one’s own self-worth, competence, and mastery. Being valued, loved, and cared for by a significant other leads to the belief that one is a valuable, loveable, and special person.

### Implications

Because interpersonal cognition is closely tied to motivation and emotion, people’s thoughts are often shaped by their wishes and fears. In the domain of romantic relationships, research has found that people tend to engage in positive illusions and biases to maintain a committed relationship. Furthermore, a person’s decision on how much to trust an intimate partner is reflected in self-protective strategies (e.g., aggressing against the partner in reaction to perceived rejection) and is shaped by a person’s confidence about their partner’s love and acceptance.

Social interactions are an integral component of human life and have a large effect on people’s thoughts, feelings, and behaviors. Interpersonal cognition defines how these interactions are mentally processed and encoded and explores how these representations influence one’s expectations about, and behavior in, future social interactions.

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Mark W. Baldwin

See also Attachment Styles; Priming; Social Cognition

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## INTIMACY

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### Definition

Per social psychologists, intimacy refers to a process of interaction in which social partners, as a result of sharing personal and private thoughts and feelings, come to feel understood, appreciated, and cared for by each other. This definition is deliberately narrower than the many common language usages of this term. In everyday language, *intimate* and *intimacy* are often used as synonyms for closeness, sexual activity, love, marriage, privacy, or relatively intense forms of physical engagement (such as touching or standing very close to another person). When intimacy exists, each of these may or may not be involved. Consequently, and to eliminate confusion, researchers prefer to rely on the more precise definition.

### Intimacy and Relationships

Intimacy is widely regarded as one of the key processes governing close relationships. Extensive theory and research indicate that the most gratifying close relationships are those characterized by a mutual sense of understanding, appreciation, and caring. Not coincidentally, people whose social networks possess high levels of intimacy tend to be happier and healthier, whereas the absence of intimacy tends to be associated with loneliness and other forms of emotional distress, and may even lead to the deterioration of health. The association between intimacy and emotional well-being is so fundamental that many theorists describe the capacity for participating in intimate relationships as a principle feature of successful personality development and maturity.

What characterizes the development of intimacy in a close relationship? The process typically begins with one person’s self-disclosure of self-relevant material, which involves both words and the nonverbal cues accompanying them. The potential for fostering intimacy is greater when this material is personal, private (in the sense that one is highly selective about revealing it), and affective (concerned with feelings or capable of creating a significant emotional response). Nonverbal cues may contribute to intimacy by indicating the sender’s affective state (e.g., a sad expression), by altering the meaning of words (e.g., a sarcastic smirk paired with a positive statement), or by regulating immediacy (e.g., leaning closer to or away from one’s partner).

Of comparable significance to the unfolding of the intimacy process is the partner's response. Supportive responses encourage the growth of intimacy, whereas disinterested or critical responses are likely to inhibit its development. Partner responses provide signals (again involving both verbal and nonverbal content) that the self-discloser uses to infer whether the partner has understood the personal meaning of whatever was communicated, whether the partner values and appreciates the self-discloser, and whether the partner can be trusted to be caring. Of course, in the real-time ebb and flow of conversation, these exchanges are rapid, spontaneous, and complex, suggesting that there is considerable subjectivity in how self-disclosures and responses are interpreted. A large body of research has established that both the objective properties of these behaviors and the individual's idiosyncratic interpretations of the behaviors are influential.

Another important consideration is that the intimacy process is both recursive and reciprocal. That is, as each partner comes to trust the other's response to his or her self-revelations, each becomes increasingly willing to disclose personal thoughts and feelings to the partner. Typically, disclosers and responders swap roles back and forth, often repeatedly in the same conversation. An individual's experience as responder usually affects his or her subsequent willingness to be open with his or her own thoughts and feelings; similarly, each partner's perception of the other's responsiveness is likely to affect his or her own willingness to be responsive in turn to the partner. These principles illustrate the fundamentally interactive and interdependent nature of intimacy.

### Individual Differences and Intimacy

Ever since Erik Erikson, one of the most influential psychoanalytic psychologists of the 20th century, described the successful attainment of a primary intimate relationship as the fundamental life task of early adulthood, researchers have been interested in identifying factors that predispose some people to achieve higher levels of intimacy in their close relationships and others lower levels. This research demonstrates that many factors contribute to an individual's preferences and capabilities with regard to intimacy.

No other variable has been studied as extensively as has a person's biological sex. A general conclusion from these many studies is that women's social lives tend to exhibit higher levels of intimacy than men's do, and that this difference is greater in same-sex

friendships than in other types of relationships (e.g., heterosexual romantic relationships, marriages). Although some researchers see this difference as mainly being the result of biological differences between men and women, evidence for this position is sparse and in fact contradicted by certain studies: For example, studies showing that same-sex friendships in non-Western cultures tend to find small, if any, sex differences in intimacy. The best supported conclusion appears to be the developmental one: that in Western culture, men learn to be more reluctant about the vulnerabilities inherent in intimate interaction.

Another important avenue for research has viewed intimacy as a motive, emphasizing determinants from personality (including both genetically determined and learned qualities) and from past experiences in close relationships. For example, self-esteem, openness, comfort with closeness, empathic concern for others, trust, extraversion, parental warmth, and prior intimacy tend to be associated with higher levels of intimacy and intimacy motivation, whereas social anxiety, fears about exploitation, vulnerability, dependence, social avoidance, conflict and distance with parents, and prior dysfunctional relationships tend to be associated with lower levels of intimacy and intimacy motivation. Regardless of differences in motivation, intimacy is known to be an essential component of social life and, more broadly, human experience.

*Harry T. Reis*

*See also* Close Relationships; Emotion; Nonverbal Cues and Communication; Self-Disclosure; Social Anxiety

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## INTIMATE PARTNER VIOLENCE

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### Definition

Intimate partner violence refers to the intentional use of aggressive behaviors that are enacted with the immediate goal of causing physical pain to an intimate partner.

If the pain is caused accidentally (e.g., by inadvertently shutting a door on the partner's fingers), it does not qualify as intimate partner violence. This entry focuses specifically on physical violence in romantic relationships; it does not address psychological aggression.

Virtually all intimate partner violence is instrumental, in that the partner's pain is a means to an end rather than an end in itself. Regardless of whether violence is motivated by the desire to control the partner's behavior in the argument at hand, to gain justice or retribution, or to defend one's self-image, it typically is not random or sadistic. As such, intimate partner violence is best conceptualized as a (conscious or nonconscious) goal-directed social influence tactic, albeit an extreme one with deeply disturbing consequences for victims.

### Frequency

Physical violence is perpetrated against romantic partners with alarming frequency. According to a nationally representative survey conducted in 1985, for example, 16.1% of married couples in the United States experienced an incident of violence during the previous year. When the definition of violence is limited to include only *severe* violence perpetration (e.g., kicking, beating up, using a knife or gun), incidence remains high at 6.3%. Moreover, intimate partner violence is not limited to married couples; evidence suggests that perpetration rates might be even higher among unmarried dating couples.

### Two Types of Intimate Partner Violence

Until the mid-1990s, researchers investigating intimate partner violence in heterosexual romantic relationships found themselves embroiled in a heated controversy over whether such behavior is best characterized as (a) a phenomenon in which men batter women in the interest of exerting control or dominance or (b) a gender-neutral phenomenon in which men or women sometimes become aggressive toward their partner during heated conflict. Although this controversy is far from resolved, researchers have recently brought some coherence to the literature by developing typologies to distinguish between qualitatively distinct categories of intimate partner violence.

One prominent typology suggests that there are two types of intimate partner violence in Western countries: intimate terrorism and situational couple violence. Intimate terrorism (or patriarchal terrorism)

is argued to be a product of cultural traditions that bequeath to men the right to control "their" women, with violence serving to exert and maintain control. In couples characterized by intimate terrorism, violence tends to (a) be perpetrated predominantly by men, (b) occur chronically, (c) increase in severity over time, and (d) be unidirectional (i.e., the victim typically does not fight back). In contrast, situational couple violence (or common couple violence) is a nonescalating and frequently bidirectional form of physical violence that arises occasionally when conflictual situations get out of hand. Unlike intimate terrorism, there do not appear to be substantial gender differences in the likelihood of perpetrating situational couple violence. Nonetheless, female victims are more likely to be injured or killed, in part because of males' greater physical strength.

The causal mechanisms underlying intimate terrorism relate to psychopathology and patriarchal socialization practices, topics that have been systematically studied in disciplines (e.g., clinical psychology, sociology) other than social psychology. After all, social psychologists typically investigate social dynamics in normal (nondeviant) populations. The causal mechanisms underlying situational couple violence, in contrast, relate to interpersonal conflict, impulsiveness, and behavioral restraint, topics that fall squarely in the domain of social psychology. The remainder of this entry focuses on social psychological research relevant to understanding the perpetration of situational couple violence.

### Conceptual Analysis of Situational Couple Violence

Researchers must ask three general questions regarding a given interaction between romantic partners to determine whether situational couple violence is likely to transpire. First, are the partners experiencing conflict with one another? Second, does either partner experience impulses toward intimate partner violence as a result of this conflict? And third, does that person exhibit weak behavioral restraint?

Many scholars have concluded that conflict is inevitable in romantic relationships. Jacob may speak disrespectfully toward Monica when he is trying to quit smoking, or Monica might become jealous when Jacob goes out for dinner with his ex-girlfriend, interrogating him aggressively upon his return. Each of these behaviors may cause the partner to become irritated and may ultimately ignite relationship conflict.

Although experiencing relationship conflict may be inevitable in romantic relationships, intimate partner violence as a tactic for dealing with this conflict is not.

Relationship conflict typically does not cause partners to experience violent impulses. Such impulses, however, are not unheard of, and certain risk factors render them more likely. Factors that increase the likelihood that the experience of conflict leads a given partner to experience violent impulses include features of the immediate situation (e.g., experiencing anger or humiliation), the relationship (e.g., relationship commitment, power/control dynamics), the potential perpetrator's personality (e.g., dispositional hostility or narcissism), and the potential perpetrator's background characteristics (e.g., exposure to parental violence).

Even if partners experience violent impulses in response to relationship conflict, they will only act on these impulses if they exhibit weak behavioral restraint (or if they believe that intimate partner violence is acceptable, which is relatively rare in situational couple violence). Factors that increase the likelihood that experiencing violent impulses will lead to violent behavior include features of the immediate situation (e.g., impulsiveness, alcohol consumption, experiencing life stressors) and of the potential perpetrator's personality (e.g., low self-control, belief that violence is acceptable).

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*See also* Aggression; Anger; Close Relationships; Frustration–Aggression Hypothesis

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## INTIMIDATION

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*See* SELF-PRESENTATION

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## INTRINSIC MOTIVATION

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### Definition

Intrinsic motivation is the desire to do something “just to be doing it.” That is, the experience of the behavior is reward enough, independent of any separable consequences that may follow. Intrinsic motivation often leads to or promotes flow, in which individuals become completely absorbed in some challenging activity, such as rock climbing or piano playing. Intrinsic motivation is typically contrasted with extrinsic motivation, in which behavior has no intrinsic appeal and occurs only because of the rewards and reinforcements it brings.

### Background and History

It took a long time for the concept of intrinsic motivation to be accepted in psychology. This is because the concept does not fit well with the behaviorist and drive-theory models of human nature that dominated in the early to mid-20th century. Behaviorist theories say that behavior occurs because it has been rewarded in the past, that is, because it has been positively reinforced by rewards or consequences administered after the behavior is over. Drive theories say that all behavior is ultimately motivated by the necessity of dealing with biological demands and needs, such as hunger, thirst, and pain avoidance. Neither model can explain spontaneous, playful, and exploratory behavior that is unrelated to external rewards or to biological drives. Such spontaneous behavior was observed many times in the early part of the century, even in lower animals. For example, rats will incur pain, and hungry monkeys will pass up food, to get the opportunity to explore a new area of their enclosure. Mechanistically oriented psychologists at the time tried to reduce such behavior to biological drives or external conditioning, but their explanations were unpersuasive. It was not until the cognitive revolution of the 1960s that an appropriate paradigm emerged for viewing intrinsic motivation. From a cognitive perspective, intrinsic motivation expresses the desire to stimulate, exercise, and develop the central nervous system. Given that complex online information processing is central to human adaptation, it makes sense that humans would have evolved an inherent motivation to seek out challenges, develop interests, and consolidate their knowledge of the world. This assumption is also central to contemporary cognitive-developmental theory, according to which

individuals' active attempts at mastery provide the basis for many types of cognitive growth and change.

## Evidence and Outcomes

The early experimental research on intrinsic motivation focused on the intrinsic motivation undermining effect. This was the counterintuitive finding that people are often less interested in doing something after they have received a reward for doing it, a finding that radically contradicts the assumptions and predictions of operant behaviorism. In a typical experiment, participants would first play with an interesting puzzle. Some participants would be asked simply to try it out, and others would be given rewards (i.e., money, food, certificates) for doing, or for solving, the puzzle. In a later free-choice period, rewarded participants were less likely to spontaneously play with the puzzle, as observed through a one-way mirror; apparently, their intrinsic motivation had been undermined. This finding and the findings of other early intrinsic motivation researchers were controversial at the time and remain controversial today, primarily among behaviorally oriented psychologists.

Still, intrinsic motivation has been shown to be hugely important in many domains, including education, medicine, sports, work behavior, and personal goal pursuit. Intrinsically motivated individuals report better mood, enjoyment, and satisfaction than extrinsically motivated individuals. They also perform better—processing information more deeply, solving problems more flexibly, and functioning more effectively and creatively in general. As one example research program, Teresa M. Amabile's pioneering studies showed that individual creativity in artistic pursuits (e.g., collage making, haiku writing, drawing), as consensually agreed upon by multiple judges, is often undermined by external contingencies including not only positive external rewards and prizes (i.e., a sticker for "best collage") but also negative external pressures, such as deadlines, threats, surveillance, and evaluation.

When do rewards undermine intrinsic motivation? A recent and comprehensive meta-analysis summarized more than 100 experimental studies, showing that free-choice motivation is most undermined when the rewards are expected (rather than unexpected) and are contingent (rather than noncontingent) upon either task engagement, task completion, or positive task performance. In other words, if a person gets what he or she expects, as a reward for starting, finishing, or doing well at a task, then that person tends to lose

interest in the task. Notably, this meta-analysis also showed that verbal praise rewards are not necessarily undermining and can even enhance intrinsic motivation, as evidenced by greater subsequent free-choice play following praise.

## Theories of Intrinsic Motivation

What causes the intrinsic motivation undermining effect? Edward Deci, and his later colleague Richard Ryan, developed cognitive evaluation theory to explain it. In this model, human beings have innate psychological needs for both competence and autonomy. Individuals tend to lose their intrinsic motivation for activities that thwart these needs. Incompetent performance is thus an obvious potential detractor from intrinsic motivation, and indeed, in Mihaly Csikszentmihalyi's flow theory, a nonoptimal match between one's skills and the task demands is defined as a major impediment to flow. Deci and Ryan's novel proposal was that rewards can thwart autonomy needs when people perceive that the rewards are being used in a controlling way. In this case, the individual may shift from an internal perceived locus of causality ("I am the origin of my behavior") to an external perceived locus of causality ("I am a pawn to my circumstances"). Central to the model is the individual's cognitive evaluation of the reward. Does it seem to represent an authority's attempt to dictate or force his or her behavior? According to cognitive evaluation theory, even verbal praise can undermine intrinsic motivation if the recipient evaluates the praise as an attempt to coerce him or her. The results of the meta-analysis described in the previous section suggest that on average, tangible rewards tend to carry such connotations, although verbal praise does not.

In contemporary psychology, Deci and Ryan's self-determination theory uses the concept of intrinsic motivation as the foundation for a comprehensive theory of human motivation, agency, self-regulation, and thriving. The theory takes an organismic, humanistic, and somewhat liberal perspective on human nature, hoping to illuminate how societies should be constituted to maximize peoples' self-actualization and psychological well-being. This theory focuses on the connections between social and cultural contexts (i.e., autonomy-supportive vs. controlling), contextual motivation (i.e., intrinsic vs. extrinsic), and resultant outcomes (i.e., need satisfaction, mood, performance, creativity, and future motivation). In keeping with cognitive evaluation theory, the theory also focuses on

personality traits and styles as determinants of contextual motivation; some people are more prone to interpret rewards as controls and constraints (control orientation), whereas others are able to interpret rewards merely as informational and noncontrolling (autonomy orientation).

Research suggests that intrinsic motivation is a highly desirable quality, to be fostered within individual personalities as well as within social contexts such as classrooms, workplaces, ball fields, and interpersonal relationships. Indeed, intrinsic motivation may be essential to the achievement of optimal human being.

*Kennon M. Sheldon*

*See also* Extrinsic Motivation; Self-Determination Theory

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## **INTROSPECTION**

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### **Definition**

The term *introspection* is generally used by psychologists to refer to people's observation and contemplation of their own thoughts, feelings, and sensations. In early psychology, trained introspection was viewed as a useful tool for acquiring data about the nature of such cognitions, though the methodology fell into disfavor and was largely abandoned during the past century. However, introspective self-reports are still employed in social psychology to assess such constructs as attitudes, leading to continuing debate over the proper role of introspection in scientific psychology.

### **History**

The controversial nature of introspection stems from its use as a methodological tool by the structuralists,

who sought to create modern, empirical psychology toward the end of the 19th century. Wilhelm Wundt and others trained research subjects to examine and describe their own thoughts in an attempt to create a table of mental elements analogous to chemistry's periodic table of elements. This method of trained introspectionism was described by Edward Titchener as requiring impartiality, attention, comfort, and freshness. After 40 years of research, structuralists cataloged 50,000 constructs, representing three major classes of elements—sensations, images, and affection—each of which was viewed as possessing four attributes—quality, intensity, duration, and clearness.

The method of trained introspectionism ultimately became bogged down with reliability and validity issues, especially because training inherently colored the reports of introspecting subjects. The approach was criticized by Gestalt theorists, who argued that the overall organization of thoughts is more important than individual elements, and by behaviorists, who argued that behavior, not thought, is the proper focus of scientific psychology. Over the next 50 years, these two approaches dominated Europe and the United States, respectively, and the method of trained introspection was abandoned.

### **Validity of Introspective Self-Reports**

The behaviorist critique calls into question any research method that relies on people's introspective self-reports of their perceptions, thoughts, or feelings. Yet, such self-report measures are commonly used in social psychology, especially to assess moods, emotions, beliefs, and attitudes, often to good effect. True, concerns are raised periodically that people may distort their self-reports, especially if the attitudes they hold are socially undesirable. And recently researchers have demonstrated that people sometimes hold implicit attitudes of which they are not even aware and which, therefore, cannot be assessed with common self-report measures. One view is that such attitudes reflect an elaborate adaptive subconscious that inherently colors all perceptions, communications, and actions. An alternative view is that implicit attitudes may be relatively rare and frequently overridden by conscious ones.

Critics also argue that introspection necessarily changes the cognitions that people contemplate and report. One program of research suggests that simply thinking about one's attitudes causes them to become

more extreme. Another indicates that thinking about the reasons for one's attitudes can fundamentally change those attitudes in important ways. For example, in one study, subjects introspected about why they preferred one of two posters before deciding which to take home; others made their choice without introspecting. When contacted weeks later, those who had introspected before choosing were generally less happy with their selection than those who had not. The researchers suggest that introspecting focused subjects on easy-to-communicate justifications for their choice that did not reflect their actual feelings, leading to choices they ultimately found unsatisfying.

One common view is that people are ordinarily better at discerning their own attitudes than they are at introspecting the reasons for, or processes underlying, those attitudes. In one study, shoppers felt several nightgowns, reported which they preferred, and then described the reasons for their preference. In actuality, all the gowns were the same, though people tended to prefer the one on the right, due to a common serial position effect. However, no one correctly reported that their preference was determined by serial position; instead, people made up justifications for their preferences. People's tendency to introduce theories about their thoughts and preferences, rather than to report such thoughts objectively, underlies many criticisms of introspective methods.

Nonetheless, some psychologists argue that introspection ought to be treated like any other scientific methodology, including modern brain-imaging tasks that may seem more scientific. In other words, researchers need to develop sophisticated theories of the cognitive processes involved in introspection, the factors that affect such processes, and thus the circumstances under which introspection can or cannot provide useful data. In general, introspection is expected to yield more valuable data about the way that stimuli and events are experienced than about the mechanisms or causes of those experiences. And, in general, converging results from several different methods will be more definitive than the results of any one method alone.

Consider, for example, introspective reports of pain. Doctors generally assume that self-reports of the nature, severity, and location of pain are highly informative, even if not totally accurate. When a patient says, "It hurts when I raise my right arm," this is a key piece of evidence in framing the problem to be addressed and in diagnosing the ailment. Other kinds of data, such as x-rays or brain imaging may also

provide useful data, especially when combined with those self-reports. But doctors are much more skeptical of a patient's speculations about the causes of reported pain, such as "It feels like I tore the bursa." This is where other methodologies may be more useful. Even so, when the patient has the appropriate knowledge (e.g., she is a doctor herself), even introspections about causation may be valuable. Some writers therefore suggest that refinement of introspective methods may ultimately require that subjects receive special training, a controversial proposal given past criticisms of the method of trained introspection.

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*Lynda Mae*

*See also* Adaptive Unconscious; Attitudes; Beliefs; Consciousness; Implicit Attitudes; Social Desirability Bias

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## INTROVERSION

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### Definition

Introversion is a stable and heritable personality dimension characterized by a preference for quiet settings and for being alone. This does not mean that introverts are unfriendly, lethargic, or cold; instead, they are better described as reserved and even-paced, more likely to be involved in low, rather than high, stimulation tasks. Introversion is considered to be the opposite of extraversion. It is different from shyness in that anxiety and fear of social situations that describe shyness is absent in introversion.

The term was invented by the psychoanalyst Carl Jung. He used it to refer to people who followed their own inner promptings and beliefs, rather than just going along with the crowd. This original meaning has somewhat been lost in the emphasis on being sociable and outgoing, but some people still use it in that way.

## Measurement

Two most common ways of measuring introversion are the NEO (Neuroticism-Extraversion-Openness) Personality Inventory and the Myers-Briggs Type Indicator. The former, which emphasizes the new concept as being outgoing, is most commonly used in research and academic settings, while the latter, which is based on Jung's theories, is most widely used in business and industrial settings. Both measure introversion as the opposing pole of extraversion. The Social Introversion scale of the Minnesota Multiphasic Personality Inventory-2 is a third commonly used measure of introversion.

## Life-Span Development and Demographics

Introversion is generally stable across the life span, although estimates of the amount of stability vary widely, from .3 to .8. One of the reasons for the relative stability across the life span may be that introversion is, in part, biologically based and genetically inherited, although estimates on the amount of heritability also vary widely. One theory of biological basis for introversion proposes a neural mechanism that renders extraverts underaroused and make introverts more sensitive to stimulation. Consequently, introverts avoid loud, exciting social situations in an effort to avoid excessive stimulation, contradicting assumptions that introverts avoid such situations because they are unfriendly, shy, or experience social anxiety. A second theory emphasizes the differences in impulsivity, such that introverts are low on their reactivity to stimuli and high on their inhibitory systems, therefore rendering them to inhibit their behaviors and curtail impulsivity.

## Demographics of Introverts

In the United States, the population is about evenly split between extraverts and introverts. Although extraverted behavior is often encouraged by American culture, introverted preferences, such as engaging in self-reflection, are generally accepted as normal. In recent years, the Internet has provided a unique opportunity for introverts to socialize in a way that appeals to their personality. One factor that may lead to this comfort level is the ability to easily regulate one's level of interaction with others.

Furthermore, while happiness is often associated with extraverts, a substantial portion of introverts do lead very satisfying and happy lives. This may be because happiness has a strong link to both fulfillment and emotional stability. Introverts can lead very fulfilling lives by focusing on what pleases them—usually this includes solitary pursuits and building intimate relationships with a select group of friends, as well as some of the activities also enjoyed by extraverts.

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*See also* Big Five Personality Traits; Extraversion; Personality and Social Behavior; Positive Affect; Shyness; Traits

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## IRONIC PROCESSES

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### Definition

In almost all English dictionaries, one meaning of irony (i.e., that which is ironic) refers to an unexpected outcome or a surprising consequence. Social psychologists, however, reference ironic processes predicated upon the inner workings of the mind. Thus, ironic processes are mental processes. What is ironic is the nature of a person's mental processing, such as an unexpected change in thoughts, internal images, feelings, attitudes, and so forth. A good way to understand the social psychological meaning of ironic processes is by a demonstration. The following example is similar to the one used in the initial studies of the ironic processes that occur during mental control, particularly during thought suppression.

While reading the rest of this brief description about ironic processes, simply follow this basic instruction: Try not to think of a white bear. It is worth

noting that the instruction not to think of a white bear is an instruction to suppress a thought. To comprehend the instruction, the reader brings to mind an image or memory of a white bear, maybe one that he or she saw at a zoo, read in *National Geographic*, or saw on the Discovery channel. For some, the image of a white bear appears effortlessly (i.e., pops into mind); others consciously scan memory until a white bear surfaces. Yet, the instruction was not to think about the white bear. Try it: Do not think of a white bear. This discussion will return to the white bear later.

## Background and History

Research on ironic processes by Daniel M. Wegner and his colleagues has yielded fundamental and important conclusions. The explanation of ironic processes during thought suppression is that a person's mind simultaneously engages in two distinct processes. Each process is involved with a specific mental task. This is the ironic process theory.

In theory, one of the processes occurs when a person deliberately tries to suppress an image or memory from his or her mind. To suppress a thought successfully, a person may repeatedly attempt to decrease a thought's occurrence, ideally, until the thought appears in the mind's eye no more. To do this takes mental effort: This is the operating process. During ironic processing, another process works in tandem with the operating process.

The second process is the monitoring process. The monitoring process is a less effortful mental process. In theory, during thought suppression, a person makes a mental note to wait and then see if an uninvited thought recurs. The monitoring process checks for instances of the thought to be suppressed. When the monitoring process detects an unwanted thought (e.g., while on a diet, you notice the recurrent mental image of your favorite dessert food), the operating process attempts to replace the unwanted thought with something else (e.g., you try to distract yourself by reading the newspaper). If both processes operated harmoniously all of the time, people would be quite proficient at suppressing undesired thoughts. So far, there is nothing ironic about the ironic process theory.

In laboratory studies, when a person became sufficiently occupied with other tasks besides trying to suppress an unwanted thought, fewer mental resources were available for the person to attend to his or her operating process. In these studies, participants knew

that their goal was to suppress a thought. However, when their attention and mental focus shifted from thought suppression to other new mental activities, the conscious pursuit of suppressing a thought decreased or stopped, but the monitoring process continued.

The results of this research suggest that it is easy for most people to continue monitoring the occurrence of unwanted thoughts. However, when new tasks and activities occupy the body and mind, the operating process slows down or stops, which is the other process needed to suppress unwanted thought. Simply, part of the mind continues to notice the unwanted thought, but another part of the mind does not do anything to get rid of the unwanted thought, because the person is busy processing new information. A consequence of this interplay between each process is ironic processing.

An important research finding occurred when participants were asked to do other mental work besides just suppress a thought. The object they wished to suppress became increasingly and unexpectedly (ironically) accessible from memory: The thought to be suppressed appeared more often in their minds, as they were burdened with more than one mental task to do. It seemed that if enough activity occupied the mind, the simple goal to suppress a thought actually became a difficult goal. While processing ironically, people become preoccupied with the very thoughts they try to suppress, even though voluntary control is exerted in an effort to suppress unwanted thoughts. Psychologists do not yet understand exactly why and how this occurs.

Recall that earlier you tried not to think of a white bear. You probably had no trouble initially remembering a white bear, but you may have had some trouble with suppressing the image of one as you continued reading. When you first retrieved a memory of a white bear—say, a mental picture of one—the white bear was just as accessible as any other memory (e.g., a boat, a doughnut). However, after you were given the instruction to ignore the image of a white bear, you also focused your attention on reading these words and sentences. The extra mental activity needed to read may have been enough to deter you from using all of your operating processes toward getting rid of the image of a white bear. As you continued to read, you might have noticed the returning image of a white bear. Because it has taken you mental work to read and comprehend this summary about ironic processes, your operating process worked less efficiently than if

you had stopped reading and just focused on suppressing the thought of the white bear.

In theory, by recalling a white bear earlier, information associated with a white bear became active in your memory. Recall that while the operating process temporarily helps block out the image of a white bear, the monitoring process continues scanning the mind for occurrences of the white bear as you kept reading. Some of the activated information becomes a distraction during the attempts to suppress thought. The ironic processes that occur during thought suppression are obviously limited to certain kinds of circumstances, such as those where a person must do other things besides constantly attend to suppressing thoughts.

### Importance and Consequences

Real life is not too different from the laboratory tasks used to study ironic processes. Life is full of surprises and needs constant attention. People are rarely, if ever, left to themselves to put their undivided attention and energy toward getting rid of unwanted thoughts. While people are awake, there is plenty of information to attend to and to think about.

The initial research that helped formulate the ironic process theory began with something relatively simple, a white bear. However, researchers also study dieting and the ironic processes that occur while people try to suppress their cravings. Researchers also examined the ironic processes that occur during the suppression of sexist thoughts and remarks. Social psychologists and psychoneuroimmunologists have also begun researching the relationship between ironic processes during thought suppression and immune cell response in the body. Thus, there is some evidence linking ironic processes with physical health and illness.

In Wegner's theoretical review, he suggested several logical directions that research on ironic processes could go. Indeed, by now researchers and practitioners have begun to study ironic processes and their effects from his suggested starting points. For example, one research direction involves identifying personality characteristics related to the susceptibility of ironic

processing. Who is most (and least) susceptible to ironic processes and their unwanted effects? Another research direction involves identifying the ways people build up a resistance or psychological immunity to ironic processes. How do people inhibit or block the undesired aspects of ironic effects during thought suppression? Research on ironic processes is also applicable to clinical psychology. The ironic process theory is useful to clinical psychologists interested in the maladaptive ironic processes, such as those that tend to occur in individuals with obsessive-compulsive disorder and post-traumatic stress disorder.

Researchers in the fields of social cognition and social psychology of the late 20th and early 21st centuries helped uncover a pattern that human thoughts routinely engage in, ironic processing. Researchers have only recently begun to invent testable theories and scientific methods that help psychologists understand why and how ironic processes are adaptive (and sometimes maladaptive) mechanisms of human thinking. The research on ironic processing described here extends well beyond social psychology. Recent research on this topic is interdisciplinary, with insights from clinical and cognitive psychology, immunology, and neuroscience. The current research conclusions about ironic processes also lend themselves well to interdisciplinary work between social and developmental, evolutionary, and industrial-organizational psychology.

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*See also* Accessibility; Mental Control

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## JEALOUSY

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### Definition

Jealousy is an unpleasant emotion that arises when one perceives that some important aspect of one's relationship with another, or the relationship itself, is being threatened by someone else (a rival). For example, a person is likely to experience jealousy if his or her romantic partner appears to be emotionally or sexually interested in someone else. The term *jealousy* also applies to feelings that arise in other types of interpersonal relationships, such as when children exhibit distress over parents showering attention on a new sibling or when a person feels upset over being excluded by friends who are socializing together. Thus, jealousy requires the involvement of three individuals (the self, the partner, and the rival), which is sometimes referred to as a *love triangle*.

The proposed function of jealousy is to motivate behaviors that will reestablish the relationship between the self and the partner and break up the threatening liaison between the partner and rival. Because close personal relationships provide individuals with many physical and psychological benefits, it is important to have psychological predispositions toward maintaining them. In evolutionary terms, it is likely that people who established and protected their relationships typically produced more offspring. Thus, the psychological traits that helped maintain relationships would have been selected for and passed down to us through our genes. One possibility is that jealousy may have originally evolved as a response to

competition of siblings who are rivals for a parent's time, attention, resources, and so forth, and was later usurped for the purpose of keeping friendships and romantic relationships together.

### Background

Although few would doubt that jealousy involves negative feelings, there is no unanimous consensus on the exact nature of the distress. The feelings we call jealousy may be a blend of other more basic feelings, particularly of anger, fear, and sadness. One possibility is an individual may experience all of these emotions simultaneously during a jealous episode. Another possibility is, rather than experiencing several different emotions at once, a person experiences a series of different emotions over the course of a single jealousy episode. Which emotion is experienced would depend on what one focused or ruminated on. For example, thinking about the loss of the relationship might elicit sadness, while thinking about the partner's betrayal might elicit anger. A final possibility is that jealousy is its own distinct emotional state that elicits feelings and behaviors that are different from other emotions such as fear and anger.

### Importance and Consequences of Jealousy

Jealousy can have powerful personal and social consequences. While it sometimes can lead to positive outcomes by redirecting a loved one's attention to the self and reestablishing bonds, it also can have serious

negative costs. For example, jealousy is frequently implicated as a factor in spousal abuse and often ranks as the third or fourth most common motive in nonaccidental homicides across cultures.

The first signs of jealousy appear to occur early in life. Some research suggests that a parent merely directing attention to another child is, in and of itself, sufficient to elicit jealousy in infants as young as 6 months. These infants displayed more negative emotion when their mothers interacted with a life-like baby doll, relative to when their mothers behaved the same way toward a nonsocial toy (e.g., a book). This suggests that complex cognitions are not needed to elicit at least some primitive form of jealousy in infants. However, with development, social and cognitive factors become increasingly important. Even by preschool age, the specifics of a social triangle influence whether jealousy arises. For example, 4-year-olds demonstrated more jealousy when their mothers interacted with a similar-aged peer than when she interacted with an infant, whereas younger infants' jealousy was not affected by the rival's age. Thus, one of the changes that occurs with development is that a person's appraisal or assessment of the exact nature and meaning of the loved one and rival's interactions become increasingly important in whether jealousy is experienced.

Research on the social-cognitive aspects of jealousy has emphasized two factors that make a loved one's involvement with another particularly threatening: (1) when it challenges some aspect of a person's self-concept, self-regard, or other self-representations, and (2) when it decreases the quality of the primary relationship. In other words, people ask themselves questions about the meaning of their loved one's relationship to the rival: "What does this say about me? Am I unlovable, unattractive, boring, et cetera?" and "Will this rival relationship impact the important things I get from my relationship with my partner such as attention, affection, and support?" The answers to these questions will affect the intensity of jealousy over potential rival relationships.

### Individual Differences

Many have wondered whether men or women are more jealous. While studies occasionally find men to be more jealous, others find women to be more jealous. Overall, there seems to be no major consistent differences in men's and women's jealousy. It was

once believed that in men jealousy was a stronger motive for murder than in women. However, careful analyses of murder motives, taking into account men's overall greater propensity for violence, show that a woman who commits murder is as likely to be motivated by jealousy as a man who commits murder.

One theory that has received a great deal of recent attention predicts that gender differences should exist in jealousy over a romantic partner's infidelity: Men should feel more jealous over sexual betrayal and women over emotional betrayal. This view claims that in our evolutionary past, different threats impacted the number of children that any given man or woman could have. (The basic tenet of modern evolutionary theory is that we inherited our psychological and/or physical traits from the ancestral people who reproduced the most.) Since fertilization occurs internally within women, men can never know with 100% certainty that an offspring is indeed their own. Thus, ancestral man faced the threat of spending resources (food, time) on children that might not be his own. This would decrease the number of biological children that he had and increase those of someone else, which would help pass the other man's genes on instead of his own. Hence, the theory suggests, men who were particularly vigilant to sexual infidelity could prevent this from happening. Thus, modern men should be particularly jealous of sexual infidelity. Women, however, cannot be tricked into bringing up someone else's offspring, so they should not be particularly jealous of sexual infidelity per se. Instead, ancestral woman had to be concerned that her mate might give his resources to other women and their children, which would decrease the chances of the woman's own children surviving and reproducing. Thus, present-day women should be particularly jealous over emotional infidelity. Inherent in this is the assumption that a man's emotional involvement is a proxy for his spending resources on another. This hypothesis drew apparent support from early work that found when people were forced to predict whether a partner's sexual or emotional infidelity would be more upsetting, more men than women picked sexual infidelity. However, recent research with other measures and with people who have actually experienced a loved one's infidelity have not found consistent gender differences in jealousy over sexual and emotional infidelity.

Why might evolution have failed to produce gender differences? One possibility is that a more general jealousy reaction may have benefited both genders.

Infidelity rarely occurs abruptly; now, and presumably in the ancestral past, those people who would stray engage in flirting behaviors (e.g., increased eye contact and smiling) well before they have sex. These same behaviors can signal the beginnings of emotional interest, sexual interest, or both. Thus, there may be no need for men and women to have evolved jealous reactions tuned to different events. Instead, both sexes might best prevent either form of infidelity by being alert to the common early warning signs of either. This hypothesis is consistent with the emerging evidence that men and women show similar reactions to sexual and emotional infidelity.

Gender differences, however, are found in one type of jealousy, namely, clinical cases of *pathological jealousy* (also called *morbid jealousy*). Patients suffering from this disorder show a usually delusional conviction that their romantic partner is cheating on them. Before making this diagnosis, clinicians must think that the patient has weak and implausible evidence of betrayal or has an exaggerated reaction. Patients with pathological jealousy experience intense negative feelings and strong urges to check up on and spy on their partner and sometimes behave aggressively. Men make up approximately 64% and women 36% of pathological jealousy cases. Recent research suggests that, in some cases, pathological jealousy is a form of obsessive-compulsive disorder, which sometimes can be successfully treated with the antidepressant medication, fluoxetine.

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*See also* Attachment Theory; Emotion; Need to Belong

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## JIGSAW CLASSROOM

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Social psychologist Elliot Aronson introduced the jigsaw classroom in 1971, while a professor at the University of Texas at Austin. It was first used as a teaching/learning strategy to help defuse a potentially

explosive situation in Austin—its racially segregated schools were slowly desegregating. The primary purpose of the technique was to help teachers eliminate desegregated social patterns that emerged in racially diverse classrooms; likewise, it was applied by teachers for defusing violence in desegregated schools, as well as easing social problems among diverse students.

It is frequently used in elementary and secondary classrooms and, although less a fixture in college classrooms, it is nonetheless applicable. The name *jigsaw* is derived from its method of having each student become an informational puzzle piece; that is, students assemble in small groups in which each member becomes an expert at his or her subject or learning task. Each individual shares his or her information with the other members and then presents it to the entire class. Aronson believed the learning environment in traditional classrooms was full of competition, which created an atmosphere of turmoil and hostility. He believed that traditional classrooms often have the tendency to favor the “good” or more advanced students, ignoring those that are less advanced with different learning styles or needs.

The concept’s original purpose was to reduce racial conflict and promote minority students’ learning motivation and learning outcome. Another rationale for the jigsaw method underscored the idea that each individual learner was unique, and his or her role as a team member emphasized his or her contribution to the team through the learning process. Specifically, the method utilized cooperative learning, similar to a jigsaw puzzle, with each piece presenting each student’s part in helping other students understand the entire project. Each student is essential because each is responsible for a segment of the project that the teacher assigns to that particular group. In other words, students of jigsaw classrooms have to cooperate and work with each other. Otherwise, their assignments cannot be completed. This cooperation is thought to be a valuable tool in preventing tragic events, such as the Columbine shootings in 1999. Jigsaw classrooms allow students to appreciate each team member’s contribution and presence. As a result, hostility and anger diminish when students work together cooperatively.

In jigsaw classrooms, teachers can follow 10 steps to implement the jigsaw techniques:

1. Teachers divide the entire class into small groups, with each group consisting of five to six students; the exact number of team members and teams

depends on both the number of students in that class and the complexity level of the project. Most important, each team should be as diverse as possible, highlighting differences like gender, ethnicity, cultural background, and ability.

2. Teachers assign a student as the discussion leader for each session on a rotating basis. The team leader's duty is to call on other team members in a fair manner to make sure that each member participates evenly.
3. Teachers divide that particular school day's learning task into several segments, making sure they match the number of students.
4. Teachers assign each student on every team the responsibility for one segment.
5. Teachers allow each student enough time to read over his or her segment in order to become familiar with it.
6. Each student on each jigsaw team is responsible for a specific segment. The group gets together as "expert groups," discussing and exchanging their research results. After that, they rehearse the presentation they will make to their individual jigsaw team.
7. Teachers request students to return to their jigsaw team.
8. Students present their segment findings to their team, while other teams' members are encouraged to ask questions for clarification.
9. Teachers visit each jigsaw team, observing the process and helping team members successfully complete the learning task. In addition, if any team member attempts to dominate or disrupt the team, the teacher should implement an appropriate intervention. However, it is recommended that the team leader handle the entire learning task, instead of involving the teacher. The teacher can train team members how to intervene when faced with difficult members.
10. This step centers on assessment. Teachers should administer a quiz based on the group's particular learning task, which helps students understand cooperative learning.

Jigsaw classrooms have several advantages compared to traditional teaching methods. From a teacher's perspective, (a) it is easy to implement within the classroom, (b) it can be easily combined with other teaching strategies, (c) there is no time limitation or

requirement when using the strategy, and (d) it increases both retention and achievement of minority students. For students, benefits include that it (a) is an efficacious method of learning; (b) disperses personality conflicts and/or tension in diverse classroom, while creating a more amicable learning environment; (c) encourages students' listening to their peers; (d) succeeds in fostering friendships while creating mutual respect among students, regardless of their individual differences; (e) promotes students' learning motivation and engagement in their tasks more actively; (f) builds up less advanced learners' self-confidence; (g) promotes team building skills; and (h) improves students' research ability, such as gathering information, organizing their resources, and so on.

A teacher might experience several difficulties when implementing a jigsaw classroom strategy. First, teachers have to ensure that students have ample research resources to complete their project. Second, teachers need to spend more time helping less advanced students so they do not produce inferior work within their respective jigsaw group. Third, when dominant students try to control the group, teachers need to be able to effectively deal with the situation. Fourth, teachers need to encourage bright students to develop the mind-set that helping their team members is an excellent method to prevent boredom.

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Li-Ching Hung*

*See also* Group Performance and Productivity; Prejudice; Stereotypes and Stereotyping

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## JUSTICE MOTIVE

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### Definition

The justice motive is the idea that people have a basic motive for justice; that is, people have a need to believe that people get what they deserve. Research on the justice motive emphasizes the importance of

justice to people as a goal unto itself. Its origins lie in a basic understanding people develop early in life about the kind of world they must be able to assume if they are to get what they deserve. Evidence for people's need for justice has been derived from research that examines people's reactions to injustice. There is also reason to believe that sometimes when people are concerned about justice, it is the result of another need or concern they have, and in this case, justice motivation derives from other motives.

## Justice and Psychology

A useful place to start a discussion of justice motivation is the concept of justice itself. Psychology researchers approach the topic of justice differently than lawyers and legal philosophers do, and often differently from how it appears in people's everyday lives, where justice is commonly associated with the law, police, and the courts.

For psychologists, justice is about the thoughts and feelings people have about the relation between the value of people and their outcomes. Psychological research on justice builds on the observation that people are good at evaluating other people, on one hand, and evaluating their experiences (e.g., winning a lottery, finding love, becoming ill) and resources (e.g., wealth and material possessions) on the other. Psychologists refer to experiences and resources combined as a person's outcomes.

People can rapidly decide whether someone they meet for the first time is a good or bad person; indeed, it is one of the first things people want to know. Of course, each person also has an evaluative sense of him- or herself as a good or not-so-good person, referred to in psychology as *self-esteem*. People are also good at evaluating outcomes. Getting sick for most people is bad, and getting an increase in salary is good.

When considering justice, the question is how does a person's evaluations of people (including themselves) line up with his or her evaluations of their outcomes? When a good person (like you good reader) experiences a good outcome, such as a good-sized salary increase, others view the situation as just, because there is correspondence in their evaluation of the person and the person's outcome: good with good. However, when the same good person experiences a bad outcome, such as being laid off from his or her job, others will be inclined to view the situation

as unjust, because the evaluations are inconsistent: good with bad. People are similarly sensitive to the outcomes of bad people. When a bad person such as a criminal has good outcomes such as a life of comfort, people view the situation as unjust, but when the same bad person has a bad experience, say, losing all his or her money, the situation is just.

There are of course many intriguing variations and complexities in how people think and feel about justice, including the relative nature of justice judgments; what one person considers just and fair is often different from what others see as just. As you might imagine, this relativity has all sorts of interesting implications, but this entry will set these aspects of justice aside and turn to its primary focus: motivation for justice.

## Justice Motivation

Why do people care about justice? Psychologists interested in answering this question often approach it in terms of motivation. When a person demonstrates a need or desire to reach a goal, others say he or she is motivated. In motivational terms, people care about justice because of a need they have to experience justice in their own lives and in their social world. Where does the need for justice come from? Interestingly, psychological research has suggested a number of possible origins that fall into two categories depending on the goal involved.

Some scholars argue that justice is an ultimate goal people can have, an end unto itself. In this case, the need for justice is understood to be a distinct motive that cannot be reduced to other motives, such as self-interest. This is important because it raises the possibility that people may sometimes be motivated to achieve justice at the expense of self-interest. The ultimate goal approach to justice motivation is the one that argues that it is psychologically meaningful to talk about a distinct justice motive.

The second approach to justice motivation assumes that when people demonstrate a need for justice, they do so as a means to arriving at another goal. In other words, justice is an instrumental rather than ultimate goal. This would be the case, for instance, if people believe that complying with justice rules will help maximize their outcomes: "If everybody plays by the rules, we'll all get what we want." The instrumental goal perspective on justice motivation means that when people appear to have a need for justice, that need is derivative of another need or concern. The list

of needs people have that can give rise to a secondary concern with justice continues to grow, with self-interest arguably at the top of the list. A number of psychological justice theories assume that self-interest is a central goal that people are trying to achieve; the theories differ on whether self-interest motivation is pursued for self-gains in the short term or the long term. The short-term view is that people will behave justly when it is in their self-interest to do so and unjustly when it is not. The longer-term view points out that self-interest needs must be met in the context of ongoing relations with others, which gives rise to a social exchange view of justice and self-interest. If people enter into relations with others motivated to gain resources over time, it is in their self-interest to commit to social exchange (justice) rules that govern how resources will be distributed and what processes will be used to make decisions.

Other, less-resource-oriented theories suggest that people's need for justice arises from other concerns, such as a desire to be regarded positively by others, the need for control, concerns associated with uncertainty, and a basic concern with morality. Examination of these various perspectives is beyond the scope of this entry, but their number and diversity highlights the complexity of justice motivation. Thus, when someone expresses a concern about justice, it is useful to remember that his or her concern may reflect a basic need for justice or derive from another concern, such as increasing the chances of getting what he or she wants or getting respectful treatment from others in order to feel valued.

### The Justice Motive

The idea that people have a basic motive for justice has been characterized as the need to believe that people get what they deserve. Because people in this context refer to both oneself and others, the need essentially means that people need to believe in a just world where they not only experience justice in their lives but where it is also important that others experience justice as well.

People's concern about justice in the world helps explain why people can be upset by injustices that happen to other people they do not know and who may live far away and in very different circumstances than their own. Not surprisingly, given this description, the most extensive theoretical account of the

justice motive comes from the just-world theory, a theory developed and researched for many years by the social psychologist Melvin Lerner.

### Origins

According to Melvin Lerner, the justice motive originates in the realization people develop in childhood that to have the things they want in life, they have to engage in activities in the present that they assume will result in payoffs in the future. In other words, people come to understand delay of gratification. Many of the rewards they value most, such as a rewarding career, require them to work toward a future goal. Put in justice terms, people assume that as good people working toward a future reward, the reward will in fact be forthcoming when the future point arrives, because by that point, they deserve it.

The assumption this reasoning is based on is the foundation for the justice motive. For people to believe they will get the rewards they deserve in the future, they must also believe they live in a world where people do in fact get what they deserve. Indeed, to sustain people's efforts to achieve their goals in the future, they must believe in such a world because if they cannot assume people get what they deserve, what is the point of working toward future goals? Lerner argues accordingly that when people reach the point in their childhood (around age 4) when they come to understand delay of gratification, they make a personal contract with the world. This contract says that for them to be able to believe in that they will get what they deserve, they must at the same time believe that the world is a just place. This is also what makes the fates of other people important. One's sense of the world as a just place is based not only on one's own experience, but also on the experiences of others and if others experience injustice, that is threatening to one's need to believe in a just world.

### Evidence

The most compelling evidence for the justice motive comes from research examining people's reactions to injustice. The reasoning is as follows: If people have a need for justice, they should be motivated in the face of injustice to respond in ways that are consistent with achieving justice. A common research strategy is to expose people to scenarios involving the suffering of

an innocent victim. This can be done by having research participants read a story or watch a video where they learn about something bad happening to a good person through no fault of that person. Such experiences create temporary distress, as a result of the injustice associated with the victim's suffering, in much the same way one feels a sense of unfairness and upset when one learns about the suffering of innocents in the news. Evidence of other people's unjust suffering is upsetting because it threatens one's belief in a just world.

If people are motivated to achieve the goal of justice in their lives, they should respond in such situations in ways that are consistent with achieving that goal. The research suggests this is in fact the case, but there are some intriguingly different ways people do this, some with undesirable consequences. The most straightforward thing people can do is engage in justice-restoring behavior. For instance, they might try to compensate an innocent victim or find justice in punishing the person responsible for the injustice. Such behavioral reactions can be very effective in helping people maintain their just-world beliefs, and it is likely many altruistic deeds one observes in life are based in a desire for justice.

However, people are not always able to address injustice through their own actions, for any number of reasons: The size of the injustice is too large or too far away, they do not have the means to address the injustice, or they may assume their efforts will be ineffective. Does this mean they abandon their need to believe in a just world when they cannot fix injustice themselves? The answer from psychological research is "no." In lieu of action, people make psychological adjustments in how they think about events that allow them to sustain the belief. One of the intriguing but troubling ways people do this is to blame the victim. Through selective consideration of the facts, people can convince themselves that a victim or victims are somehow responsible for their suffering and hence deserve their fate. If one can convince oneself that others deserve their suffering, then one removes any threat to one's ability to believe that the world is a just place. Unfortunately, victim blaming is a common phenomenon. Justice motive research helps researchers understand why this is so, given the importance of people's need to believe in a just world. There are other psychological adjustments people can make in the service of the justice motive, but the important point is that there

is extensive evidence that people are motivated to address injustice either behaviorally or psychologically, and the reliability with which they do so provides compelling evidence of the justice motive.

*John H. Ellard*

*See also* Blaming the Victim; Just-World Hypothesis; Social Exchange Theory

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## JUST-WORLD HYPOTHESIS

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### Definition

The just-world hypothesis is the belief that, in general, the social environment is fair, such that people get what they deserve. The concept was developed in part to help explain observations that to preserve a belief that the world is a just place, people will sometimes devalue a victim. A just world is defined as a world in which people *do* get what they deserve. The just-world hypothesis is important because it suggests that people may treat certain victims badly, oddly enough, out of a desire to sustain their belief in justice. It also suggests that people may go to great lengths to maintain a sense that the world is just, giving evidence that the human motivation for justice is very strong.

### Background and History

The seminal experiment illustrating this phenomenon was conducted by Melvin Lerner and Carolyn Simmons in the 1960s. In this experiment, people watched on a television monitor a woman who appeared to be receiving painful electric shocks from a researcher. In actuality, the footage was prerecorded and the events were only simulated by actors. As the woman did nothing to deserve the shocks she was receiving, she can be seen

as suffering unjustly. People who watched this unjust suffering described the victim's character quite negatively if they could not compensate her (or at least were not sure they could compensate her) and if they thought that they would continue to see her suffer. People described the victim's character most negatively when they also believed that she was behaving altruistically; that is, she chose to suffer for their sake. The findings were explained by suggesting that people have a strong need to believe that the world is a just place in which individuals get what they deserve. Victims who continue to suffer through no fault of their own (and especially very good people, like the altruistic woman in the early experiment) threaten this belief in a just world. As a way of dealing with that threat and maintaining a belief in a just world, people may try to restore justice by helping or compensating victims. When it is not possible to help or compensate victims, people may reinterpret the situation by, for example, claiming that a particular victim is a bad or otherwise unworthy person. By devaluing or derogating the victim in this way, his or her fate seems more deserved and people's sense of justice is maintained.

There was much controversy about how to interpret the results of the original experiment. For example, some researchers suggested that people devalued the victim to reduce their own feelings of guilt at letting her continue to suffer. However, further experiments showed that people sometimes devalue a victim of injustice even when they could not have played any role in the victim's situation. This and other proposed alternatives were, for the most part, dealt with through further study and argumentation, leading to a general acceptance of the notion that people will sometimes devalue a victim of injustice because they need to believe in a just world.

### More Recent Research

Since the early period of experimentation in the 1960s and 1970s, social psychologists have continued to conduct research on the just-world hypothesis. There have been two main traditions in this later research. First, researchers have continued to conduct experiments to study how people respond when they see, read about, or are otherwise exposed to victims who presumably threaten the need to believe in a just world. This

research has tended to focus on victims of HIV/AIDS, rape, and cancer. Although some researchers have claimed that a number of these experiments have flaws that make it difficult to interpret the results, there is agreement that several of the investigations generally support the just-world hypothesis.

Another tradition in the later research on the just-world hypothesis has involved using a questionnaire to measure the extent to which people actually believe that the world is a just place. Researchers then test whether people who believe more strongly in a just world, according to the questionnaire, hold certain attitudes. These studies have shown, for example, that the more people claim that they believe the world is just, the more negative attitudes they have toward the poor, groups of people who are discriminated against in society, and other people who might be seen as victims of injustice. These findings are consistent with the just-world hypothesis.

### Implications

The just-world hypothesis has several important implications for reactions to victims of injustice. For example, the research suggests that if people feel they cannot help or compensate victims of injustice who continue to suffer, they may react defensively. They may reason that the victims deserved their fate either because of the kind of people they are or because of the way they behaved. If people respond in this way, they may be less likely to react in a more positive manner, like working toward minimizing injustice or offering emotional support.

It is important to note that the just-world hypothesis is actually part of a broader theory called *justice motive theory* or *just-world theory*. The theory includes propositions about how and why a belief in a just world develops in children, the different forms that a belief in a just world might take, the many strategies (aside from blaming and derogating victims of injustice) that people use to maintain a belief in a just world, and the various ways in which justice is defined for different kinds of social relationships.

Carolyn L. Hafer

*See also* Blaming the Victim; Discrimination; Justice Motive

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# K

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## KELLEY'S COVARIATION MODEL

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### Definition

Harold Kelley's covariation principle is a central model within attribution theory, an area of social psychology that is concerned with the scientific analysis of the psychology of everyday people. Attribution theory was originally introduced by Fritz Heider in 1958 and assumes that we all want to understand and explain events. For instance, we ask why we succeeded at a task or why our friend liked a movie. The answers to such "why questions" (e.g., "I am smart" or "The movie was good") are called causal attributions. Kelley's model explains how laypersons arrive at such attributions; hence, it is a scientific theory about naive theories.

### Analysis

For both scientists and laypersons, explanations consist of *effects* to be explained (e.g., success at a task or liking a movie) and *causes* that are used as explanations (e.g., high ability or the quality of the movie). Kelley's model applies to all types of psychological effects that laypersons explain, ranging from achievement outcomes to emotional states, and it can be applied to self-perception (e.g., "Why did I fail?") as well as to other perception ("Why did you fail?").

Kelley distinguishes attributions to causes that reside within the person, the entity, and the circumstances. *Person* attributions (e.g., "She is a movie fanatic" or "She is smart") rely on stable factors residing

within the person to explain, for example, that person's enjoyment of a movie or his or her success. *Entity* attributions imply tracing back the effect to stable properties of the object the person interacts with (e.g., we explain the enjoyment with the quality of the movie, or success with task ease). Finally, *circumstance* attributions are made when explaining an effect with transient and unstable causes (e.g., when enjoyment is traced back to a happy mood or success is attributed to luck).

But how do we come to explain a specific effect with one of such causes?

Kelley postulates that laypersons use methods akin to those used by scientists, most importantly, experiments. In such experiments, independent and dependent variables are differentiated. For instance, a researcher investigating the influence of color on mood will manipulate color as the independent variable (e.g., putting half of the participants in a blue room and the other half in a red room). Subsequently, she assesses, as the dependent variable, participants' mood in both rooms. In such experiments, the independent variables are often conceived of as causes or determinants of the dependent variables (e.g., color might be conceived of as a determinant of mood), and the dependent variables are the effects.

From this point of view, events to be explained by lay scientists (e.g., success or liking a movie) are the dependent variable, and the possible causes of the event are independent variables. For instance, when I succeed at a task and I ask myself, "Why did I succeed?" success is the dependent variable (i.e., the effect) and the possible causes—the task (entity), my ability (person), or luck (circumstances)—are independent variables.

Whether an effect is attributed to the person, the entity, or the circumstances depends on which of the causes (independent variables) the effect (dependent variable) covaries with. Covariation refers to the co-occurrence of the effect and a cause. To decide whether the *entity* is the cause, one has to assess whether the effect covaries (co-occurs) with the entity—more specifically, whether there is variation of the effect across objects (entities). Covariation with the entity is given when the effect is present if the entity is present and when the effect is absent when the entity is absent. For instance, when a person succeeds at Task 1 but fails at Tasks 2, 3 and 4, the effect (i.e., success) is present when Task 1 (i.e., the entity) is present, and it is absent when Task 1 is absent (i.e., when Tasks 2, 3, and 4 are present). In this example, the effect covaries with the task (entity): The manipulation of this independent variable results in an effect of the dependent variable; that is, the task “makes a difference.” If, however, the individual succeeds at all tasks in addition to Task 1, the effect (success) does not vary with tasks (there is no covariation between the effect and the entity), or the manipulation of the independent variable (task) does not result in a change of the dependent variable (outcome).

Kelley labels information about the covariation between entities and effects *distinctiveness*. Distinctiveness is considered high when the effect covaries with the entity (e.g., the person succeeds only at Task 1). Low distinctiveness indicates a lack of covariation between the entity and the effect (i.e., the individual succeeds at all tasks; the task “does not make a difference”).

Information about the covariation of an effect with persons is called *consensus*. If the effect covaries with the person (only Person 1 succeeds at Task 1, and Persons 2, 3, and 4 fail), there is low consensus (the manipulation of the independent variable “person” results in a change of the dependent variable). If covariation with this independent variable (i.e., the person) is lacking, there is high consensus (i.e., everybody succeeds at Task 1). Finally, high *consistency* reflects that an effect is always present whenever a certain cause (i.e., the person or the entity) is present. By contrast, low consistency is indicative of the fact that an effect is sometimes present when the cause is absent and sometimes absent when the cause is present.

Kelley suggests that there are three combinations of consistency, consensus, and distinctiveness information which give rise to unambiguous person, entity,

and circumstance attributions. We make person attributions when the effect covaries with the person and not with the remaining two causes (entity and circumstances). This data pattern characterizes, for instance, a situation in which a person succeeds at a task at which nobody else succeeds (low consensus), if he or she also succeeds at this task at different points of time (high consistency) and performs other tasks just as well (low distinctiveness). In this situation, we should attribute success to the person (e.g., his or her ability).

Attributions to the entity should be made when the effect covaries with the entity (the person succeeds only at this but not at other tasks; high distinctiveness) and not with the person (everybody succeeds at this task; high consensus) or the point of time (the person always succeeds at this task; high consistency). This pattern is again characterized by the fact that the effect (e.g., success) covaries with one cause (i.e., the entity) but not with the remaining two causes (i.e., the person or points in time).

Finally, attributions to the circumstances should be made when there is low consensus, high distinctiveness, and low consistency—for example, when a person who usually fails at Task 1 succeeds at it at a specific point of time (low consistency), other persons fail at Task 1 (low consensus), and the individual fails most other tasks (high distinctiveness). This covariation pattern differs from the cases that lead to person and entity attributions, as the effect covaries with all of the three possible causes and not (as was the case for the ideal patterns for person and entity attributions) with only one cause.

Kelley's prediction that people make unambiguous attributions to the person, entity, and circumstances in these three patterns of information is empirically well established. The model has sparked numerous theoretical developments and empirical investigations in the field of attribution and causal induction and continues to be influential into the present. It has been used as a normative model to assess errors and biases, and it served as a conceptual tool for the analyses of a wide range of social psychological phenomena ranging from attribution in close interpersonal relations to attributions of changes in one's heart rate. Current refinements and extensions of Kelley's model focus on whether it specifies all attributionally relevant information and on the cognitive processes involved in making attributions.

*Friedrich Försterling*

*See also* Attributions; Attribution Theory; Fundamental Attribution Error; Person Perception

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## KIN SELECTION

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### Definition

Otherwise known as inclusive fitness theory, kin selection refers to the theory that people have evolved to favor others who are genetically related to them. The logic of the theory is that a gene can propagate itself through two routes. The first is by increasing the likelihood that the body in which it resides (the *self*) will survive and reproduce (e.g., by leading to the selection of nutritious foods and fertile mates). The second is by increasing the reproduction of close relatives (kin) who also possess copies of the same gene (e.g., by leading the self to help kin in ways that increase the chances that they will reproduce and the gene will be passed on). Some of your kin are more closely related to you than others and therefore are more likely to carry your genes. Thus, because you share 50% of your genes with your siblings, but only 12.5% with your cousins, you should be much more likely to help siblings than cousins. According to the theory of inclusive fitness, parental care for offspring is a special case of kin selection, as it is yet another case of people (or animals) providing care for closely related kin who carry shared genetic material.

### History and Modern Usage

The theory of kin selection is widely regarded as the most important theoretical development in evolutionary thinking since Charles Darwin, as it proposes a mechanism that explains why individuals would altruistically help others (i.e., why they would provide resources to someone else at a cost to themselves). The idea of altruism seems counterintuitive from a Darwinian perspective, as any behavior that increases the likelihood that another individual will survive or reproduce at a cost to one's own survival or reproduction should be selected against. But if this altruistic behavior enhances the survival or reproduction of a related individual to a greater degree than it diminishes one's own chances, then, according to the theory, such behavior would be selected for. To give a concrete example, I may be willing to endanger myself by alerting my siblings when there is a predator afoot, even if my own shouting makes the predator more likely to see me. Although this behavior puts me at risk, it has the potential to result in greater replication of the genes that I carry than if I kept quiet and one or more of my siblings were killed.

*William von Hippel  
Martie G. Haselton*

*See also* Altruism; Evolutionary Psychology; Reciprocal Altruism

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# L

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## LAW OF SMALL NUMBERS

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### Definition

The law of small numbers refers to the incorrect belief held by experts and laypeople alike that small samples ought to resemble the population from which they are drawn. Although this is true of large samples, it isn't for small ones. So the "law" of small numbers isn't really a law at all, but a fallacy. And as such, it is a law you should feel free to break.

### Analysis

To provide an example, suppose you have an urn containing marbles—half of them red and half of them blue (statisticians love urns . . . especially ones with marbles in them). Suppose further that without looking, you draw 100 of them. What are the odds that about half of them will be blue? Although it is unlikely that *exactly* half will be blue (i.e., you probably won't draw exactly 50 blue marbles), the odds are good that it will be close with a sample of 100. With 1,000, the odds are even better—and they keep getting better until your sample reaches infinity (a fact known as the law of *large* numbers).

But suppose instead you draw a smaller sample, say, only two marbles. There, the odds of half of them being blue is much lower . . . only 50%, to be exact. And with a sample of only one, the odds drop to zero. So whereas large samples tend to resemble the population from which they are drawn, smaller samples do not.

The problem is that for most of us, this fact is counterintuitive. People tend to expect small samples to behave just like large ones, a fallacy that leads to all sorts of errors in everyday judgment and decision making.

For instance, when people are asked to mentally generate a sequence of "random" coin tosses, their sequences tend to be anything but. That is, people expect there to be many more alternations than would be expected by chance. In other words, they expect not only the entire sequence to contain approximately 50% heads, but each *portion* of the sequence to contain approximately 50% heads as well.

The same is true in the world of sports. When people observe a basketball player make several baskets in a row, they assume it must be because he or she is "hot." They forget that because the sample size is small, such coincidences are not only unsurprising, they are inevitable. In fact, when a group of scientists examined the shooting pattern of professional players, they found something remarkable—there is no such thing as the "hot hand" in basketball. That is, players are no more likely to make a shot after making the previous shot (or shots) than after missing the previous shot (or shots). Despite this fact, people continue to believe in the hot hand, one of several by-products of the mistaken belief in the law of small numbers.

*Jeremy Burrus*  
*Justin Kruger*

*See also* Decision Making; Gambler's Fallacy; Hot Hand Effect; Research Methods

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## LAY EPISTEMICS

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The concept of lay epistemics concerns the process through which individuals (lay persons and scientists alike) attain their subjective knowledge. A theory of lay epistemics has been outlined in two volumes by Arie W. Kruglanski published 15 years apart, and the relevant empirical research has been presented in numerous theoretical and research articles in the scientific literature in personality and social psychology. The theory of lay epistemics describes the cognitive and motivational factors that determine the formation and alteration of human knowledge on all topics. Knowledge is defined in terms of propositions (or bodies of propositions) in which individuals have a given degree of confidence. This conception requires that the contents of knowledge be considered by the individual, implying a phase of hypothesis generation, and that they be assessed as to their validity (their warrant of confidence), implying a phase of hypothesis testing.

According to the lay epistemic theory, hypotheses are tested via relevant evidence. Relevance, in turn, is determined by preexisting inference rules that in an individual's mind tie the evidence to the conclusion in an if-then fashion. This theory assumes that all inferences or judgments are rule based, including such automatic and unconscious judgments as involved in people's perceptions of objects in their environment, the (erroneous) inferences they may draw from momentary mood states to their general levels of life-satisfaction and so on. By assuming the inevitability of rules in the mediation of judgments, the lay epistemic theory affords a unimodel that integrates numerous dual process models proposed in different domains of social cognition.

In principle, the individual may continue generating further and further rule-like hypotheses linking the same category of evidence to different conclusions. For instance, one might link one's good mood at a given moment to one's general level of happiness and success, but also consider the alternative possibility

that the good mood was caused by a drink one had just imbibed, by the fact that one's country won a soccer match, and so on. Given such a plethora of alternative possibilities, the individual may feel confused and uncertain. To attain certainty, therefore, one's generation of alternative possibilities must come to a halt. The theory of lay epistemics identifies two categories of conditions affecting the cessation (or conversely, the initiation) of hypothesis generation: long-term capability and epistemic motivation. Long-term capability relates to the availability of constructs in memory pertinent to a given issue or question, and short-term capability relates to their momentary accessibility. Epistemic motivations are conceptualized as the cognitive state the knower wants to attain. Two issues are critical here:

1. Whether the knower desires to achieve or desires to avoid the state of cognitive closure, defined as a firm judgment on a topic and contrasted with confusion and ambiguity
2. Whether such desired or undesired judgment has specific (appealing or unappealing) contents (e.g., a desirable content might be that one is healthy, and an undesirable one that one is not) or is nonspecific—its desired or undesired nature stemming from its constituting a judgment (closure) or an absence of judgment (a lack of closure)

This analysis yields a typology of four motivational orientations, referred to as needs for the following:

1. Specific closure
2. Avoidance of specific closure
3. Nonspecific closure
4. Avoidance of nonspecific closure

Each motivational orientation is assumed to depend on the perceived benefits of attaining or costs of failing to attain the correspondent epistemic state (e.g., 1 through 4 in the previous list). Such costs and benefits can differ across situations (e.g., under time pressure, uncertainty may be more unpleasant than in the absence of pressure) as well as be based on stable individual characteristics. For instance, some individuals more than others may desire nonspecific closure (e.g., be intolerant of uncertainty or ambiguity), some individuals more than others may desire to avoid a specific closure (e.g., being labeled as a failure), and

so forth. The epistemic motivations have been shown to exert important influence on individual judgment and decision-making processes (by initiating or halting such processes), and on such interindividual phenomena as persuasion, communication, empathy, and bargaining. The need for nonspecific closure in particular has been shown to lead to a behavioral syndrome referred to as *group-centrism* that includes pressures toward opinion uniformity, endorsement of autocratic leadership, ingroup favoritism and outgroup derogation, the rejection of opinion deviates, and an intolerance of diversity.

### Contributions of the Lay Epistemic Theory

The lay epistemic theory has contributed to the understanding of social psychological phenomena in two distinct ways:

1. By generating novel testable predictions explored in empirical research
2. By affording a conceptual integration of numerous, heretofore separate, topics in social cognition

Such predictions concerned individuals' cognitive and social interaction styles, their political preferences, and their reactions to events around them (e.g., to organizational change taking place in their work place). The predictions also concerned the conditions under which the information given would affect the individuals' judgments and those under which it would not, despite its obviousness to external observers. These issues have considerable real-world relevance relating as they do to (1) circumstances in which individuals fail to "see it coming" in military, political, or technological realms fostering immense debacles (e.g., the Pearl Harbor surprise attack, or the breakdowns of the *Challenger* and *Columbia* space shuttles), (2) conditions affording or forestalling intercultural communication, and so on.

Its broad, content free nature allowed the lay epistemic theory to integrate numerous specific domains of social psychological inquiry including the synthesis of attribution with cognitive consistency theories and an integration of the plethora of dual process models under a common set of principles.

*Arie W. Kruglanski*

*See also* Cognitive Consistency; Dual Process Theories; Motivated Cognition

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## LEADERSHIP

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People are obsessed with leaders. People gossip about the boss; airport bookshops bulge with leadership books; current affairs analyzes the actions of leaders; and much of organizational science is about leadership. This is not surprising. Leaders have enormous influence over their followers—leaders make decisions for their followers and shape the course of their lives and even the type of people they are, and so followers are focused on how effective their leaders are; how they are elected, appointed, and deposed; and whether they lead for good or for evil.

### Definition

Leadership is a process whereby an individual, or clique, is able to influence others to internalize a collective vision and mobilize them toward attaining that vision. Effective leadership transforms people's goals and ambitions, even their identities, and replaces

self-oriented behavior with group-oriented behavior. The exercise of power over people to force them, through rewards and punishments, to comply with commands and bend to one's will is not leadership.

### Personality Attributes of Great Leaders

Although leadership is a group process (leaders require followers), leadership research has a long history of focusing on attributes of leaders alone that make them effective—great leaders. The 19th-century belief that leaders are born rather than made is no longer in vogue—research has failed to find “great leader” genes. However, the idea that some people have personalities, however acquired, that predispose them to lead effectively in all situations, whereas others do not, has attracted enormous research attention. A definitive review published in 2002 concluded that three of the Big Five personality dimensions are associated with effective leadership: Extraversion, Openness to Experience, and Conscientiousness. Overall, however, personality does not allow people to differentiate between effective and ineffective leaders very reliably.

### What Do Effective Leaders Do?

Maybe some leadership behaviors are more effective. One reliable distinction that has emerged is between a leadership style that pays more attention to the group task and getting things done (task-oriented leadership) and one that pays attention to relationships among group members (socioemotional leadership). Most groups require both types of leadership and people who are capable of being both task-focused and socioemotionally focused tend to be the most effective.

### Interactionist Perspectives

However, different situations and different group activities call for different emphases on the task or on relationships—in which case, the relative effectiveness of task-oriented and relationship-oriented leaders may be contingent on properties of the leadership situation. This idea is reflected in Fred Fiedler's contingency theory of leadership, very popular in the 1970s; one strength of this theory was that Fiedler had a novel way to measure both leadership styles (the least-preferred coworker scale) and classify how well structured situations were. Generally, relationship-oriented

leadership was most effective unless the group task was very poorly structured or very well structured.

Another interactionist perspective is normative decision theory. Leaders can choose to make decisions autocratically (subordinate input is not sought), consultatively (subordinate input is sought, but the leader retains authority to make the final decision), or as a genuine group decision (leader and subordinates are equal partners in shared decision making). The relative efficacy of these strategies is contingent on the quality of leader-subordinate relationships and on task clarity and structure. Autocratic leadership is fast and effective if leader-subordinate relationships are good and the task is well structured. When the task is less clear, consultative leadership is best, and when leader-subordinate relations are poor, group decision making is best.

A third interactionist theory is path-goal theory, which assumes that a leader's main function is to motivate followers by clarifying the paths that will help them attain their goals. Leaders do this by directing task-related activities (structuring) or by addressing followers' personal and emotional needs (consideration). Structuring is most effective when followers are unclear about their goals and how to reach them, and consideration is most effective when the task is boring or uncomfortable.

### Transactional Leadership

Another way to look at leadership is as a transaction between leaders and followers—the leader does something benefiting followers, and followers in turn allow the leader to lead. Eric Hollander coined the term *idiosyncrasy credit* to describe a transaction in which leaders who initially conform to group norms and therefore serve the group well are subsequently rewarded by the group by being allowed to be idiosyncratic and innovative—key features of effective leadership.

One key transactional leadership theory is leader-member exchange (LMX) theory. Because leaders have to relate to many subordinates, they differentiate among them and develop different LMX relationships with different subordinates—the quality of these relationships range from those based on mutual trust, respect, and obligation (high-quality LMX relationships), to those mechanically based on the formal employment contract between leader and subordinate (low-quality relationships). Effective leadership rests

on the development of high-quality LMX relationships with as many subordinates as possible—these relationships motivate followers and bind them to the group.

### Transformational Leadership and Charisma

Leaders typically are innovative and able to mobilize followers to buy and implement their new vision for the group—they are transformational. Transformational leadership is characterized by (a) careful attention to followers' needs, abilities, and aspirations, (b) challenging followers' basic thinking, assumptions, and practices, and (c) exercise of charisma and inspiration. Charisma is central for transformational leadership (there is much talk about charismatic or visionary leaders and leadership), which has engaged a debate among scholars (a) about whether this is a return to older personality perspectives on leadership, and (b) about how one can distinguish between charisma in the service of evil (Slobodan Milošević) and charisma in the service of good (Nelson Mandela).

### Stereotypes of Leadership

According to leader categorization theory, people have stereotypical expectations (schemas) about the attributes an effective leader should have in general, or in specific leadership situations. Once a person categorizes someone as a leader, the person automatically engages the relevant leadership schema—the better the match is between the leader's actual characteristics and the leadership schema, the more favorable are the person's evaluations of the leader and his or her leadership.

Stereotypical expectations might affect leadership in two other ways. According to status characteristics theory, in a task-oriented group, a person's evaluations of effective leadership rest on whether he or she believes the leader has the attributes to perform the group task, called *specific status characteristics*, and whether the leader is a member of a high-status group in society and therefore possesses attributes that are valued in society, called *diffuse status characteristics*.

Role congruity theory focuses on gender and leadership. The argument is that stereotypes of women typically do not match well with schemas of effective leadership, and thus in many leadership situations, women find it difficult to be endorsed as effective

leaders. There is an incongruity between the attributes of the leadership role and the stereotypical attributes of women.

### Social Identity and Leadership

According to the social identity theory of leadership, a key function of leadership is to forge, transform, and consolidate one's identity as a group member—one's social identity. The implication of this is that if membership in a group is important to a person, particularly to his or her sense of self, the person is more likely to be influenced by a leader who matches his or her understanding of what the group stands for (a leader who is *prototypical* of the group) than by one who does not. Effective leadership in such groups rests significantly on being perceived by one's followers as being prototypical, even to the extent that general attributes of good leadership decline in importance. One reason why leaders who are prototypical members of subjectively important groups can be effective is that followers believe that because their identity and that of the group are closely matched, the leaders treat members fairly and must be acting in the best interest of the group, so they are therefore trusted and allowed to be innovative.

Michael A. Hogg

*See also* Attributions; Schemas; Social Identity Theory

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## LEARNED HELPLESSNESS

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What happens when people encounter obstacles in solving problems and are unable to avoid negative outcomes (e.g., academic failure, interpersonal rejection)? Will they persevere in trying to control the course of

events and invest more efforts in improving their performance or give up and withdraw from the frustrating situation? What are the consequences of this painful experience for a person's emotional state and psychological functioning? Dealing with these questions, hundreds of experimental studies, conducted during the 1970s and 1980s, have exposed people to inescapable failures in a wide variety of tasks and have found that participants apparently give up trying, passively succumb to the failure, and show performance deficits in a subsequent task. These responses, which reflect the emotional and behavioral interference produced by the inability to control undesirable life events, have been labeled "learned helplessness."

### Research

The first study of learned helplessness was conducted with dogs by Martin E. P. Seligman and Steven F. Maier in 1967. In this study, dogs were randomly divided into three groups. One group (the neutral group) received no electric shock. A second group (the escape group) received 64 electric shocks, which dogs could escape by pressing a panel located on either side of their heads. In the third group (the helplessness group), each dog received the same number and duration of shocks to those received by a dog in the escape group. However, whereas dogs in the escape group ended the shock by their own responses, dogs in the helplessness group could not control shock termination (which came only when the dog from the escape group delivered the required response).

Twenty-four hours later, all the dogs performed a new learning task (jump over a barrier to avoid electric shocks). Dogs in the helplessness group showed worse performance in the new task than dogs in both the escape and neutral groups. Specifically, dogs in the helplessness group seemed to accept the shock without any resistance and were unlikely to cross the barrier to escape from it. In addition, they were slow to learn to avoid the shock even when they discovered the contingency between barrier jumping and shock termination. Although they jumped over the barrier occasionally and in so doing stopped the shocks, they rarely jumped again on the next trial. Importantly, although dogs in the escape group were also exposed to aversive shocks, they showed no performance deficits in the new task. On this basis, Seligman and Maier concluded that lack of control rather than the mere exposure to aversive

events produced the performance deficits observed in the helplessness group.

In 1975, Donald Hiroto and Seligman extended the study of learned helplessness to humans. In their experiment, undergraduates performed a series of concept formation tasks. In each trial of these tasks, two different geometrical patterns, each composed of five attributes (e.g., shape, color), appeared on each side of a card. Participants were asked to try to figure out which of five attributes (e.g., a star-shape figure) the experimenter had arbitrarily designated as the target attribute. In each of the trials, participants indicated whether the target attribute appeared on the right or left side of the card, and the experimenter told them whether their choice was correct or not. After the 10th card, participants indicated what they thought the target attribute was and were told whether they succeeded or not to learn the concept.

During these tasks, participants were randomly divided into three groups. In the neutral group, participants performed no task and simply waited for the second part of the experiment. In the solvable group, participants received veridical feedback on each trial and at the end of the task. On this basis, participants could learn the target attribute and control the experimenter's feedback by their own responses. Participants in the third group, the unsolvable group, were exposed to uncontrollable feedback. For them, the experimenter did not select any attribute, instead providing a predetermined, random schedule of "correct" and "incorrect" responses during the trials. After the 10th trial, participants in this group were uniformly told that they failed to learn the target attribute.

Following the concept formation task, all the participants performed a new task in which they were asked to learn how to escape from an aversive noise. Findings revealed that participants in the unsolvable group were less likely to learn to escape from the noise than were participants in the solvable and neutral groups. According to Hiroto and Seligman, the exposure to unsolvable problems might have led people to develop expectancies that they have no available response or strategy for controlling outcomes and altering negative course of events. This expectation can be generalized to the subsequent task, thereby reducing motivation to undertake the new activity ("Why invest efforts in trying to solve a problem if I have no suitable response for solving it?") and interfering with task performance.

## Depression and Learned Helplessness

These initial findings were replicated in hundreds of subsequent studies and extended to a wide variety of tasks. The theoretical and empirical interest in the performance effects of unsolvable problems dramatically increased when Seligman claimed in 1975 that learned helplessness is a precursor of depression. That is, exposure to uncontrollable adverse circumstances and the resulting expectancy of lack of control can result in depression. According to Seligman, both people exposed to uncontrollable events and those suffering from depression show lowered response initiation, lack of assertiveness and aggression, loss of appetite, feelings of sadness and hopelessness, and extreme passivity. Moreover, several researchers have found similar performance deficits among nondepressed people exposed to unsolvable problems and depressed people exposed to solvable or no problems.

Originally, Seligman argued that the expectation of lack of control is the main psychological mechanism that explains performance deficits and depression following exposure to uncontrollable events. However, with the progress of research and theory, Lyn Abramson, Seligman, and John Teasdale claimed in 1978 that the attributions a person makes about the causes of the failure to control negative events can also explain why and when expectancies of lack of control result in generalized performance deficits and depression. If a person decides that failure is due to stable and global factors that can persist in the future and recur in other situations (e.g., intelligence), the expectancy of control tends to be generalized to new and different tasks and to result in global performance deficits. By contrast, if failure is explained by unstable and specific factors (e.g., tiredness), neither the expectation of uncontrollability nor performance deficits tend to be recorded in new situations. Moreover, if a person believes that failure is due to internal causes that reflect on his or her abilities and personality, expectancy of lack of control can result in depression (e.g., "I'm a failure"). In contrast, attribution of the failure to external causes (a difficult task, others' bad intentions) can result in anger and aggression rather than depression.

Beyond expectancies of control and causal attributions, subsequent studies have revealed the importance of other psychological mechanisms that can explain

the emergence of performance deficits and depression following exposure to uncontrollable events. For example, the perceived importance of the failure for one's goals and aspirations can moderate these effects, with higher personal relevance of the failure amplifying performance deficits and depression. The direction of attention toward one's feelings, thoughts, and inner states (*self-focus*) also amplifies the performance and emotional deficits produced by uncontrollable events. In addition, exposure to unsolvable problems elicits anxiety, worries, and doubts about one's personal value, which divert attention away from task-relevant activities and can impair task performance. Moreover, people may withdraw effort from the new task as a means to protect their personal value from further damage. Although this self-defeating decision results in performance deficits, people have a good excuse for the failure—poor performance was caused by lack of effort rather than lack of ability.

## Implications

In the 30 years since the work of Seligman and his colleagues, learned helplessness has become a thriving area of research and has been applied to understanding problems in school achievement; post-traumatic stress symptoms; the detrimental effects of the death of a beloved, chronic illnesses, and aging; and maladaptive reactions of battered women who decide to remain close to their abusive partners. In all these cases, the painful recognition that one has no control over the course and outcome of personal and interpersonal events can result in passivity, resignation, hopelessness, and loss of vigor to effectively cope with ongoing demands for adjustment and to restore one's emotional well-being.

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*See also* Depression; Locus of Control; Self-Defeating Behavior

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## LEARNING THEORY

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### Definition

The meaning of this term seems simple: Learning theory is the theory about how learning is achieved. Unfortunately, things are not that simple. A fundamental problem is that the term *learning theory* seems to suggest that there is a single, true theory of learning. Although one cannot exclude the possibility that such a theory might be developed, at present, nothing even comes close to the overarching learning theory. It is unlikely that such a theory will ever be formulated, if only because there are so many different types of learning. The next paragraphs will discuss two general types of learning: non-associative and associative learning. Afterward, this entry will focus on theories about associative learning because people often have these theories in mind when they use the term *learning theory*.

### Context and Importance

Different types of learning can be characterized on the basis of a number of criteria. One of those criteria is whether the change in behavior is caused by the mere repeated presentation of a single stimulus or event or because one stimulus or event is paired with another stimulus or event. These types of learning are called non-associative and associative learning, respectively. Non-associative learning is a fundamental type of learning that can be seen even in very simple organisms. But the mere fact of being exposed to a stimulus or event also has an important impact on human behavior. For instance, when you enter a room for the first time, you might pay attention to the ticking of the clock that is present in the room. But it is

likely that you will no longer notice the ticking of the clock after a while. So one possible effect of repeated presentation of a stimulus or event is that one habituates to it: One's initial reaction to the stimulus or event decreases in intensity because of the repeated presentation. But stimulus presentations can have a whole range of other effects. For instance, the first time that you hear a new song on the radio, you often don't like it as much as after you have heard it a few times. This shows that repeated stimulus presentation can change one's liking for the presented stimulus.

Associative learning can be defined as changes in behavior that are due to the repeated pairing of different stimuli or events. The term *conditioning* is basically a synonym for associative learning. There are two basic types of conditioning. First, Pavlovian or classical conditioning refers to a change in the reaction to a stimulus that is caused by this stimulus being paired with another stimulus. For instance, a dog might initially not react to the sound of a bell, but might start to salivate upon hearing the bell (i.e., change in behavior) when the ringing of the bell is paired repeatedly with the delivery of food (i.e., pairing two stimuli). Second, operant or instrumental conditioning refers to changes in behavior that are the result of a behavior being paired with a certain stimulus. For instance, rats will press a lever more frequently (i.e., change in behavior) if that behavior is followed by the delivery of food (i.e., pairing of the behavior and a stimulus). The main difference between the two forms of conditioning is that the animal or person does not have any control over the events in Pavlovian conditioning (e.g., the bell and food are paired no matter what the dog does) but does have an impact on the events in operant conditioning (e.g., the food is presented only if the rat presses the lever).

For most of the 20th century, behaviorist theories dominated research on conditioning. These theories postulated that conditioning occurs in an automatic, unconscious way and does not involve any cognitive processes. This long-standing dominance of behaviorist theories has led to a tendency to use the term *learning theory* to refer to these theories. But use of the term *learning theory* is problematic. First, the behaviorist theories focused mainly on associative forms of learning and not on other forms. Hence, none of these theories provides a theory of all forms of learning. Second, behaviorist theories cannot account for a wide variety of findings in research on conditioning.

Since the end of the 1960s, it is clear that cognitive processes do play an important role in conditioning. For instance, ample evidence indicates that conditioning in humans depends heavily on whether the person is aware of the link between the associated events (e.g., the fact that the bell always precedes food). In fact, there is little evidence for automatic, unconscious conditioning in humans.

### Implications

Some have concluded, on the basis of these results, that conditioning does not occur in humans and that learning theory does not apply to humans. But conditioning does occur in humans because the behavior of people changes as the result of pairing two stimuli or a behavior and a stimulus. For instance, people do stop at railway crossings because they have learned that the flickering of the lights will be followed by the arrival of a train. Likewise, they will often start to dislike a certain food when eating that food was followed by nausea. It remains useful to see these associatively induced changes in behavior as forms of conditioning because this provides a framework for studying and understanding these behaviors. Which processes (i.e., automatic or controlled) are involved in conditioning is an important question. Probably several types of processes can play a role under certain conditions. But this question needs to be answered by research rather than by claiming that conditioning is only conditioning if it is the result of certain (i.e., automatic and unconscious) processes. Because of these potential dangers, it seems best to avoid using the term *learning theory* unless one specifies which specific theory one has in mind.

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*See also* Attention; Controlled Processes; Mere Exposure Effect

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## LISREL

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### Definition

LISREL (LInear Structural RELations modeling) was one of the first statistical computer packages used for structural equation modeling. Created by Karl Jöreskog and Dag Sörbom, it remains one of the most popular programs for such analyses, although numerous other programs exist, including EQS, Proc Calis within SAS, and Amos. As with all structural modeling programs, LISREL provides an extremely powerful and flexible way to analyze complex data.

LISREL essentially assesses the extent to which theorized relations between variables are consistent with observed relations between those variables. The researcher begins by theorizing how a set of variables should be related to each other. For example, he or she might theorize that many measured variables (e.g., a verbal test, math test, reaction time test) all relate to a single underlying construct of generalized intelligence (IQ). This is an example of a “latent variable model.” IQ is not measured directly; rather, its existence is inferred because a variety of measured or “observed” variables (the various tests) are themselves highly related to each other. If the researcher collects the data and the measured tests are not all highly related to each other, a model that assumes a single latent variable may not “fit” the observed data. LISREL provides the researcher with specific, quantitative estimates of the extent to which the theorized model fits the observed data.

Popular uses of LISREL include tests for the presence of a single latent variable, multiple latent variables, and even latent variables that are nested hierarchically. A model that tests only for the presence of latent variables is often referred to as a “confirmatory factor model.” Other common uses of LISREL include tests of models in which the researcher theorizes a chain of direct and indirect influences among variables. The variables included in such a “path” model can be either observed or latent variables or a mixture of the two. They may all be measured at a single point in time or involve multiple time-points. Indeed, structural modeling programs like LISREL are often used to analyze longitudinal data.

When analyzing data using LISREL, the researcher is provided a variety of statistics that are useful in

determining how well or poorly the model fits the observed data. These include statistics for individually theorized associations among variables as well as statistics that assess the model as a whole. In addition, the researcher is provided statistics that pinpoint sources of ill fit. Armed with these statistics, the researcher is often tempted to modify the originally theorized model in an attempt to provide a better fitting model. Although such modifications will improve fit, they run the risk of capitalizing on chance fluctuations in the data and should be replicated in a separate sample before they are trusted.

LISREL and other structural equation modeling programs provide powerful tools for testing complex models of psychological phenomena. At the same time, they require a fair amount of mathematical ability and statistical sophistication to use properly.

Jay Hull

*See also* Structural Equation Modeling

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## LOCUS OF CONTROL

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Who determines one's fate? Is it the person or outside forces beyond the person's control? This question lies at the root of the concept of locus of control. People who believe they are in control of their destinies have an internal locus of control (internals). Those who believe that luck and powerful others determine their fate have an external locus of control (externals).

### Measurements

Locus of control is usually measured by questionnaires, just as personality traits are; however, locus of

control is more an attitude than a trait—it measures how one thinks the world works. Some researchers have called locus of control a *generalized expectancy*—in other words, a person's usual expectation about how things work.

One of the first locus of control measures was Julian Rotter's Internal-External Locus of Control Scale, first published in 1966 and used in thousands of articles. Rotter's measure consists of 23 forced-choice pairs; the respondent must choose one of the two statements, one internally oriented and the other externally oriented. For example, one of the pairs is "People's misfortunes result from the mistakes they make" (internal) versus "Many of the unhappy things in people's lives are partly due to bad luck" (external). Most items are general, though a few deal with specific circumstances such as school ("In the case of the well-prepared student there is rarely if ever such a thing as an unfair test") or world affairs ("By taking an active part in political and social affairs, the people can control world events"). These are both internal items.

The most popular measure of locus of control in children is the Children's Nowicki-Strickland Internal-External Control Scale. Other scales measure more specialized aspects of control; there has been an especially large amount of research on health locus of control. Several scales (of both general and health locus of control) are multidimensional, as many researchers agree that external control should be divided into control by fate or chance and control by powerful others.

### Research

Research has consistently shown that externality is related to negative outcomes. Externals report lower subjective well-being, are more likely to be depressed, display more anxiety, and cope poorly with stress. Externals have weakened self-control and a lessened ability to delay gratification (meaning that they have a difficult time choosing long-term gains over short-term pleasures, something necessary for many life situations, particularly college!)

Externals also consistently achieve less in school, as shown in two meta-analyses and numerous individual studies. A widely publicized report by James Coleman and his colleagues concluded that internal locus of control was a better predictor of school achievement in minority children than any other variable. Children with an internal locus of control see

more reason to study and try hard because they believe it will make a difference; externals believe that it won't matter, compromising their performance.

Several studies have also linked externality to increased juvenile delinquency. Externality may also lead to a victim mentality, in which people blame others for their problems. Some authors have argued that the victim mentality encourages self-loathing and the expectation of low functioning and achievement.

Externality on health locus of control also leads to negative outcomes such as decreased success in stopping smoking or losing weight. People who are external in locus of control are also less likely to make and keep dentist and doctor appointments; they are also less likely to use birth control consistently. People who truly believe that fate controls everything are less likely to take control of their health.

## Differences

Locus of control differs along many dimensions. Men tend to be more internal than women, Whites more internal than minorities, middle-class people more internal than lower-class people, and older people more internal than younger people. These four results suggest that people with more power are more internal.

Locus of control also differs by generation: More recent generations are more external and thus more likely to believe that outside forces determine their fates. This generational shift is so large that the average college student in the 2000s would score at the 80th percentile on the original 1960 distribution (where, of course, the average 1960s college student would score at the 50th percentile). This increase in externality may be at the root of some current trends, such as blaming others for problems. For example, civil lawsuits are more common, and there is anecdotal evidence that students (and their parents) are now more likely to argue with teachers and professors. Externality may also help explain the high rates of anxiety and depression observed in recent years. Many young people are also disinclined to get involved in political action or even vote; voter participation has steadily declined over this period, especially for voters ages 18 to 24.

There are also cultural differences in locus of control. Members of more interdependent and traditional cultures often have a more external locus of control. Stricter adherence to social and religious rules may encourage externality. There has been debate about

whether externality may be adaptive in some cases. Many researchers believe that externality is a negative characteristic because it is correlated with poor outcomes. However, other researchers have pointed out that in reality, control is sometimes an illusion and there are some things that people must accept as being out of their control.

*Jean M. Twenge*

*See also* Achievement Motivation; Blaming the Victim; Control; Illusion of Control; Power; Self-Defeating Behavior

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# LOGICAL POSITIVISM

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## Definition

Logical positivism, also called logical empiricism, was an early 20th-century philosophical movement that held that a statement was meaningful only if it could be verified or confirmed through experience. Logical positivism relied exclusively on observable events for knowledge about the world, and therefore considered non-observable events to be basically meaningless. In other words, the only truth is what science can prove.

## History, Problems, and Modern Significance

A. E. Blumberg and Herbert Feigl coined the term *logical positivism* in 1931 to describe the philosophical principles of the Vienna Circle, a group of European scholars. Logical positivists rejected philosophical inquiries on the grounds that there was no possible way of verifying them in experience. For example, the statement “abortion is wrong” reflects

a person's disapproval of abortion, or attempts to convince others to also disapprove of abortion. In either case, the statement itself does not convey any direct information about the existence or nature of abortion, and is therefore (according to logical positivism) meaningless (e.g., what you think about abortion does not really matter because it is just your opinion). Logical positivists consequently proposed science to be the source for all knowledge about the world because science is grounded in concrete experience and publicly observable events (unlike, for instance, observations gained from introspection). If propositions were inextricably tied to science, logical positivists argued, they could not be too far from the truth.

Logical positivism collapsed in the 1940s, largely because of the sharpness of its inevitably created yes-or-no dichotomies: Either a statement is verifiable or it is not, either a statement is scientific or unscientific. Ironically, this created severe problems because such statements themselves cannot be conclusively verified. Moreover, basing all conclusions on directly observable data creates problems as well. For example, a person with a headache might complain of pain, lie down, or take aspirin. However, someone faking a headache might objectively exhibit the same overt symptoms. A pure reliance on the observable data would presumably lead to the errant conclusion that both people have headaches, when only one actually does.

Problems notwithstanding, logical positivism has nonetheless left its mark on psychology. The behaviorists in particular quite enthusiastically adopted the premise that scientists should study behavior rather than thought. Most importantly, logical positivism helped endow psychology with the enduring sentiment that one can transform complex propositions about cognitive phenomena into scientifically testable hypotheses about overt behavior and do so in a way that other researchers—and ideally the general public—can clearly understand the results.

*Scott J. Moeller  
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*See also* Experimentation; Lay Epistemics

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## LONELINESS

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### Definition

Loneliness is defined as the distressing experience that occurs when one's social relationships are perceived to be less in quantity, and especially in quality, than desired. Being alone and experiencing loneliness are not the same thing. People can be alone without feeling lonely and can feel lonely even when with other people. Loneliness is associated with depressive symptoms, poor social support, neuroticism, and introversion, but loneliness is not synonymous with these psychological characteristics. Loneliness is typically thought of as a stable trait, with individual differences in the set-point for feelings of loneliness about which people fluctuate depending on the specific circumstances in which they find themselves. Loneliness changes very little during adulthood until 75 to 80 years of age when it increases somewhat. Loneliness puts people at risk for mental and physical disease and may contribute to a shortened life span.

### History and Theory

Although loneliness has always been part of human existence, it has a relatively short psychological history. John Bowlby's attachment theory emphasized the importance of a good attachment bond between the infant and caregiver, and this theory was a forerunner to theories of loneliness. From this perspective, loneliness is the result of insecure attachment patterns that lead children to behave in ways that result in being rejected by their peers. Rejection experiences hinder the development of social skills and increase distrust of other people, thereby fostering ongoing loneliness.

Attachment theory formed a foundation for an influential psychological theory of loneliness developed by Robert S. Weiss. Weiss identified six functions or needs of social relationships that, if in short supply, contribute to feelings of loneliness. These needs are attachment, social integration, nurturance, reassurance of worth, sense of reliable alliance, and guidance in stressful situations. Weiss went on to distinguish loneliness from social isolation (e.g., a lack of social integration) and loneliness from emotional isolation (e.g., the absence of a reliable attachment figure). As would be predicted by attachment theory, Weiss maintained that friendships complement but do not

substitute for a close, intimate relationship with a partner in staving off loneliness. Widows who remarry have been found to escape from loneliness, but those who merely have other friends still feel somewhat lonely about not having a husband.

Another theoretical perspective holds that loneliness is characterized by personality traits that are associated with, and possibly contribute to, harmful interpersonal behavioral patterns. For instance, loneliness is correlated with social anxiety, social inhibition (shyness), sadness, hostility, distrust, and low self-esteem, characteristics that hamper one's ability to interact in skillful and rewarding ways. Indeed, lonely individuals have been shown to have difficulty forming and maintaining meaningful relationships. They are also less likely to self-disclose to peers, and this helps to explain why they report a lack of intimacy with close friends.

The cognitive approach to loneliness is based on the fact that loneliness is characterized by distinct differences in perceptions and attributions. Lonely individuals tend to look at their world through dark-tinted glasses: They are more negative than are nonlonely individuals about the people, events, and circumstances in their world, and they tend to blame themselves for not being able to achieve satisfactory social relationships. The "perceived discrepancy" definition of loneliness provided previously represents the cognitive perspective. In addition, the cognitive approach largely takes account of the attachment and behavioral perspectives by explaining how (a) failure to meet the need for attachment, social integration, nurturance, and other social needs, results in perceived relationship discrepancies that are experienced as loneliness, and (b) loneliness is perpetuated by way of a self-fulfilling prophecy in which poor social skills result in unsatisfactory personal relationships that, in turn, result in negative self-attributions that lead to further social isolation and relationship dissatisfaction.

Theories of the self have contributed to theories of loneliness by demonstrating the importance of individual, relational, and collective selves. These self-identities correspond to aspects of the experience of loneliness or conversely, the experience of connectedness. For example, at the individual level, if a person's self-concept expands to include an intimate other (e.g., a marital partner), the person is less likely to experience a sense of isolation than if his or her self-concept fails to include his or her partner. Similarly, a network of close friends and relatives protects against

relational loneliness, and group affiliations and memberships protect against collective loneliness.

All these theories of loneliness fit under the umbrella of an evolutionary account of loneliness. According to the evolutionary model, hunter-gatherers who, in times of famine, chose not to return to share their food with mother and child (i.e., did not place a high priority on maintaining social or family bonds) may have survived themselves, but the same genes that allowed them to ignore their family also made it less likely their genes would survive past the child's generation. In contrast, hunter-gatherers inclined to share food with their family may have lowered their own chances of survival but increased the survival odds of their offspring, thereby propagating their genes. Of course, a hunter-gatherer who survives a famine may then live to have another family another day, suggesting that no single strategy is necessarily best. Such an evolutionary scenario suggests that humans might inherit differing tendencies to experience loneliness. Adoption and twin studies among children and adults have confirmed that loneliness has a sizable heritable component.

## Correlates and Consequences

Practically and ethically, loneliness cannot be easily manipulated in an experimental setting. This has posed a challenge to researchers attempting to distinguish between the causes and consequences of loneliness. One creative approach to this obstacle was a paradigm that employed hypnotic suggestion. Using this strategy, highly hypnotizable individuals were asked to relive a time when they felt lonely, and after return from this hypnotic state, to relive a time when they felt highly socially connected. While in these states of social disconnection and connection, participants completed a set of psychosocial measures. The results showed that the states and dispositions that differentiate lonely and nonlonely individuals in everyday life also varied with manipulated feelings of loneliness. That is, when participants were induced to feel lonely, compared with nonlonely, they scored higher, not only on a measure of loneliness, but also in shyness, negative mood, anger, anxiety, and fear of negative evaluation, and lower on measures of social skills, optimism, positive mood, social support, and self-esteem. Conversely, when individuals were induced to feel that their intimate, relational, and collective social needs were being met, they became characterized by states

and dispositions that were generally more positive and engaged. This experimental study suggests that loneliness has features of a central trait—central in the sense that loneliness influences how individuals construe themselves and others, as well as how others view and act toward these individuals.

One example of differential construals is that lonely individuals form more negative social impressions and interpret the behavior of others in a more negative light than do nonlonely individuals. Negative social expectations tend to elicit behaviors from others that match these expectations. This reinforces the lonely individual's expectations and increases the likelihood that the individual will behave in ways that push away the very people who could satisfy his or her social needs. This has been demonstrated in experimental studies in which perceived social threats (e.g., competition, betrayal) cause lonely individuals to respond more quickly and intensely with distrust, hostility, and intolerance.

The negative, self-protective lens through which lonely individuals view their social world also influences how they interpret and cope with stressful circumstances. Lonely individuals are more likely to disengage or withdraw from stressors, whereas nonlonely individuals are more likely to actively cope (e.g., problem solve) and seek tangible and emotional support from others. Passively coping or withdrawing from stressful circumstances is reasonable in certain instances, but when applied generally to everyday hassles, it can lead to an accumulation of stress that becomes increasingly taxing and oppressive. Increased stress may be at least partially responsible for the risk of mental and physical disease in lonely individuals. For instance, loneliness has been associated with elevated levels of stress hormones, poorer immune functioning, and health-jeopardizing changes in cardiovascular functioning.

### Individual Differences

Individual differences in loneliness are typically measured using paper-and-pencil questionnaires developed for this purpose. The most frequently used instrument is the UCLA Loneliness Scale, first developed at the University of California at Los Angeles by Daniel Russell and his colleagues. Responses to the 20 items on this scale provide an overall measure of loneliness along a continuum from low to high levels

of loneliness. Other loneliness scales have been designed to measure different dimensions of loneliness (e.g., social and emotional loneliness). Some individuals are reluctant or ashamed to report they are lonely, so most loneliness scales avoid using the terms *lonely* and *loneliness*.

*Louise Hawkley*

*See also* Attachment Theory; Need to Belong; Rejection; Self

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## LOOKING-GLASS SELF

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### Definition

The looking-glass self is the process by which people evaluate themselves based on how others see them. According to this theory, people first imagine how they appear to others. Second, they imagine how others judge them based on that appearance. Third, people have an emotional reaction to that imagined judgment, such as pride or embarrassment. This self-evaluation influences the person's sense of self-worth or self-esteem. In short, the looking-glass self theory suggests that we come to know ourselves by reflecting on how others see us.

### History and Modern Usage

The looking-glass self was first proposed by Charles Horton Cooley. According to Cooley, self-perceptions are based on reflected appraisals of how others see us (i.e., our impression of others' impressions of us), which are in turn based on how others actually see us.

The looking-glass self theory is controversial for two reasons. First, this view supposes that people have a good idea of how significant others see them. Psychological research reveals that people's beliefs

about how others see them are not very accurate. Indeed, our reflected appraisals of how we think others see us are much more closely related to how we see ourselves than to how others see us. Some researchers have argued that this evidence implies that the looking-glass self theory is actually backward—it could be that people simply assume others see them the same way they see themselves.

The second reason why the looking-glass self theory is controversial is that other theories of self-perception provide alternative explanations for how people form their self-views. For example, self-perception theory claims that self-views are based on direct observations of one's own behavior, rather than on how we imagine others see us. Nevertheless, our impressions of what others think of us are extremely important to us. People go to great lengths to obtain feedback about how others see them, such as posting their photographs on a Web site where others will rate their attractiveness. Some researchers have even proposed that the main purpose of self-esteem is to serve as an internal “sociometer”—a gauge of our relative popularity or worth among our peers.

Some evidence indicates that people's reflected appraisals of how others see them influence their self-views and their behavior, particularly in close relationships. Research on romantic relationships suggests that our reflected appraisals of how our partners see us may be particularly important in this context. This is especially true for people who have doubts about how their partner feels about them. People with negative impressions of how their partner sees them tend to cause strain and dissatisfaction in their relationships.

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*See also* Person Perception; Self; Self-Concept; Self-Perception Theory; Symbolic Interactionism

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## LOSS AVERSION

### Definition

Loss aversion refers to people's tendency to prefer avoiding losses to acquiring gains of equal magnitude. In other words, the value people place on avoiding a certain loss is higher than the value of acquiring a gain of equal size. Consider, for instance, the subjective value of avoiding a loss of \$10 compared with gaining \$10. Usually, people say that the former has a higher value to them than the latter. Such a preference seems striking, given that, objectively, \$10 is \$10, regardless whether it is lost or gained. Nevertheless, the aversion toward incurring losses is a strong and reliable effect, and the value of avoiding a loss is usually twice as high as the value of acquiring an equivalent gain.

### Theoretical Explanation

Loss aversion can be explained by the way people view the value of consequences. Specifically, the value of a certain consequence is not seen in terms of its absolute magnitude but in terms of changes compared with a reference point. This reference point is variable and can be, for example, the status quo. Starting from this reference point, every increase in a good is seen as a gain, and the value of this gain rises with its size. Importantly, this rise does not follow a linear trend but grows more slowly with ever-increasing size. Contrarily, starting from the reference point, every decrease is seen as a loss. Now, the value is negative and decreases with the size of the loss. This decrease also slows down with ever-decreasing size, however, not as fast as on the gain side. Therefore, a gain does not increase subjective value at the same rate as a loss of the same size decreases subjective value. Given that individuals are assumed to maximize subjective value, they should express a preference for avoiding the loss. Hence, as suggested in the beginning, people usually prefer avoiding a loss of \$10 compared with ensuring a gain of equal size. In general, this may be because bad events have a greater power over people than good events.

### Background and History

Daniel Kahneman and Amos Tversky were first to fully recognize the importance of the loss aversion

phenomenon for a better understanding of human decision making. They made loss aversion a central part of their prospect theory, which explains human decision making in situations when outcomes are uncertain. Of importance, the idea of different values for equivalent gains and losses strongly contradicted the assumptions held so far in classic theories of decision making; namely, that gains and losses of the same size should have the same value for people. However, as abundant empirical evidence in favor of the loss aversion phenomenon demonstrated, the grief of losing is stronger than the pleasure of gaining.

In subsequent research on the phenomenon of loss aversion, the effect was demonstrated in many domains, including, for example, economic, medical, and social decision making. In addition, it was shown that loss aversion is not limited to decisions under uncertainty but also occurs in situations in which the outcomes of alternatives are certain.

### Implications

A prominent implication of loss aversion in decisions with uncertain outcomes is a shift from risk-averse to risk-seeking behavior depending on whether a situation is framed as a gain or as a loss. Given that reference points are not fixed but depend on the specific situation, two alternatives that are equivalent from the standpoint of rational decision making (receiving \$10 versus not losing \$10) can result in different choices if one of the decisions is seen in the context of gains and the other in the context of losses. Consider the so-called Asian Disease Problem with which Kahneman and Tversky confronted participants in an experiment. In this problem, participants were told about a hypothetical outbreak of an unusual Asian disease threatening to kill 600 people in the United States. Participants had to choose between two alternatives to counteract this disease. One alternative was risky, saving all 600 people with a probability of one-third but otherwise all 600 people would be killed. In the other alternative, 200 people were saved and 400 were killed. If this problem was presented in a gain frame by mentioning how many lives in each alternative could be *saved*, most participants avoided risk and opted for the certain option. But if the problem was presented in a loss frame by mentioning how many people could *die* in each alternative, participants opted for the risky alternative. This puzzling result can be explained by loss aversion. The higher value of avoiding losses compared with gains makes the one-third probability of

nobody getting killed much more attractive in the loss frame than it is in the gain frame (framed as saving 600 lives). Consistent with the assumptions of the prospect theory, people seem to avoid risk in gain frames while seeking risk in loss frames.

Other implications of loss aversion occur for decisions with certain outcomes. One of these implications is the status quo bias. This is the tendency to remain at the status quo because the disadvantages of changing something loom larger than the advantages of doing so. The mere ownership effect (also called endowment effect) is a related phenomenon also explained by the differences in the value of losses and gains. Here, the mere possession of an object makes it more valuable to a person relative to objects the person does not own and to the value the person would have assigned to the object before possessing it. This is because giving the object away means a loss to the person, and following the loss aversion phenomenon, losses weigh more heavily than gains. The compensation for giving up a good, therefore, is usually higher than the price the person would pay for it to possess it (which would mean to gain it). Both the status quo bias and the endowment effect have strong implications for economic and social situations.

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*See also* Bad Is Stronger Than Good; Mere Ownership Effect; Prospect Theory

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## LOST LETTER TECHNIQUE

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### Definition

The lost letter technique is used to measure people's attitudes by dropping stamped letters addressed to various organizations in public areas and then recording

how many of the letters are returned via the mail. It is assumed that people will be more likely to return a letter if it is addressed to an organization that they support than if it is addressed to an organization they do not support. For example, a Democrat who finds a lost letter should be more likely to mail it when it is addressed to a Democratic candidate's headquarters than to a Republican candidate's headquarters.

### History and Modern Usage

In one of the first studies to use the lost letter technique, Stanley Milgram and his colleagues dropped stamped letters in a variety of public locations. The letters were addressed to one of four recipients: "Medical Research Associates," "Friends of the Communist Party," "Friends of the Nazi Party," or a private individual. People were less likely to return the letters if they were addressed to the Communist Party (25% returned) or the Nazi Party (25% returned) than if they were addressed to the Medical group (72% returned) or the private individual (71% returned). These results suggest that people were less likely to mail letters to organizations they did not support.

To verify that the response rates reflected people's attitudes, Milgram conducted additional studies. In one study, the researchers were able to correctly predict U.S. presidential election results in different election wards using the lost letter technique. Letters addressed to the Committee to (a) Elect (Barry) Goldwater, (b) Defeat Goldwater, (c) Elect (Lyndon) Johnson, and (d) Defeat Johnson were dropped in various election wards. Election wards that supported Johnson in the election were more likely to return the pro-Johnson and anti-Goldwater letters than the pro-Goldwater/anti-Johnson letters. The opposite results were found in wards that ended up supporting Goldwater in the election.

Later researchers have used the lost letter technique to study helping behavior. By varying the characteristics of the letters, researchers can identify the factors that increase the chances that people will help by mailing the letter. Some of these studies have used post cards and e-mails instead of sealed letters. This modification has allowed researchers to determine the impact of the type of message on helping behavior.

The lost letter technique allows researchers to determine people's attitudes or the factors that influence helping behavior without directly asking them (known as an unobtrusive measure). Because participants are unaware that they are participating in a

study, they will not alter their behavior to "look good" for the experimenter.

Pamela L. Bacon

*See also* Altruism; Attitudes; Helping Behavior; Research Methods

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## LOVE

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### Definition

Love is often thought of as an intense and positive emotion that can be experienced for a variety of close others, including a romantic partner or spouse, close friends, children, parents, and other relatives. For more than three decades, social psychologists and other social scientists have been studying love. The type of love that has been most frequently measured and studied is the love experienced for a romantic partner. However, when social scientists began measuring love, they realized that there were many different types or subtypes, even in regard to a romantic partner.

### Types

An initial distinction was made between *liking* and *love*. One of the first psychologists to study love, Zick Rubin, discovered that people could distinguish between attitude statements that measured liking (items that referred to respect, positive evaluation, and perceptions of similarity) and attitude statements that measured love (items that referred to dependency, caring, and exclusiveness). His liking and love scales have been used in several research studies that have generated a number of interesting findings including (1) liking and loving are only modestly associated; (2) those who have higher scores on the love scale spend more time eye-gazing with their partner; and (3) higher scores on love are predictive of staying together over time.

Social psychologists next distinguished between various types of love. The first distinction was between *passionate love* and *companionate love*. Passionate love is intense, exciting, and has the potential for both ecstasy (when things are going well) and despair (when things are not going well). Companionate love, however, is less intense and is referred to as affection that develops between two people whose lives are intertwined. Research suggests that in most dating and newly married relationships, both types of love exist. Passionate love tends to develop first, although it is also likely to dissipate first over time. Companionate love may take longer to develop but is likely to remain stable and not erode with the passage of time. Passionate love, as the more intense type of love, may sometimes increase because of misattribution of arousal. A person can become aroused because of an extraneous source such as consumption of caffeine or a frightful experience and then mistakenly attribute the arousal to passionate love for another, especially if the other is physically attractive. Although passionate love declines over years of marriage, research has revealed that if couples engage in exciting and novel activities together, the passion can be rekindled.

In a more recent typology, six types or styles of loving have been identified. These are *eros* (intense, passionate love), *ludus* (game-playing love), *storge* (friendship love), *pragma* (practical love), *mania* (obsessive, dependent love) and *agape* (selfless love). These love styles may be considered to be attitudes or orientations toward a particular person (e.g., a romantic partner) but also may be considered to be stable orientations toward relationships. For example, some people may be thought of as erotic lovers, likely to experience this particular style of love regardless of the partner. However, people's lovestyle experiences also may change as a function of the partner's style of loving and how he or she behaves toward the other partner. The two types of love that are experienced to the greatest degree, especially among young adults, are *eros* and *storge*. In fact, most romantic relationships may have a combination of these two types of love. People experience a low level of *ludus*, which is good because this type of love does not lead to healthy and long-lasting relationships. Consistent gender differences have been found in the experience of love styles. *Ludus* is experienced to a greater degree by men than by women, and *storge* and *pragma* are experienced to a greater degree by women.

Love also has been described as a triangle, having three primary components: *intimacy*, *passion*, and *commitment* (pictorially presented as a triangle). Each component (triangle side) can range from low to high so that a number of different triangle shapes and sizes are possible. Intimacy refers to warmth, understanding, caring, support, and connection. Passion is characterized by physical attraction and arousal. Commitment refers to the decision to stay in the relationship and maintain it. The triangular model of love yields eight different love types ranging from nonlove (no intimacy, no passion, and no commitment) to consummate love (high on all three components). Romantic love, often experienced in young college romances, includes intimacy and passion but rarely includes long-term commitment. An empty-shell marriage has commitment, but may no longer have passion or intimacy.

Researchers have identified many other types of loving, including unrequited love (in which one loves another but isn't loved back), limerence (an intense dependent type of love), lust, and friendship love. Although most social scientific research has focused on love for one specific person, typically a romantic partner, love can also be experienced for pets, God, strangers, and all of humanity. Compassionate love, for example, is the type of love that focuses on selfless caring for others, especially those who are in need or distressed. It's similar to empathy but more enduring. Some nonprofit organizations, such as the Fetzer Institute located in Kalamazoo, Michigan, have recently become interested in promoting scientific study on compassionate love. The hope is that the more that can be learned about this type of love, including love as expressed for all of humanity, the more likely researchers can identify ways to increase it.

### Attitudes About Love

Social scientists also have been interested in examining people's attitudes about love. How important do people believe love is for entering and maintaining marriage (i.e., do love and marriage go together?) Do people believe that love is necessary to have premarital sex? What are people's romantic attitudes about love? For example, do they believe in love at first sight and that love conquers all? These beliefs are important to study for many reasons, including that the attitudes and beliefs people have will affect their behaviors. Survey studies indicate that most young adults believe

that one should not enter marriage without love. The disappearance of love from marriage over time is thought to be a sufficient reason for a divorce by most people. Although some young adults indicate that they believe that sex is okay in a casual relationship and even in a “hook-up,” most young adults and especially women and female adolescents believe that love and affection are necessary for premarital sexual activity. Finally, young adults have many romantic beliefs about love, including that if you love someone, other obstacles can be overcome and a love partner and relationship can be perfect. These beliefs have sometimes been referred to as *positive illusions* and have been found to be good for relationships because they contribute to people engaging in actions that lead to positive events in the relationship.

### Falling in Love

Many people can remember the first time they had an upsurge of affection for another and may have labeled this turning point in the relationship “falling in love.” Researchers have identified the factors that lead to initial attraction as well as falling in love. People report that they fall in love because of desirable characteristics of the other (e.g., kindness, physical attractiveness) and because the other expresses attraction toward them, such as through eye contact. Falling in love can lead to an increased feeling of self-worth, at least in the initial stage and especially if it’s reciprocated.

### Determinants of Love

Researchers also have tried to identify the factors that make love grow over time or at least not decrease. The most common way of studying determinants of love is to survey individuals about their relationship and have them complete a scale to measure how much they love their partners, and then also have them complete measures on several factors that are predicted to be associated with love. A design that follows the relationships over time is more useful than data at only one point in time for determining causal directions. Research has indicated that feelings of love are associated with factors such as self-disclosure, equity (fair exchange of resources), frequent and satisfying sex, and positive beliefs about the relationship. Research done by Diane Felmlee and Susan Sprecher also indicates that love increases when parents and friends support the

relationship. Each of these factors that have been identified as determinants of love, however, also can be consequences of love. That is, when people feel more love, their self-disclosure, sex, fair exchange, and attempts to seek support from family and friends for the relationship may increase.

### Implications

Love is important to relationships, to individuals, and to society. Relationships that are loving are more likely to be satisfying and last over time. Individuals who experience love and support by others and also feel love for others are more likely to have high levels of mental and physical health. Society also benefits from people forming loving connections with each other. Love leads to reproduction (and replacement of members in a society), familial relationships for the raising of children to adulthood, and humanitarian efforts toward others. Social psychological investigation has helped significantly to expand the knowledge regarding the multidimensional nature of this important concept of love, as well as the attitudes associated with it. The scientific community and society has much to gain from the continued investigation of this pivotal and central human emotion.

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*See also* Companionate Love; Emotion; Intimacy; Positive Illusions; Romantic Love; Triangular Theory of Love

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## LOWBALLING

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### Definition

Lowballing is a strategy to increase compliance. In lowballing, the person making a request gets another person (i.e., the target of compliance) to make a commitment to a particular course of action. After making that commitment, the requester reveals hidden costs associated with the requested course of action. The target of compliance is then more likely to follow through with the request (i.e., to comply) than if the hidden costs had been revealed at the time of the initial request.

### Examples

Car salespeople have been observed using the lowball strategy to increase the likelihood that the customer will purchase a car. In this situation, the salesperson negotiates with the customer to arrive at a sales price that the customer feels is a good deal. After the customer commits to that price (e.g., via oral agreement, signing paperwork, putting money down), the salesperson takes the agreement to the manager for approval. Upon returning, the salesperson indicates that the manager will only approve a purchase price of \$500 more than the previously agreed-upon price. Because the customer initially made a commitment to purchase the car, he or she is likely to follow through on the purchase, even though it is no longer that good of a deal. In this scenario, the initial price was a lowball offer, which the salesperson never intended to honor.

Lowballing also occurs in nonsales situations. For example, a professor asks students to help move boxes of books from the office building to the library. After the students agree, the professor reveals that the students must arrive on campus at 7:30 A.M. to help. Because the students have already agreed to help the

professor, they are more likely to follow through than if they had initially been asked to help early in the morning.

### The Importance of Commitment

The lowballing effect depends on the target of compliance making a public commitment to the initial request. For several reasons, it is difficult for the target of compliance to back out of the commitment. First, the target of the lowball feels a commitment to the person who made the request (e.g., the customer “made a deal” with the salesperson). Second, the target feels a commitment to the course of action involved (e.g., the customer made a commitment to buy a car). And finally, once the target has made the commitment, he or she becomes excited about the prospect of the course of action involved (e.g., while the salesperson “discusses the offer with the manager,” the customer envisions driving home in the new car). Given these forms of commitment, the customer is likely to follow through with the behavior, even though it is more costly than the original commitment (e.g., the customer buys the car even though the actual purchase price is higher than the initial agreement).

Research suggests that the lowballing technique is robust, in that it remains effective even when the targets of compliance are aware of the strategy and its effectiveness.

*Kathryn A. Morris*

*See also* Compliance; Foot-in-the-Door Technique; Influence

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# M

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## MARITAL SATISFACTION

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### **Definition**

Marital satisfaction is a mental state that reflects the perceived benefits and costs of marriage to a particular person. The more costs a marriage partner inflicts on a person, the less satisfied one generally is with the marriage and with the marriage partner. Similarly, the greater the perceived benefits are, the more satisfied one is with the marriage and with the marriage partner.

### **Components and Mechanisms**

#### ***Cognition***

In perceiving whether a spouse's behavior is costly or beneficial, cognitions, or thoughts about the behavior, are important. If one's spouse performs a negative (costly) behavior, this may be attributed either to characteristics of the spouse (for example, he or she is lazy), or instead to circumstances surrounding the spouse's behavior (for example, it was an especially taxing day at work, and he or she doesn't feel like making dinner). In the case of marital satisfaction, attributing costly behavior to characteristics of one's spouse, rather than to circumstances surrounding his or her behavior, is associated with decreased marital satisfaction, as well as marital deterioration. These maladaptive attributions occur more often with negative behaviors in marital problem-solving discussions, and these attributions do not appear to be a result of either partner being depressed, having a neurotic personality, or tending toward physical aggression. The way

people interpret behavior appears to be related to how satisfied they are with their marriage.

Intimately related to an individual's thoughts about behaviors are the individual's feelings about behaviors, or affect. Research on affect and marital satisfaction is not conclusive yet; some studies have shown that negative affect is related to decreased marital satisfaction, whereas others have shown it has no effect or even increases it. Future research needs to clarify more specifically how negative affect is related to marital satisfaction.

#### ***Physiology***

There is a well-established relationship between being married and maintaining physical well-being. This, in the most immediate sense, is established by the physiological functioning of the two married individuals. Recent research has indicated that married couples who are more satisfied with their relationship also exhibit greater synchrony among their physiological systems compared with those married couples who are less satisfied. That is, maritally satisfied couples are more likely to maintain synchrony among each partner's electrodermal (or electrical resistance of the skin) and heart rate systems, which may be a mechanism by which married couples maintain greater physical well-being than unmarried individuals.

#### ***Interaction Patterns***

Patterns of interaction between spouses can affect how satisfied they are with their marriage. The pattern most often related to marital dissatisfaction is one of demand/withdrawal. In this pattern, one partner (often

the wife) criticizes or nags the other about change, while the other partner (usually the husband) evades the confrontation and discussion. It operates such that initial criticism leads to disengagement, which leads to further confrontation and even further disengagement. This pattern has clear implications for marital satisfaction, with both parties developing dissatisfaction.

### **Social Support**

Another component of satisfaction within a marriage is the degree of social support for each of the partners and for the relationship. Support processes are reliably associated with good marital functioning, as well as with healthful outcomes within families. A marriage partner who provides good social support for his or her spouse contributes to the spouse's marital satisfaction.

### **Violence**

Physical violence also is closely linked with marital satisfaction. Individuals involved in physically abusive relationships are more likely to be dissatisfied with their marriage than are individuals not involved in abusive relationships. Escalation to physical violence can result from many factors, one of which is alcohol use. And somewhat surprisingly, some form of physical aggression is present in 57% of newlywed marriages, indicating that the relationship between violence and marital satisfaction may not be as straightforward as is often presumed.

## **Contextual Factors**

Many factors enter into assessments of marital satisfaction: a spouse's personality, his or her performance of mate-guarding behaviors, his or her likelihood of infidelity, the desirability of each partner, the presence of children, and others. If one partner perceives that the other is inflicting costs (or being troublesome) in these domains, he or she may move to address them through discussions with the partner, or by seeking a new or additional partner who may better suit the person.

### **Spousal Personality Characteristics**

How satisfied a person is with his or her marriage seems to be related to, in part, the personality characteristics of his or her spouse. Personality is often gauged by five dimensions, including Extraversion

(surgency, dominance, extraversion vs. submissiveness, introversion), Agreeableness (warm, trusting vs. cold, suspicious), Conscientiousness (reliable, well organized vs. undependable, disorganized), Neuroticism (emotional stability, secure, even-tempered vs. nervous, temperamental) and Openness to Experience (intellect, perceptive, curious vs. imperceptive). Marital dissatisfaction is most often related to a spouse's emotional instability, but dissatisfaction is also related to having a partner who is low in Conscientiousness, low in Agreeableness, and low in Openness/intellect. People married to those with these personality characteristics often complain that their spouses are neglectful, dependent, possessive, condescending, jealous, unfaithful, unreliable, emotionally constricted, self-centered, sexualizing of others, and abusive of alcohol. Thus, the personality characteristics of each spouse contribute greatly to the relationship, culminating in satisfying marriage or its ending in divorce.

### **Spousal Mate Guarding**

Even after finding a suitable partner and forming a lasting relationship, challenges associated with maintaining that relationship ensue. Men and women often attempt to prevent another person from encroaching on their marriage by performing mate-guarding behaviors. Some of these behaviors can actually inflict costs on the spouse and, consequently, are related to lessened marital satisfaction. These mate-guarding behaviors include monopolizing the partner's time (for example, she spent all of her free time with him so he could not meet other women), threatening or punishing infidelity (for example, he hit her when he caught her flirting with someone else), and being emotionally manipulative (for example, she threatened to harm herself if he ever left). Marriages in which one or both partners frequently perform these costly guarding behaviors are more often dissatisfied marriages.

### **Spousal Susceptibility to Infidelity**

Being unfaithful can unmistakably cause problems in marriages. Discovered infidelities raise issues of honesty, trust between the partners, commitment, and, ultimately, love. Because a spouse's infidelity has the potential to inflict these emotional costs, marital satisfaction appears to be negatively related to the likelihood that a spouse will be unfaithful. That is, the more likely one's partner is to be unfaithful, the less satisfied one is with his or her marriage and marriage partner.

## **Mate Value**

Mate value can be thought of as the desirability of a partner, a composite of a variety of characteristics including physical attractiveness, intelligence, and personality. Marriages in which there is a discrepancy between the partners in mate value are marriages in which both partners are more likely to be unfaithful, signaling marital dissatisfaction. When a husband, for example, is perceived as having a higher mate value than his wife, he, as well as she (perhaps for retaliatory reasons), is more likely to be unfaithful to their marriage. The lower marital satisfaction associated with this contextual marital difficulty, of differing mate values between the partners, appears as an indicator to the higher mate value individual that he or she might seek a better-matched partner elsewhere.

## **Children**

The introduction of a child drastically changes the marital context. Marital satisfaction is influenced by, and has influences on, children. The presence of children in a marriage has the paradoxical effect of increasing the stability of the marriage (when the children are young, at least), while decreasing marital satisfaction. That is, parenthood makes a marriage less happy but more likely to last. In addition, marital strife, an indicator of dissatisfaction, has been shown to factor into the well-functioning differences between children who come from divorced homes and children who do not.

## **Additional Factors**

In addition, family background factors, such as the relationship satisfaction of one's parents' marriage, are related to marital satisfaction in an individual's current marriage. Perhaps surprisingly, parental marital satisfaction seems to be more closely related to one's own present marital satisfaction than is one's parents' divorce.

Adult attachment styles also are related to marital satisfaction, in that securely attached adults are more often satisfied in their marriage than are those individuals who are avoidant or anxiously ambivalently attached. Some circumstances, like traumatic events (for example, hurricanes, or testicular cancer), appear to actually strengthen marital satisfaction. Stressors in economic or work-related realms often contribute to decreased marital satisfaction, however. For example, displaying negative affect in marital relationships has

been shown to be more frequent among blue-collar, rather than white-collar, employees.

Marital satisfaction, in addition to verbal aggression and conflict frequency, appears also to be related to the performance of joint religious activities (like praying together) and to perceptions of the sacredness of their relationship. And although not a direct measure of marital satisfaction, but replete with implications, the presence of available alternative partners in one's environment is related to a greater likelihood of divorce.

## **Marital Satisfaction Over Time**

One component of marital satisfaction is an understanding of the factors that influence it presently, a sort of snapshot of it, but it's also important to understand how these factors play a role in its development over time.

Marital satisfaction was once believed to follow a U-shaped trajectory over time, such that couples began their marriages satisfied, this satisfaction somewhat waned over the years, but resurfaced to newlywed levels after many years together. This was found to be the case in studies with cross-sectional data, where marital satisfaction was assessed once, drawn from participants with a variety of ages, but is now actually better understood by following the marital satisfaction trajectory of particular couples over the years. It now seems that, on average, marital satisfaction drops markedly over the first 10 years, and continues to gradually decrease over the subsequent decades. There are individual differences in the path that marital satisfaction follows over time, however, as not all marital satisfaction decreases in a linear way (a slow, steady decrease), but may include more dramatic decreases at times, or may even increase. One study found a minority of couples in their sample reported increasing levels of marital satisfaction over time.

To date, the many contextual variables mentioned earlier, like the presence of children, mate value discrepancies, and likelihood of infidelity, in conjunction with particular personality characteristics of the marriage partners, most notably neuroticism and emotional stability, have been identified as contributors to the general decrease in marital satisfaction over time.

## **Measuring Marital Satisfaction**

Assessing marital satisfaction in research is often done through self-report surveys, in which participants

respond to a variety of questions assessing their satisfaction with different facets of their marriage. The concept of marital satisfaction is not necessarily gauged by assessing a lack of dissatisfaction in the relationship; factors that lead to marital distress are not necessarily the inverse of factors that promote satisfying relationships. Factors that promote healthy relationships and are present in satisfying, long-term marriages are important to consider, as well. Thus, thorough measures of marital satisfaction assess qualities that contribute negatively, as well as uniquely positively, to the marriage.

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*See also* Big Five Personality Traits; Close Relationships; Happiness; Love; Positive Illusions

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and femininity at the other. By this definition, high masculinity implies the absence of femininity, and vice versa. In other words, people can be classified as either masculine or feminine. Contemporary definitions propose that masculinity and femininity are separate dimensions, allowing for the possibility that individuals may simultaneously possess both masculine and feminine attributes.

### The Single-Factor Approach

The Attitude Interest Analysis Survey (AIAS) was the first attempt to measure masculinity versus femininity. To develop the test, hundreds of scale items—including measures of attitudes, emotions, personality traits, and occupational preferences—were given to American junior high and high school students in the 1930s. Only items that elicited different responses from girls and boys were included in the final version of the measure. Items that the typical girl endorsed—such as ignorance, desire for a small income, and a fondness for washing dishes—received femininity points. Items that the typical boy endorsed—such as intelligence, desire for a large income, and dislike of tall women—received masculinity points. Because these items clearly reflect gender stereotypes and role expectations prevalent at the time the scale was developed, responses to these items may simply reflect the desire to be a “normal” man or woman. It is not surprising then that the AIAS was less reliable than other standard measures of personality and was not related to other criteria of masculinity and femininity (e.g., teachers’ ratings of students’ masculinity and femininity). Because of these methodological issues and a lack of theoretical basis, the AIAS is no longer used today.

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## MARKET PRICING

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*See* RELATIONAL MODELS THEORY

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## MASCULINITY/FEMININITY

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### Definition

The terms *masculinity* and *femininity* refer to traits or characteristics typically associated with being male or female, respectively. Traditionally, masculinity and femininity have been conceptualized as opposite ends of a single dimension, with masculinity at one extreme

### Multifactorial Approaches

Contemporary scales of masculinity/femininity have abandoned the single-factor approach in favor of multifactorial models. In the 1970s, the Bem Sex Role Inventory (BSRI) introduced the concept of androgyny by allowing for combinations of two independent dimensions of masculinity and femininity. Importantly, the items on the BSRI were not developed using differences in the responses typical of males and females, as was the AIAS. Instead, the BSRI was developed by asking male and female respondents to indicate how desirable it was for an American man or woman to possess various traits. The final version of the scale is composed of 20 femininity items, 20 masculinity

items, and 20 neutral items. Respondents indicate how much each adjective is self-descriptive. Based on these responses, people may be classified as feminine (high femininity, low masculinity), masculine (low femininity, high masculinity), androgynous (high femininity, high masculinity), or undifferentiated (low femininity, low masculinity).

The Personal Attributes Questionnaire (PAQ), another measure of masculinity/femininity developed in the 1970s, also assumes that dimensions of masculinity and femininity are independent dimensions. Scale items for this measure were developed in ways similar to the development of the BSRI. The scale consists of 16 socially desirable items designed to measure instrumental traits (e.g., competitive), often associated with males, and expressive traits (e.g., gentle), often associated with females. Although the BSRI and PAQ are similar in content, they differ in their theoretical implications.

Currently, the BSRI is used within the framework of gender schema theory as a measure of men and women's degree of sex-typing. Sex-typed individuals (i.e., men classified as masculine or women classified as feminine) are said to be gender-schematic—or to use gender as a way to organize information in their world. Strong gender schemas develop through strong identification with gender roles, in turn leading to attitudes and behaviors consistent with gender role expectations. Thus, masculinity and femininity scores on the BSRI reflect a tendency to conceptualize the world in terms of male and female.

In contrast, the creators of the PAQ have rejected the notion that there is one underlying factor of masculinity and one factor of femininity. Instead, multiple gender-related phenomena, such as physical attributes, occupational preferences, and personality traits, contribute to multiple factors that contribute to gender identity—or one's own sense of maleness and femaleness. From this perspective then, PAQ and BSRI scores do not represent the global concepts of masculinity/femininity or gender schemas. Rather, they are simply measures of instrumental and expressive traits, one of many factors contributing to gender identity. Thus, scores should only be related to gender-related behaviors to the extent they are influenced by instrumentality and expressiveness.

### Correlates of Masculinity/Femininity

In support of gender schema theory, initial studies demonstrated that BSRI scores predicted gender-related

behaviors such as nurturance, agency, and expressiveness. For example, in one study, students who were categorized as feminine or androgynous displayed more nurturing behaviors while interacting with a baby compared with masculine or undifferentiated students. However, the creators of the PAQ argue that BSRI scores are only predictive of instrumental and expressive behaviors. Empirical evidence supports this claim. Some studies have found little or no relationship between the BSRI and typical measures of gender attitudes and behaviors. Failure to predict related gender constructs may be indicative of psychometric flaws or problems with the underlying theory.

Measuring masculinity/femininity in a theoretically meaningful way continues to be problematic. Currently, the multifactor gender identity perspective of masculinity and femininity has received stronger empirical support than other models. Despite theoretical criticisms, both the BSRI and PAQ remain frequently used measures in gender research.

Ann E. Hoover

Stephanie A. Goodwin

See also Gender Differences; Stereotypes and Stereotyping

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## MATCHING HYPOTHESIS

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### Definition

The matching hypothesis refers to the proposition that people are attracted to and form relationships with individuals who resemble them on a variety of attributes, including demographic characteristics (e.g., age, ethnicity, and education level), personality traits, attitudes and values, and even physical attributes (e.g., attractiveness).

## Background and Importance

Theorists interested in relationship development believe that similarity plays a key role in the process by which people select their friends and romantic partners. During the initial phase of relationship formation, when two people have not yet become good friends or committed partners, they assess the extent to which they resemble one another in demographic background, values and interests, personality, and other characteristics. The perception of similarity promotes feelings of mutual rapport and positive sentiment between the two, as well as the expectation that further interaction will be rewarding. These feelings, in turn, increase the likelihood that their relationship will continue to develop.

## Evidence

There is ample evidence in support of the matching hypothesis in the realm of interpersonal attraction and friendship formation. Not only do people overwhelmingly prefer to interact with similar others, but a person's friends and associates are more likely to resemble that person on virtually every dimension examined, both positive and negative.

The evidence is mixed in the realm of romantic attraction and mate selection. There is definitely a tendency for men and women to marry spouses who resemble them. Researchers have found extensive similarity between marital partners on characteristics such as age, race, ethnicity, education level, socioeconomic status, religion, and physical attractiveness as well as on a host of personality traits and cognitive abilities. This well-documented tendency for similar individuals to marry is commonly referred to as *homogamy* or *assortment*.

The fact that people tend to end up with romantic partners who resemble them, however, does not necessarily mean that they prefer similar over dissimilar mates. There is evidence, particularly with respect to the characteristic of physical attractiveness, that both men and women actually prefer the most attractive partner possible. However, although people might ideally want a partner with highly desirable features, they might not possess enough desirable attributes themselves to be able to attract that individual. Because people seek the best possible mate but are constrained by their own assets, the process of romantic partner selection thus inevitably results in the pairing of individuals with similar characteristics.

Nonetheless, sufficient evidence supports the matching hypothesis to negate the old adage that "opposites attract." They typically do not.

Pamela C. Regan

*See also* Attraction; Close Relationships; Equity Theory; Social Exchange Theory

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# MEANING MAINTENANCE MODEL

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## Definition

People expect that certain experiences will be associated with one another. For example, if a person goes out to dinner, he or she expects the waiter to bring what he or she ordered. If a person sees a crow, he or she expects it to be black. People expect that good people will be rewarded in life, bad people will be punished, and that their friends will be kind to them. Sometimes, however, these expectations are violated by unusual experiences. Sometimes the waiter brings the wrong breakfast, and sometimes friends are cruel. Sometimes tragedies befall nice people, villains prosper, or an albino crow lands on a neighbor's roof.

The meaning maintenance model (MMM) proposes that whenever these *expected associations* are violated by unexpected experiences, it goes against people's shared desire to maintain meaning, or to feel that their experiences generally make sense. Often, when people's expectations are violated, they can revise them ("A white crow? Hmm . . . I guess that some crows can be white as well as black"), or they can reinterpret the experience so that it no longer appears to violate their expectations ("A white crow? I guess I didn't see it right. It must have been a dove").

Alternatively, violated expectations can prompt people to seek out or remind themselves of other experiences that still do make sense to them (“Weird. A white crow? Hmm . . . maybe I’ll watch that movie again . . . the one I’ve seen a dozen times before”). MMM proposes that when people’s expected associations are violated, they often reaffirm other expected associations that haven’t been violated, even if the expected associations being reaffirmed don’t have much to do with the expected associations that were violated to begin with. MMM calls this process *fluid compensation* and proposes that expected associations are substitutable with one another when they attempt to restore a feeling that their experiences generally make sense.

### What Is Meaning?

Meaning comprises the expected associations that connect people’s experiences to one another—*any* experience, and *any* way that experiences can be connected. Meaning is what connects people’s experiences of the people, places, objects, and ideas all around them (e.g., hammers to nails, cold to snow, fathers to sons, or dawn to the rising sun). Meaning is what connects experiences of one’s own self (e.g., one’s thoughts, behaviors, desires, attributes, abilities, roles, and past incarnations), and meaning is what connects one to the outside world (e.g., purpose, value, belonging). Despite the many ways that people can connect their experiences, meaning always manifests as expected associations that allow them to feel that these experiences make sense.

### Why Do People Maintain Meaning?

The idea that people have a general desire to maintain expected associations was suggested by many Western existentialists in the mid-19th and 20th centuries, including Søren Kierkegaard, Martin Heidegger, and Albert Camus. These philosophers imagined that all humanity shared a common desire to see their experiences as connected to one another in ways that generally made sense. Science, religion, and philosophy were imagined to be different ways of connecting one’s experiences of the outside world, connecting elements of one’s own self, and ultimately, connecting oneself to the world around him or her. These connections were called *meaning*, and when people experience something, anything, that isn’t connected to their

existing expected associations, it was said to be *meaningless*; such experiences could only be considered meaningful once people have found a way of connecting them to their existing expected associations. According to the existentialists, feelings of meaninglessness could be evoked by any experience that violated one’s expected associations, be it a simple error in judgment, an unexpected observation, a surreal image, feeling alienated from lifelong friends, or thoughts of one’s own mortality, as death was thought to represent one’s final disconnection from the world around him or her.

When experimental psychologists began to talk about meaning in the early 20th century, they used a novel term that was introduced by the English psychologist Fredric Bartlett. Bartlett called these expected associations *schemas*. Where the existentialists once spoke of meaning, psychologists focused their attention on different kinds of schemas, scripts, worldviews, and paradigms, eventually using many different terms to express the same essential concept: expected associations that connect people’s experiences to one another in ways that make sense.

Psychologists have now spent the better part of a century exploring the specific functions served by different kinds of expected associations. For example, some unconscious paradigms focus people’s attention, which in turn enables them to memorize and recall their experiences. Other scripts provide people a basis for predicting different events in their environment, and allow them to influence their outcomes. Social schemas help people understand their place in society and how they are expected to behave. Many worldviews help people cope with tragedy and trauma by connecting these events to beliefs about a higher purpose and cultural values. Although many theories explore the many functions of meaning, MMM is unique in proposing a general desire to maintain meaning beyond whatever functions it may serve.

### How Do People Maintain Meaning?

Different kinds of psychologists have different theories that try to explain how people maintain expected associations. For example, developmental psychologists speak of Jean Piaget’s theory of equilibrium, and many social psychologists are influenced by Leon Festinger’s cognitive dissonance theory. Like MMM, these theories propose that people strive to connect their experiences to one another through a series of

expected associations, while acknowledging that, from time to time, people are exposed to experiences that violate these expectations.

To date, these and other meaning maintenance accounts propose that people deal with violated expectations in one of two ways: revision or reinterpretation. When people have an experience that doesn't make sense, they will either revise their expectations to include the unusual experience (e.g., "A white crow? Some crows *are* white"; "Death as the end of life? Death is a *part* of living"), or they may reinterpret the unusual experience such that it no longer appears to violate their expectations (e.g., "I did that boring job for no reward? I must have done it because the job was actually fun and interesting"; "Tragedy befalling virtuous people? It wasn't a tragedy because it made them stronger"). In addition to revision and reinterpretation, MMM proposes a third way that people deal with violations of expected associations; in the face of meaninglessness, people often reaffirm other, generally unrelated expected associations to restore a general feeling that their experiences make sense.

MMM proposes that people maintain expected associations to satisfy their desire to feel that their experiences make sense, beyond any specific function that expected associations may serve. When unusual experiences violate expected associations, this violation compromises the specific function served by those expected associations and challenges people's general desire to have experiences make sense. When people try to restore a general sense of meaningfulness, expected associations become substitutable for one another; reaffirming one set of expected associations (e.g., social affiliation) may be as good as reaffirming another set of expected associations (e.g., self-concept) when expected associations are violated that serve an entirely different function (e.g., visual schema). The meaning framework being reaffirmed may have no bearing whatsoever on the meaning framework that was originally violated, so it can be said that expected associations are substitutable with one another in this fluid compensation process.

There is much evidence in the social psychological literature for substitutable fluid compensation. For example, researchers have shown that if people experience unexpected inconsistencies in their lives, they may reaffirm their adherence to social values that have nothing whatsoever to do with those inconsistencies. Similarly, if people have their self-concept violated by unexpected failure feedback, they may respond by

reaffirming their connection to an established social group that has no bearing on the aspect of self that was violated. Making people uncertain about their visual perceptions may prompt them to more vigorously reaffirm unrelated social values, as does making people feel that they are connected to a group of people that they normally see as being quite different from themselves.

Another example of substitutable compensatory reaffirmation involves reminding people about their eventual death, which in turn prompts them to reaffirm other expected associations more vigorously. This reaffirmation can manifest itself as many different behaviors—seeking greater affiliation with others, showing increasing dislike of people who criticize their current affiliations, or even as seeking patterned associations within seemingly random strings of letters. Although many separate theories attempt to explain these individual behavioral phenomena, MMM proposes that all of these studies (and many, many more) demonstrate the same general psychological impulse: One meaning framework is threatened, and another, unrelated meaning framework undergoes compensatory reaffirmation.

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*See also* Cognitive Dissonance Theory; Terror Management Theory

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## MEDIA VIOLENCE AND AGGRESSION

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### Definition

Violent media includes all forms of mass communication that depict the threat to use force, the act of using force, or the consequences of the use of force against animate beings (including cartoon characters or other species as well as humans). There are many forms of media, including TV programs, movies, video games, comic books, and music. More than five decades of

scientific data lead to the irrefutable conclusion that exposure to violent media increases aggression. About 300 studies involving more than 50,000 subjects have been conducted on this topic.

### **Violent Media Effects**

Exposure to violent media can have several undesirable effects. One effect is that people who consume a lot of violent media become less sympathetic to victims of violence. In one study, people who played violent video games assigned less harsh penalties to criminals than did those who played nonviolent games. People also perceive victims as injured less and display less empathy toward them after exposure to violent media. One reason why people may become more tolerant of violence and less sympathetic toward victims is because they become desensitized to it over time. Research has shown that after consuming violent media, people have lower heart rate and blood pressure in response to real depictions of violence.

In addition to desensitizing people to the effects of violence, violent media also increase aggressive thoughts. One result is that people who consume a lot of violent media are more likely to attend to hostile information and expect others to behave in a hostile manner. They may also interpret ambiguous situations in the worst possible light, assuming that the behavior of others reflects hostility rather than other, more positive traits such as assertiveness. Some researchers have also found that violent media also increase aggressive feelings. Most importantly, exposure to violent media also makes people act more aggressively toward others.

### **Violent Video Games**

Although most studies have focused on violent television and movies, the same general pattern of effects appears to be present after exposure to different forms of media, including violent music, violent comic books, and violent video games. The effects of violent video games on people's attitudes toward victims of violence are of particular concern. Feeling empathy requires taking the perspective of the victim, whereas violent video games encourage players to take the perspective of the perpetrator. Violent video games should also have a larger effect on aggressive behavior than violent TV programs and films. Watching a violent TV program or film is a passive activity, whereas playing a violent video game is active. Research has shown

that people learn better when they are actively involved. Viewers of violent shows may or may not identify with violent characters, whereas players of violent video games are forced to identify with violent characters. Any rewards that come from watching violent shows are indirect. The rewards that come from playing violent video games are direct. The player gets points or advances to the next level of the game by killing others. The player also sees impressive visual effects and hears verbal praise (e.g., "Nice shot!" "Impressive!") after behaving aggressively.

### **Different Types of Violent Media Studies**

Experimental studies have shown that exposure to media violence causes people to become more tolerant of aggressive behavior and to behave more aggressively toward others immediately after exposure. Although laboratory experiments involving noise blasts and electric shocks have been criticized for their somewhat artificial nature, field experiments have produced similar results. For example, in one field experiment, delinquent boys who were shown violent films every night for five nights were more likely than were those shown nonviolent films to get into fights with other boys. Similar effects have been observed with nondelinquent children who saw a single episode of a violent children's television program.

Another criticism about experimental studies is that they do not measure actual criminal violence. Although acting aggressively is not always a desirable trait, it is not the same as breaking the law or committing serious acts of violence. But stories of copycat violence tend to make the public most concerned about the effects of violent media. Eric Harris and Dylan Klebold, the students who killed 13 people and wounded 23 in the Columbine massacre, were both avid players of violent video games. Before the massacre, both of them played a specially modified version of the video game *Doom*. In a videotape released after the massacre, Harris refers to his gun as "Arlene," which is the name of the protagonist's love interest in the *Doom* novels. This connection suggests that consuming violent media and aggression are related, but does violent media actually cause criminal violence?

It would be difficult, if not impossible, to conduct a safe and ethical laboratory study on the effect of violent media on violent behavior. However, it is probably not so much the immediate effect of media violence on

violent crime that is of concern but, rather, the aggregated long-term effects. Children are exposed to about 10,000 violent crimes in the media per year, and each of these has a cumulative effect on their thoughts, feelings, and actions. Longitudinal studies have shown that exposure to violent media is related to serious violent and antisocial behavior. For example, the amount of violent media consumed as a child is related to how many fights a person will get into in high school. Similarly, men who watched violent media during childhood were nearly twice as likely to have assaulted their spouse 15 years later. In another longitudinal study, consumption of violent media at age 14 predicted violent crimes committed at age 22.

### **What Types of Media Are Most Harmful?**

All violent media do not have the same effect, and all people are not affected the same way by violent media. For example, how violence is depicted is important. Both realistic violence and violence that goes unpunished increase the likelihood of aggression. Also, pairing violence with sex seems to have a particularly strong effect on men's aggressive attitudes and behavior toward women.

### **Who Is Most Affected by Violent Media?**

Who watches violent media is also important. A number of personality traits seem to place some viewers at greater risk than others. One key variable is the trait of aggressiveness. People who are characteristically aggressive seem to be more affected by violent media than are people who are not characteristically aggressive. However, the relationship between trait aggression and violent media is complex, and these findings only represent trait differences at a single point in time. Exposure to media violence also causes trait aggressiveness, which in turn increases the likelihood of aggressive behavior. This suggests that the short-term effects of violent media observed in experimental research may become increasingly pronounced within individuals as they are repeatedly exposed to violence, leading to a downward spiral into greater levels of aggression.

Importantly, longitudinal studies have also addressed the causal direction of this downward spiral. It could be argued that people who behave aggressively are

more likely to watch violent television. Researchers have found that although exposure to aggressive media as a child is related to acts of aggression later in life, aggression as a child is unrelated to exposure to violent media as a young adult, effectively ruling out the possibility that a predisposition to watch violent media is causing this effect.

Gender norms or sex differences may also play a role. Some studies have found that boys are more influenced by media violence than girls are, but these effects are inconsistent. Other researchers find little difference between boys and girls. Longitudinal studies may provide some explanation for this inconsistency. Gender differences in aggression have decreased over time, possibly because more aggressive female models have appeared on TV and because it has become more socially acceptable for females to behave aggressively.

When someone is exposed to violent media is also important. Although all age groups are equally susceptible to the short-term effects of violent media on aggression, exposure to violent television at a young age is a particularly strong predictor of violent behavior in later life. It is not yet clear whether this finding is simply a result of additional years of exposure to violent media or a result of exposure to violence during a critical period of children's social development.

### **Implications**

Although many individual differences moderate the impact of violent media on aggressive and even violent behavior, on the whole, consumption of violent media increases aggressive and antisocial behavior. The effect of violent media on aggression is not trivial, either. Although the typical effect size for exposure to violent media is small by conventional standards and is thus dismissed by some critics, this small effect translates into significant consequences for society as a whole, which may be a better standard by which to measure the magnitude of the effect. A recent review found that the effect of exposure to violent media is stronger than the effect of secondhand smoke on lung cancer, the effect of asbestos on cancer, and the effect of lead poisoning on mental functioning. Although media violence is not the only factor that increases aggression and violence, it is an important factor.

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*See also* Aggression; Empathy; Gender Differences; Individual Differences; Intimate Partner Violence

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## MEMORY

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### Definition

Most contemporary researchers discuss three elements to the concept of memory: (1) Memory is the place or storage area where social and nonsocial information is held; (2) memory is also the specifics or content of an experience or event, also referred to as the *memory trace*; and (3) *memory* is the term used to describe the mental process through which people learn, store, or remember this information. In addition, when discussing memory and memory processes, researchers often refer to the related concept of a *mental representation*. A mental representation is an encoded construction that people can access, store, retrieve, and use in a variety of ways. For example, each person has a mental representation of his or her mother. The collections of feelings, beliefs, and knowledge you have about your mother constitute your mental representation of her.

### Background and History

Memory is a topic that has enjoyed the attention of academics and thinkers for literally thousands of

years. Almost 2,500 years ago, Plato argued that memory was a wax tablet whereupon one's everyday experiences left their impressions. An important consequence of this characterization, one that was accepted as truth for some time, is that once a memory is encoded it is set and unchangeable. Although a memory can be forgotten for some time, it could eventually be completely and accurately retrieved. Conversely, Aristotle argued that memories were associations among different stimuli and experiences. This idea was further developed by the likes of John Locke and David Hume in the 1600s and 1700s. An associative network allows for a greater fluidity of memory and implies that memories and mental representations may change or be forgotten over time. This latter view is more consistent with current psychological thought.

One of the most comprehensive early approaches to human memory was published by Hermann Ebbinghaus in his 1885 book on the subject. Ebbinghaus's work focused on the learning of new information (typically nonsense words), and he developed curves to describe how people learned and subsequently forgot new information. Many of his results have laid the foundations for current thought on learning and memory for new information. Some time later, Sir Frederic Bartlett began focusing on how existing knowledge influenced learning and memory. He proposed that memory was actually a constructive process and that people, in trying to recollect, often reconstructed memories from the fragments that were available. Since these early findings, understanding memory processes has been a focus in a number of areas of psychology including perception, behaviorism, verbal learning, and neuroscience. Consistent with this broad focus in the psychological literature, memory and memory effects have been a core subject of study in social psychology.

### Development of Models of Memory

Within the concept of memory, researchers have made a distinction between *explicit* (often referred to as *declarative*) and *implicit* (often referred to as *nondeclarative*) memory. Explicit memory can be defined as the conscious or intentional act of trying to remember something (such as your mother's birthday), whereas implicit memory can be thought of as the way in which people's memories and prior experiences (i.e., mental representations) affect the way they think about and process information in their social worlds. An example of this would be how people's attitudes about a topic

(their beliefs or opinions stored in memory) affect how they process incoming information about that topic. For example, your attitude toward your mother influences your definition of what represents a good versus a bad mother. Importantly, with implicit memories, people are not necessarily aware that their memories have an influence on them. Explicit memory can be further divided into *episodic* memory (memory for specific events) and *semantic* memory (memory for the meaning of things, such as words).

In the 1950s, researchers began to carefully delineate different models of memory. Two types of memory models that have substantially affected the field of social psychology are the related concepts of *associative networks* and *schemas*. The associative network model posits that memories are simply the collected associations between different nodes of concepts, sensations, and perceptions. These nodes are linked by being repeatedly associated with each other. Every time the memory is accessed or activated, the associative link between the nodes is strengthened. The more often this happens, the easier the association (i.e., the memory) is to activate. Associative network models fundamentally propose a bottom-up processing strategy whereby larger meanings are constructed from the associations among linked concepts.

Conversely, schemas can be defined as more comprehensive representations in memory that provide a framework for interpreting new information. As such, schemas suggest a top-down processing strategy. New information is incorporated into existing schemas, and this information is understood in relation to it. Whereas the associative network approach suggests that people incorporate new information by creating novel associations, schema theory suggests people understand new information by relating it to their existing knowledge and expectations. Far from being contradictory, these processes work in a complementary fashion, depending on the requirements of the situation.

### Memory in the Context of Social Psychology

Although research into memory has been conducted primarily by cognitive psychologists, it is a core research area within social psychology as well. Imagine that you could not remember the people you met from day to day. Each time you saw your roommate, friends, or family members, you would need to get to know them all over again. Clearly, memory is essential to our social interactions.

Consequently, a substantial amount of research in social psychology has explored how associative networks and schemas play a role in everyday social experience. A significant amount of research suggests that people go into situations with certain expectations. These expectations are based on their previous experiences and beliefs (i.e., their mental representation about an event, person, or situation). For example, researchers have demonstrated that people have a general tendency to recall and recognize attitude-consistent information better than they recall attitude-inconsistent information. Although the strength of the overall effect has been debated, people prefer information that is consistent with their attitudes. Given certain circumstances, however, memory biases can be eliminated or even reversed. For example, some evidence suggests that under certain conditions, people will actively try to counterargue attitude-inconsistent information they encounter, and this may result in better recall for the attitude-inconsistent information.

Similar findings have been reported in the impression formation literature. That is, when people meet a person for the first time, their expectations about the person (e.g., stereotypes about specific groups and their members) or the situation (e.g., a script or set of beliefs about how an event, such as a romantic encounter, should unfold) can influence how they perceive and judge that person. If they expect someone to be nice, they will remember him or her as being pleasant and friendly. Interestingly, if their expectations are particularly strong when they encounter schema-incongruent information, that inconsistent information may be remembered better (i.e., they may begin to create a new associative network or information). Thus, as with the attitude literature, people tend to demonstrate a confirmatory bias, but if their expectations are strong, the inconsistent information may be particularly salient and thus may be remembered better. Although there has been debate in the literature about how and when these effects occur, mental representations and memory affect how people interact with their social worlds.

### Applications of Memory Research

The social psychological aspects of memory research have been applied to real-world settings in several areas. For example, police and the courts have had a necessary interest in human memory. Much of what happens in the court system relies on people's memories and how their mental representations influence

information processing. Issues such as interviewing witnesses, eyewitness identification, and jury decision making have all received a great deal of attention in the social psychological literature. Within the area of eyewitness memory, one popular area of research has been the exploration of false memories. A significant amount of empirical research indicates that false memories are relatively easy to create and that these memories can be held with as much confidence and clarity as true memories. This further reinforces the concept of memory as malleable over time and retrieval as a reconstructive process.

Outside of the social psychological literature, memory research has been applied to, and conducted in, several areas such as clinical psychology (e.g., exploring long- and short-term amnesia; the role of memory in schizophrenia, dementia, and depression), developmental psychology (e.g., exploring how memory skills and processes develop in childhood and progress through adolescence, adulthood, and old age), and of course, cognitive psychology (e.g., exploring basic processes in attention, perception, and memory modeling). Thus, memory and memory research have been and will continue to be major focuses within social psychology and the broader psychological literature.

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*See also* Eyewitness Testimony, Accuracy of; Metacognition; Primacy Effect, Memory

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## MENTAL ACCOUNTING

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### Definition

Mental accounting is a theory that describes how people think about money. This theory suggests that people track and coordinate their financial activities by partitioning money into mental accounts, which are used to make spending decisions. Examples of mental accounts might include an “entertainment

account” or an “education account,” each representing money specifically budgeted for that endeavor.

Mental accounting represents a shift from traditional economic theory, which suggests that people think about their assets as a single account representing their total state of wealth. According to economic theory, spending decisions are based on a purchase’s utility relative to all other potential purchases. Mental accounting instead suggests that spending decisions are based on utility relative only to other purchases in the relevant account.

### Background

The concept of mental accounting first emerged with studies about spending behavior related to sunk costs (money spent on a future event that cannot be refunded). Mental accounting research has since expanded to include more in-depth analyses of spending behavior as well as how mental accounts are opened and closed and how income is apportioned to accounts.

### Evidence

The following examples illustrate the findings of mental accounting research.

#### **Sunk Costs**

One early mental accounting study examined whether people would attend a basketball game in the middle of a blizzard. Those who purchased a ticket in advance choose to go see the game, despite not wanting to drive in bad weather. In contrast, people planning to purchase a ticket at the game decide to stay home to avoid driving in poor conditions. This difference can be attributed to the observation that for advance ticket holders, the mental account for “basketball game viewing” remains open until the game is attended. If the game is not attended, the account may remain open indefinitely, which can be a source of mental discomfort.

#### **Assignment of Activities to Accounts**

Research investigating assignment of activities to mental accounts presents scenarios like the following:

*Scenario 1:* Imagine that you spent \$20 on a ticket to go see a concert. When you get to the concert, you pull out

your wallet and realize that you have lost the ticket you'd bought. If you want to see the concert, you need to buy another \$20 ticket. Would you buy the ticket?

*Scenario 2:* Imagine you go to the concert without a ticket, planning to buy one there. When you pull out your wallet, you realize that you have lost a \$20 bill. Tickets to the show cost \$20. Would you buy the ticket?

People are less likely to buy a ticket after losing a ticket (Scenario 1) than after losing \$20 (Scenario 2). This is inconsistent with traditional economic theory because the scenarios are economically equivalent; in both versions, the choice to skip the concert means having \$20 less and the choice to see the concert means having \$40 less in overall wealth.

Mental accounting better explains the results of this ticket-buying study. In the first scenario, both \$20 expenditures are charged to the "entertainment" account, which makes it seem like \$40 is being spent on the concert ticket. In the second scenario, the lost \$20 is charged to the "general fund" account and only the \$20 spent on the ticket is charged to the "entertainment" account, which makes it seem like the ticket cost only \$20.

### **Transaction Utility**

Research on transaction utility (the perception and experience of outcomes) reveals that altering the purchase context causes people to be willing to pay different prices for the same product. In one study, participants were asked how much money they would spend on a bottle of beer. Half the participants were told they could buy the beer from a nearby resort, and half the participants were told they could buy the beer from a nearby grocery store. People report they are willing to pay \$2.65 for a bottle of beer purchased from an expensive resort but only \$1.50 for the same bottle of beer when purchased from a grocery store. Economic theory predicts that willingness to pay should not be influenced by factors like the product's source. Mental accounting research reveals that this is not actually the case and that people perceive and experience outcomes differently depending on the context; the same beer is charged to different mental accounts based on the particular circumstances of the purchase.

### **Mental Accounting in Real Life**

Mental accounting has been studied using hypothetical scenarios like those described earlier and in the field within diverse populations. One field study investigated mental accounting in taxi drivers, finding that drivers tend to work longer on days when they are making less money and quit earlier on days when they are making lots of money. This study revealed that taxi drivers have a mental account for income that fills each day. Once the account has been filled, the workday can be considered over. Economic theory predicts that drivers would work longer on high-earning days and quit earlier on slow days in the interest of making the most money possible per hour worked, but this is exactly the opposite of what most drivers do. Drivers seem unwilling to close the income account each day until they receive a fixed amount of money.

Another study found that people treat windfalls (unexpected income) differently than earnings from a paycheck. These two sources of income correspond to different mental accounts, and as such, people tend to spend the money differently. Regular earnings are used for predictable expenses and bonuses are used for special luxury purchases. Economic theory, however, predicts that people would treat all income the same regardless of source. As this is not the case, mental accounting provides a better description of how people think about money.

### **Importance and Implications**

Mental accounting helps illustrate that economic theory cannot always account for people's behavior. It demonstrates that money is not always treated as representing an overall state of wealth and that psychological factors are important to consider in predicting everyday behavior when it comes to earning or spending money.

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*See also* Behavioral Economics; Gain–Loss Framing; Prospect Theory; Sunk Cost

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## MENTAL CONTROL

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### Definition

Mental control refers to the ways in which people control their thoughts and emotions to remain in agreement with their goals. People engage in mental control when they suppress a thought, concentrate on a feeling or sensation, restrain an emotional response, or strive to maintain a mood. Mental control proves difficult for most people, and the study of mental control has implications for the treatment of a wide range of psychological disorders.

### History and Background

The scientific study of mental control is relatively new to psychology. Before 1987, the term *mental control* did not appear in any searches of the psychological literature. The tendency for people to exert control over their thoughts and emotions has been observed culturally for more than a century, however. Perhaps the most famous instance of mental control came from the Russian writer Leo Tolstoy, who described a time in which he instructed his younger brother to sit in a corner and not to think of a white bear. Once challenged to suppress thoughts of a white bear, the younger Tolstoy stood in the corner, confused, and frustrated at having to suppress unwanted thoughts of a white bear. The earliest notion of mental control in the psychological literature came from the writings of Sigmund Freud on the study of repression, which he described as the tendency for people to discard certain thoughts out of consciousness unintentionally. Repression occurs outside of conscious awareness, based on motives of which the person is unaware, and results in the elimination of both a particular memory and the memory that represents the event of repression. Although the Freudian view of repression held a dominant place in psychology throughout the early 20th century, research investigating this view has yielded little supportive evidence. In the 1980s, researchers began to consider the impact of conscious efforts to suppress unwanted thoughts. The tendency for people to exert mental control over unwanted thoughts has been widely documented in both normal individuals and those with a wide variety of mental disorders, such as depression, obsessions and compulsions, and

post-traumatic stress. These researchers sought to examine the results of attempted suppression on subsequent cognition, emotion, and behavioral tasks.

### Suppression Cycle

Early mental control researchers sought to determine the process by which people exert mental control. Daniel Wegner and colleagues have shown that when people exert mental control, they often do so in a cyclical manner. People asked to suppress the thought of a white bear, for example, begin suppression with a self-distraction phase in which they plan to distract themselves (e.g., “I’ll think of something else”). The second phase involves choosing a distracter (e.g., “I’ll think about a book”), which results in the intrusive return of the unwanted thought (e.g., “The white bear is there again”). When the unwanted thought has returned, the cycle repeats with a return to the plan to self-distraction (e.g., “Now I’ll think of something else”).

This suppression cycle comprises two main cognitive processes—controlled distracter search and automatic target search. Controlled distracter search involves a conscious search for thoughts that are not the unwanted thought, which is carried out with the goal of replacing the unwanted thought. Automatic target search entails searching for any sign of the unwanted thought, and this process detects whether the controlled distracter search is successful at replacing the unwanted thought. Research has shown that the availability of potential distracters in the environment influences the distracters that people use while exerting mental control. People also rely on their current mental states to serve as distracters during suppression. For example, people suffering from depression have been shown to choose depressing distracters during suppression. Another study showed that people who were induced into a positive or negative mood selected distracters that were related to their mood. These findings suggest that mental control is a process that involves the initial suppression of the unwanted thought or emotion and the search for materials in the environment that are related or unrelated to the suppressed thought or emotion.

### Consequences

Although much research has investigated the process by which people exert mental control in their everyday

lives, other research has examined what the after-effects of exerting mental control may be. Wegner and colleagues have shown consistently that exerting mental control over some particular event or object causes people to show a greater level of obsession or preoccupation with the suppressed object than do people who had never suppressed a thought or emotion regarding the particular event or object. This rebounding effect was first observed in a study by Wegner and colleagues. Some participants in this study were instructed to suppress the thought of a white bear, whereas other participants completed a similar task but were not asked to suppress the thought of a white bear. After participants had completed this initial task (in which they either suppressed the thought of a white bear or not), participants were asked to think of a white bear and to ring a bell every time a white bear came to mind. Participants who had suppressed the thought of a white bear during the initial task rang the bell more than did participants who had not suppressed the thought of a white bear during the initial task. Thus, the initial act of suppressing the thought of a white bear led to increased activation of the concept of a white bear in the mind of these participants.

Another consequence of exerting mental control is impaired self-control. Roy Baumeister and colleagues have demonstrated that participants who suppressed a thought on an initial task showed impaired performance on a subsequent self-control task compared with participants who had not previously suppressed a thought. These findings suggest that mental control is an effortful process that can cause impairments in a person's ability to engage in self-control successfully.

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*See also* Ego Depletion; Ironic Processes; Motivated Cognition; Self-Control Measures; Self-Regulation

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## MERE EXPOSURE EFFECT

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### Definition

The mere exposure effect describes the phenomenon that simply encountering a stimulus repeatedly somehow makes one like it more. Perhaps the stimulus is a painting on the wall, a melody on a radio, or a face of a person you pass by every day—somehow all these stimuli tend to “grow on you.” The mere exposure effect is technically defined as an enhancement of attitude toward a novel stimulus as a result of repeated encounters with that stimulus. Interestingly, the mere exposure effect does not require any kind of reward for perceiving the stimulus. All that is required is that the stimulus is merely shown, however briefly or incidentally, to the individual. So, for example, briefly glimpsing a picture or passively listening to a melody is enough for the picture and melody to become preferred over pictures and melodies that one has not seen or heard before. In short, contrary to the adage that familiarity breeds contempt, the mere exposure effect suggests just the opposite: Becoming familiar with a novel stimulus engenders liking for the stimulus.

### Background

The mere exposure effect was first systematically examined by Robert Zajonc, who reported his findings in the influential 1968 article “Attitudinal Effects of Mere Exposure.” He presented two kinds of evidence in support of the mere exposure effect. The first kind of evidence was correlational and established a relationship between the frequency of occurrence of certain stimuli and their evaluative meaning. For example, Zajonc reported that words with positive rather than negative meanings have a higher frequency of usage in literature, magazines, and other publications. Thus, the word *pretty* is used more frequently than *ugly* (1,195 vs. 178), *on* is more frequent than *off* (30,224 vs. 3,644), and *first* is more frequent than *last* (5,154 vs. 3,517). Similar findings have also been obtained with numbers, letters, and other apparently neutral stimuli. However, this evidence is correlational, so it is impossible to say if stimulus frequency is the cause of positive meaning or if positive meaning causes the stimulus to be used more frequently. To alleviate concerns associated with the correlational evidence, Zajonc also presented experimental evidence. For

example, he performed an experiment and showed that nonsensical words as well as yearbook pictures of faces are rated more favorably after they have been merely exposed to participants. Since then, researchers have experimentally documented the mere exposure effect using a wide variety of stimuli, including simple and complex line drawings and paintings, simple and complex tonal sequences and musical pieces, geometric figures, foods, odors, and photographs of people. Interestingly, the participants in those experiments included college students, amnesic patients, rats, and even newborn chicks, suggesting that the mere exposure effect reflects a fairly fundamental aspect of psychological functioning.

### Conditions Affecting Strength

During this research, scientists have discovered several conditions that modify the strength of the mere exposure effect. Thus, the mere exposure effect is stronger when exposure durations are brief. In fact, the mere exposure effect is sometimes stronger with subliminal rather than supraliminal presentations. The mere exposure effect is also stronger when the repetition scheme is heterogeneous (i.e., with the exposures of a stimulus being interspersed with the presentations of other stimuli) rather than homogeneous (i.e., with all the exposures being of the same stimulus). Furthermore, the magnitude of the mere exposure effect reaches a peak after 10 to 20 stimulus exposures and thereafter levels off. Finally, stronger mere exposure effects are elicited by more complex stimuli and when the experimental situation is set up such that boredom is minimized. In fact, boredom and saturation can sometimes reverse the generally positive effect of mere exposure—a phenomenon certainly experienced by the reader when a massively repeated advertising jingle becomes simply annoying. Some reversals of the mere exposure effect have also been reported with stimuli that are initially negative, though it is unclear whether the increased negativity is due to exposure per se or rather to the unpleasantness that comes from repeated induction of negative affect.

### Implications

Some studies on the mere exposure effect suggest that the phenomenon has wide-ranging personal and social implications. It may influence who people become attracted to; what products, art, and entertainment

they enjoy; and even their everyday moods. Regarding interpersonal attraction, one study found that subjects shown a photograph of the same person each week for four weeks exhibited greater liking for that person than when compared with subjects shown a photograph of a different person each week. In another study, preschoolers who watched *Sesame Street* episodes that involved children of Japanese, Canadian, and North American Indian heritage were more likely to indicate that they would like to play with such children than were preschoolers who had not seen these episodes.

In the domain of advertising, researchers have shown that unobtrusive exposure to cigarette brands enhances participants' brand preference and their purchase intentions. Even people's aesthetic inclinations are shaped by mere exposure. For example, adult preferences for impressionistic paintings were found to increase as the frequency of occurrence of the images of the paintings in library books increased. In another study, subjects were incidentally exposed to various pieces of orchestral music at varying frequencies. Again, as the number of exposures to a piece of orchestral music increased, then so did the subjects' liking ratings for the music.

Apparently, mere repeated exposure may even boost mood states of individuals. In one experiment, subjects were subliminally exposed to either 25 different Chinese ideographs (single exposure condition) or to 5 Chinese ideographs that were repeated in random sequence (repeated exposure condition). Assessment of subjects' overall mood states indicated that those subjects in the repeated exposure condition exhibited a more positive mood than did those subjects in the single exposure condition.

### Theoretical Interpretations

There are many theoretical interpretations of exactly how mere repeated exposure enhances our liking for the stimulus. One class of explanations seeks the answer in simple biological processes common to many organisms, including mammals and birds. Thus, it has been proposed that organisms respond to a novel stimulus with an initial sense of uncertainty, which feels negative. Repeated exposure can reduce such uncertainty, and thus engender more positive feelings. A related proposal suggests that organisms approach novel stimuli expecting possible negative consequences and that the absence of such consequences during repeated exposure is experienced as positive.

Finally, those biologically inspired proposals emphasize that mere familiarity with a stimulus can serve as a probabilistic cue that a stimulus is relatively safe (after all, the individual survived to see it again).

A competing class of explanations seeks the answer in more perceptual and cognitive processes and treats the mere exposure effect as a kind of implicit memory phenomenon. One proposal suggests that repeated exposure gradually strengthens a stimulus memory trace and thus enhances the ease of its later identification. This ease of perception can elicit positive affect because it allows people to better deal with the stimulus in a current situation. The positive affect created by the ease of perception may, of course, generalize to the nature of the stimulus, or participants' own mood, explaining a relatively wide scope of mere exposure effects. Importantly, for this process to occur, participants should not know why the stimulus is easy to process. Otherwise, they are unlikely to attribute the sense of positivity from the ease of perceiving the stimulus to an actual preference for the stimulus. This idea explains why mere exposure effects are stronger when stimuli are presented subliminally and when stimuli are not recognized from the exposure phase. Furthermore, the ease of perception idea explains why the mere exposure effect is more easily obtained for more complex stimuli because their memory traces are more likely to benefit from progressive strengthening by repetition. Finally, the perceptual account of the mere exposure effect fits well with many other studies suggesting that other ways of enhancing the ease of stimulus perception of a single stimulus (e.g., via stimulus contrast, duration, clarify, or priming) tend to enhance participants' liking for those stimuli in ways comparable to repetition.

The debate, however, over the exact mechanism by which repeated mere exposure exerts its effects is far from resolved and will no doubt be a hot topic in the psychological literature for some time to come.

Troy Chenier  
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*See also* Attitudes; Attraction; Priming; Memory

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## MERE OWNERSHIP EFFECT

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### Definition

The mere ownership effect refers to an individual's tendency to evaluate an object more favorably merely because he or she owns it. The endowment effect is a related phenomenon that concerns the finding that sellers require more money to sell an object than buyers are willing to pay for it. Taken together, these phenomena indicate that ownership is a psychologically meaningful variable that can influence the way that one thinks about and evaluates objects in the external world.

### Context and Importance

The mere ownership effect has been hypothesized to occur because people are motivated to see themselves in a positive light. Thus, the mere ownership effect illustrates the importance of the self in mediating how people interpret the world.

Self-concept refers to the beliefs a person holds about the self. Self-esteem refers to how much a person likes or dislikes the self. Because people are motivated to maintain high self-esteem, people strive to see themselves in a positive light. This tendency toward self-enhancement can take many forms. For example, people tend to underestimate the likelihood of experiencing a negative event such as an illness or accident. Similarly, individuals overestimate their abilities on skills such as driving a car or behaving in a morally correct way. People also focus selectively on positive, rather than negative, beliefs about themselves.

People show indirect self-enhancement by positively evaluating targets associated with the self. For

example, people evaluate their own groups more positively than others' groups. The basis for association can include significant dimensions such as race or irrelevant dimensions such as a shared birth date.

### Explaining Ownership Effects

The mere ownership effect is a form of indirect self-enhancement similar to the bias people show regarding their own, rather than others', groups. The concept of ownership creates a psychological association between the owner and the object. To the extent that an owner sees the owned object in a favorable light, he or she can then indirectly come to see the self in a more favorable light, as well.

The endowment effect is thought to operate for a different reason than self-enhancement. The endowment effect works because of the different way that people think about gains and losses. People tend to be more distressed by losses than they are made happy by gains. For example, people would probably be more irate by a \$10-a-week pay cut than they would be made happy by a \$10-a-week raise. In other words, the absolute value of their change in emotional state would be larger for a loss than a gain.

According to the gain-loss explanation for the endowment effect, selling a possession is perceived as a loss. In contrast, buying is seen as a gain. The seller's reluctance to accept a loss causes him or her to ask for a little extra compensation that potential buyers are unwilling to provide.

Both the mere ownership effect and the endowment effect reflect an important conflict that has occurred between psychology and economics. If people behaved in the purely rational fashion that economics assumes, then the endowment effect and the mere ownership effect would not occur. From the perspective of economics, the object is the same regardless of who owns it. The idea that owners think about the object differently than nonowners do indicates that a full understanding of economics will have to acknowledge psychological principles.

### Evidence

Evidence for the mere ownership effect has been demonstrated using laboratory-based experiments. In the ownership condition, an individual is provided with ownership of an object, typically justified as a gift for participating. Participants are later asked to rate the owned object as well as other, nonowned

objects. In the nonownership condition, participants rate the objects in the absence of ownership. Generally, the same object is rated as more attractive when it is owned rather than not owned.

In research on the endowment effect, a miniature economy is created in which half the participants are each provided ownership of an object and the other half are not. Potential sellers are asked to indicate the lowest price they would accept to sell the object, whereas potential buyers are asked to indicate the highest price they would pay to buy the object. Typically, the average seller's price is higher than the average buyer's price.

One possible limitation of these kinds of experiments is that giving someone a gift may encourage the recipient to evaluate it in a positive manner to show appreciation rather than because he or she actually sees the item in a more positive light. To address this problem, researchers have asked people to evaluate objects that they already own. They found that people listed a greater number of positive traits associated with their own cars rather than others' cars.

### Implications

The self is a complex concept that consists of many parts, including achievements, ancestors, descendants, and education. The self also consists of what one owns. The mere ownership effect illustrates there is a relationship between one's possessions and how one sees oneself.

Given the existence of the mere ownership effect and the endowment effect, at first glance, a person might wonder how it could be that anything ever sells. In the course of a typical negotiation, people may come to realize that they need to reduce their aspirations for transactions to occur. In addition, ownership effects do not operate for all possessions or even for the same possession at different points in time.

*James K. Beggan*

*See also* Gain-Loss Framing; Self; Self-Concept; Self-Enhancement; Self-Esteem

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## META-ANALYSIS

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Meta-analysis uses statistical techniques to summarize results from different empirical studies on a given topic to learn more about that topic. In other words, meta-analyses bring together the results of many different studies, although the number of studies may be as small as two in some specialized contexts. Because these quantitative reviews are analyses of analyses, they are literally meta-analyses. The practice is also known as *research synthesis*, a term that more completely encompasses the steps involved in conducting such a review. Meta-analysis might be thought of as an empirical history of research on a particular topic, in that it tracks effects that have accumulated across time and attempts to show how different methods that researchers use may make their effects change in size or in direction.

### Rationale and Procedures

As in any scientific field, social psychology makes progress by judging the evidence that has accumulated. Consequently, literature reviews of studies can be extremely influential, particularly when meta-analysis is used to review them. In the past three decades, the scholarly community has embraced the position that reviewing is itself a scientific method with identifiable steps that should be followed to be most accurate and valid.

At the outset, an analyst carefully defines the variables at the center of the phenomenon and considers the history of the research problem and of typical studies in the literature. Usually, the research problem will be defined as a relation between two variables, such as the influence of an independent variable on a dependent variable. For example, a review might consider the extent to which women use a more relationship-oriented leadership style compared with men. Typically, the analyst will also consider what circumstances may change the relation in question. For

example, an analyst might predict that women will lead in a style that is more relationship-oriented than men and that this tendency will be especially present when studies examine leadership roles that are communal in nature (e.g., nurse supervisor, elementary principal).

Analysts must next take great care to decide which studies belong in the meta-analysis, the next step in the process, because any conclusions the meta-analysis might reach are limited by the methods of the studies in the sample. As a rule, meta-analyses profit by focusing on the studies that use stronger methods, although which particular methods are “stronger” might vary from area to area. Whereas laboratory-based research (e.g., social perception, persuasion) tends to value internal validity more than external validity, field-based research (e.g., leadership style, political attitudes) tends to reverse these values.

Ideally, a meta-analysis will locate every study ever conducted on a subject. Yet, for some topics, the task can be quite daunting because of sheer numbers of studies available. As merely one example, in their 1978 meta-analysis, Robert Rosenthal and Donald B. Rubin reported on 345 studies of the experimenter expectancy effect. It is important to locate as many studies as possible that might be suitable for inclusion using as many techniques as possible (e.g., computer and Internet searches, e-mails to active researchers, consulting reference lists, manual searching of related journals). If there are too many studies to include all, the analyst might randomly sample from the studies or, more commonly, narrow the focus to a meaningful subliteration.

Once the sample of studies is in hand, each study is coded for relevant dimensions that might have affected the study outcomes. To permit reliability statistics, two or more coders must do this coding. In some cases, an analyst might ask experts to judge methods used in the studies on particular dimensions (e.g., the extent to which a measure of leadership style is relationship-oriented). In other cases, an analyst might ask people with no training for their views about aspects of the reviewed studies (e.g., the extent to which leadership roles were communal).

To be included in a meta-analysis, a study must offer some minimal quantitative information that addresses the relation between the variables (e.g., means and standard deviations for the compared groups, *F* tests, *t* tests). Standing alone, these statistical tests would reveal little about the phenomenon.

When the tests appear in a single standardized metric, the effect size, the situation typically clarifies dramatically. The most common effect sizes are  $d$  (the standardized mean difference between two groups) and  $r$  (the correlation coefficient gauging the association between two variables). Each effect size receives a positive or negative sign to indicate the direction of the effect. As an example, a 1990 meta-analysis that Blair T. Johnson and Alice H. Eagly conducted to examine gender differences in leadership style defined effect sizes in such a way that positive signs were stereotypic (e.g., women more relationship-oriented) and negative signs were counterstereotypic (e.g., men more relationship-oriented). Typically,  $d$  is used for comparisons of two groups or groupings (e.g., gender differences in leadership style) and  $r$  for continuous variables (e.g., self-esteem and attractiveness).

Then, the reviewer analyzes the effect sizes, first examining the mean effect size to evaluate its magnitude, direction, and significance. More advanced analyses examine whether differing study methods change, or moderate, the magnitude of the effect sizes. In all of these analyses, sophisticated statistics help show whether the studies' effect sizes consistently agree with the general tendencies. Still other techniques help reveal which particular studies' findings differed most widely from the others, or examine the plausibility of a publication bias in the literature. Inspection for publication bias can be especially important when skepticism exists about whether the phenomenon under investigation is genuine. In such cases, published studies might be more likely to find a pattern than would unpublished studies. For example, many doubt the existence of so-called Phi effects, which refers to "mind reading." Any review of studies testing for the existence of Phi would have to be sensitive to the possibility that journals may tend to accept confirmations of the phenomenon more than disconfirmations of it.

Various strategies are available to detect the presence of publication bias. As an example, Rosenthal and Rubin's fail-safe  $N$  provides a method to estimate the number of studies averaging nonsignificant that would change a mean effect size to being nonsignificant. If the number is large, then it is intuitively implausible that publication bias is an issue. Other, more sophisticated techniques permit reviewers to infer what effect size values non-included studies might take and how the inclusion of such values might affect the mean effect size. The detection of publication

bias is especially important when the goal of the meta-analytic review is to examine the statistical significance or the simple magnitude of a phenomenon. Publication bias is a far less pressing concern when the goal of the review is instead to examine how study dimensions explain when the studies' effect sizes are larger or smaller or when they reverse in their signs. Indeed, the mere presence of wide variation in the magnitude of effect sizes often suggests a lack of publication bias.

Interpretation and presentation of the meta-analytic findings is the final step of the process. One consideration is the magnitude the mean effect sizes in the review. In 1969, Jacob Cohen informally analyzed the magnitude of effects commonly yielded by psychological research and offered guidelines for judging effect size magnitude. Table 1 shows these standards for  $d$ ,  $r$ , and  $r^2$ ; the latter statistic indicates the extent to which one variable explains variation in the other. To illustrate, a small effect size ( $d = 0.20$ ) is the difference in height between 15- and 16-year-old girls, a medium effect ( $d = 0.50$ ) is difference in intelligence scores between clerical and semiskilled workers, and a large effect ( $d = 0.80$ ) is the difference in intelligence scores between college professors and college freshmen. It is important to recognize that quantitative magnitude is only one way to interpret effect size. Even very small mean effect sizes can be of great import for practical or applied contexts. In a close race for political office, for example, even a mass media campaign with a small effect size could reverse the outcome.

Ideally, meta-analyses advance knowledge about a phenomenon not only by showing the size of the typical effect but also by showing when the studies get larger or smaller effects, or by showing when effects

**Table 1** Guidelines for Magnitude of  $d$  and  $r$

| Size   | Effect Size Metric |      |       |
|--------|--------------------|------|-------|
|        | $d$                | $r$  | $r^2$ |
| Small  | 0.20               | .100 | .010  |
| Medium | 0.50               | .243 | .059  |
| Large  | 0.80               | .371 | .138  |

Source: Adapted from Cohen (1969).

Note:  $r$  appears in its point-biserial form.

reverse in direction. At their best, meta-analyses test theories about the phenomenon. For example, Johnson and Eagly's meta-analysis of gender differences in leadership style showed, consistent with their social-role theory hypothesis, that women had more relationship-oriented styles than men did, especially when the leadership role was communal in nature.

Meta-analyses provide an empirical history of past research and suggest promising directions for future research. As a consequence of a carefully conducted meta-analysis, primary-level studies can be designed with the complete literature in mind and therefore have a better chance of contributing new knowledge. In this way, science can advance the most efficiently to produce new knowledge.

Blair T. Johnson

*See also* Research Methods

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## META-AWARENESS

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To have an experience is not necessarily to know that one is having it. Situations such as suddenly realizing that one has not been listening to one's spouse (despite nodding attentively) or catching oneself shouting, "I'm not angry," illustrate that people sometimes fail to notice what is going on in their own heads. The intuition that there is a difference between having an experience and recognizing it permeates everyday language, as illustrated by the popular expression "getting in touch with your feelings" and the famous lyrical refrain "if you're happy and you know it, clap your hands." A variety of psychological terms have been used to characterize how people vary in their awareness of their thoughts and feelings, including

*metacognitive awareness, private self-awareness, reflective awareness, introspective awareness, higher-order consciousness, second-order consciousness, auto-noetic consciousness, and mindfulness*. Nevertheless, typically when researchers consider the awareness associated with psychological phenomena, the question boils down to whether a particular phenomenon is conscious. Attitudes are implicit or explicit, thoughts are conscious or unconscious, behaviors are automatic or controlled. Routinely, discussions fail to acknowledge the possibility that a thought, feeling, or action could be experienced without being explicitly noticed.

In this entry, the term *meta-awareness* is used to refer to the explicit noticing of the content of experience. Importantly, meta-awareness need not be assumed to be a distinct state of consciousness; rather, it may merely entail a particular topic for the focus of attention, that is, "What am I thinking or feeling." Because this is just one of many possible directions in which attention can be focused, it follows that meta-awareness is intermittent. The answer to this question represents a description of one's state, rather than the state itself, so it offers individuals the opportunity to step out of the situation, which may be critical for effective self-regulation. However, it also raises the possibility that in the re-description process, individuals might get it wrong.

Two types of dissociations follow from the claim that meta-awareness involves the intermittent re-representation of the contents of consciousness. Temporal dissociations occur when one temporarily fails to attend to the contents of consciousness. Once the focus of conscious turns onto itself, translation dissociations may occur if the re-representation process misrepresents the original experience.

### Temporal Dissociations

Temporal dissociations between experience and meta-awareness are indicated in cases in which the induction of meta-awareness causes one to assess aspects of experience that had previously eluded explicit appraisal. A variety of psychological phenomena can be thought of in this manner.

### *Mind-Wandering During Reading*

Everyone has had the experience while reading of suddenly noticing that although his or her eyes have continued to move across the page, one's mind has been entirely elsewhere. The occurrence of

mind-wandering during attentionally demanding tasks such as reading is particularly informative because it is incompatible with successfully carrying out such tasks and thus suggests that individuals have lost meta-awareness of what they are currently thinking about. Additional evidence that mind-wandering during reading is associated with an absence of meta-awareness comes from studies in which individuals report every time they notice their minds wandering during reading, while also being probed periodically and asked to indicate whether they were mind-wandering at that particular moment. Such studies find that participants are often caught mind-wandering by the probes before they notice it themselves. These findings demonstrate that individuals frequently lack meta-awareness of the fact that they are mind-wandering, even when they are in a study in which they are specifically instructed to be vigilant for such lapses.

### **Automaticity**

Automatic behaviors are often assumed to be nonconscious. However, there is a peculiarity to this designation because it is difficult to imagine that individuals lack any experience corresponding to the automatic behaviors. Consider a person driving automatically while engaging in some secondary task (e.g., talking on the cell phone). Although such driving is compromised, one still experiences the road at some level. Similarly, when people engage in habitual consumptive behaviors, for example, smoking or eating, they presumably experience what they are consuming, yet may fail to take explicit stock of what they are doing. This may explain why people often unwittingly relapse in habits they are trying to quit. In short, it seems that rather than being unconscious, many automatic activities may be experienced but lacking in meta-awareness.

### **Moods**

At any given time, people's experience is being colored by the particular mood that they are in. They may be happy because it is sunny out, or grumpy because they've had a bad day at work. However, because people often fail to notice their moods, moods can have undue influence on people's judgments and behaviors. When in an unnoticed bad mood, people may be more likely to snap at their partners, and when in an unnoticed good mood, they may be more likely to believe that their lives are going particularly well.

## **Translation Dissociations**

If meta-awareness requires re-representing the contents of consciousness, then it follows that some information may become lost or distorted in the translation. Examples of translation dissociations include the following.

### **Verbal Reflection**

Some experiences are inherently difficult to put into words: the appearance of a face, the taste of a wine, the intuitions leading to insights. If individuals attempt to translate these inherently nonverbal experiences into words, then the resulting re-representations may fail to do justice to the original experience. Consistent with this view, studies have demonstrated that when people attempt to describe their nonverbal experiences, performance disruptions can ensue. Importantly, verbal reflection does not hamper performance when individuals describe experiences that are more readily translated into words.

### **Motivation**

In some situations, individuals may be explicitly motivated to misrepresent their experiences to themselves. For example, individuals who are homophobic would clearly not want to recognize that they were actually aroused by viewing graphic depictions of homosexual acts. Nevertheless, when homophobes were shown explicit movies of individuals engaging in homosexual acts, their degree of sexual arousal was significantly greater than that of controls. In this case, individuals may experience the arousal but, because of their strong motivation to ignore it, fail to become meta-aware of that experience. A similar account may help explain why individuals labeled as "repressors" can show substantial physiological (galvanic skin response) markers of experiencing stress when shown stressful videos but report experiencing no stress. Because they are highly motivated to deny their stress, they simply do not allow themselves to acknowledge it.

### **Faulty Theories**

If individuals have a particularly strong theory about what they should be experiencing in a particular situation, this may color their appraisal of their actual experience. A compelling recent example of this comes from people's reports of their experience

of catching a ball. Most people believe that as they watch a ball, their eyes first rise and then go down following the trajectory of the ball. Indeed, this is the case when one watches someone else catch a ball. However, when people catch a ball themselves, they actually maintain the ball at precisely the same visual angle. Nevertheless, when people who just caught a ball are asked what they experienced, they report their theory of what they think should have happened rather than what they actually experienced.

### Future Applications

Because researchers have tended to overlook the fact that people can fluctuate in their meta-awareness of experience, there are many unanswered questions about this intriguing aspect of consciousness. The following are just two examples.

#### **Implicit Attitudes**

In recent years, considerable attention has been given to implicit attitudes with the assumption that such attitudes are unconscious. The Implicit Association Test, for example, has been applied in countless contexts to reveal attitudes that are assumed to be below the threshold of awareness. However, it is possible that implicit attitude measures may, at least sometimes, reveal attitudes that people experience but are unwilling or unable to acknowledge to themselves. For example, implicit racists may indeed experience some aversion when seeing members of another race, but may simply fail to acknowledge this aversion to themselves.

#### **Individual Differences**

Although there are a variety of personality measures that assess the degree to which individuals focus on their internal states, relatively little research has examined whether there are reliable differences in people's ability to accurately gauge their internal states. In recent years, there have been major advances in psychophysiological and behavioral measurements of emotion, thereby making it increasingly possible to assess emotional state without having to rely on self-report measures. This raises the fascinating question of whether some people are more accurate in identifying changes in their emotional responses than others. It seems quite plausible that individuals who show greater coherence between self-reported changes in

affective states and other measures might be particularly effective in affective self-regulation because they are more "in touch" with their feelings.

*Jonathan W. Schooler*

*Jonathan Smallwood*

*See also* Consciousness; Implicit Attitudes; Individual Differences; Mindfulness and Mindlessness; Mind-Wandering; Self-Awareness

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## METACOGNITION

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### Definition

Metacognition means "thinking about cognition," and given that cognition generally refers to the processes of thinking, metacognition means "thinking about thinking." Metacognitive strategies are what people use to manage and understand their own thinking processes. Metacognition refers to *knowledge* about cognitive processes ("I'm bad at names"), *monitoring* of cognitive processes ("I'll remember that equation"), and *control* of cognitive processes ("Using flash cards works for me" or "I'll need to spend at least 2 hours studying this").

### Background

People are often in situations in which they are required to evaluate the contents of their memory. When people

are approached on a busy street and are asked for directions, how do they know if they know the directions or not? When studying a list of items to be remembered, how do people know how much time they should spend studying each item for memorization? Furthermore, how do people know that they know the name of a movie they once saw, even though they cannot produce the name of the movie? These phenomena fall under the category of metacognition. Metacognition is a broad category of self-knowledge monitoring. Metamemory is a category of metacognition that refers to the act of knowing about what you remember.

Metacognition is generally implicated in the knowledge, monitoring, and controlling of retrieval and inference processes involved in the memory system. Knowledge refers to the evaluation of conscious experience. Monitoring refers to how one evaluates what one already knows (or does not know). Processes involved in metacognitive monitoring include ease of learning judgments, judgments of learning, feeling of knowing judgments, and confidence in retrieved answers. Metacognitive control includes learning strategies such as allocation of study time, termination of study, selection of memory search strategies, and decisions to terminate the search.

Metacognition involves the monitoring and control of what is called the meta-level and the object-level, with information flowing between each level. The meta-level is the conscious awareness of what is or is not in memory, whereas the object-level is the actual item in memory. The meta-level essentially creates a model of the object-level, giving people the sense of awareness of that object's existence in memory. Based on this meta-level model, people can quickly evaluate what they know or think they know so they can decide whether they should spend the effort trying to recall the information. An example of how the meta-level works might be the person being asked directions by a traveler. Before attempting to recall the directions, the person will determine if he or she even knows the directions before he or she begins to try to recall the specific directions. Once the meta-level evaluates the memory state of the object-level and determines that the directions are known, a search for specific details would follow.

Given that metacognition involves the memory system, it will be helpful to briefly review the processes of human memory. Memory proper can be divided into three separate processes: (1) acquisition, (2) retention, and (3) retrieval. Acquisition is how people get information in memory. Acquiring information could be

reading a text passage, watching a movie, or talking to someone. The second stage, retention, refers to the maintenance of knowledge so that it is not forgotten or overwritten. The third and final stage is retrieval of the stored information. Retrieval, for example, might be the recall of the information (e.g., giving the traveler the directions) or the recognition of the information (e.g., marking the correct answer on a multiple choice test). Depending on which aspect of the memory stage is involved, different monitoring and control processes are involved.

### The Metacognitive System

The metacognitive system consists of two types of monitoring: (1) prospective, occurring before and during acquisition of information, and (2) retrospective, occurring after acquisition of information. Ease of learning and judgments of learning are examples of prospective monitoring.

Ease of learning involves the selection of appropriate strategies to learn the new information and which aspect of the information would be easiest to learn. For example, if the traveler decides that the directions are too difficult to remember, he or she might attempt to write them down, or he or she may ask for directions based on geographical locations rather than street-by-street directions. One way researchers study ease of learning is by having students participating in a memorization study indicate which items on a list would be easier to learn (ease of learning judgments). Participants would then be allowed a specific amount of time to learn the list during acquisition. Following a period when the information is retained in memory, a recall or recognition test would follow. The researcher then compares the ease of learning judgments with the memory performance to determine how well the judgments predicted performance. The findings indicate that ease of learning judgments can be accurate in predicting learning.

Judgments of learning occur during and after the acquisition stage of memory. Participants in a study examining judgments of learning may be asked to study a list of items and then asked to indicate which items they had learned the best. Or participants may be asked to provide judgments of learning after a retention period, just before the memory test is administered. Similar to the ease of learning judgments, judgments of learning are compared with a later memory test to determine how accurate the participants were in their judgments. Research has found that

judgments of learning become more accurate after practice trials. It is not known if judgments of learning are based on ease of learning or if they are based on previous recall trials.

Feeling of knowing can be either prospective or retrospective. Feeling of knowing is typically measured as an indication of how well a participant thinks he or she will be able to recognize the correct answer to a question in a subsequent multiple-choice task. Feeling of knowing studies typically use a recall-judgment-recognition task whereby participants are asked general information questions (sometimes trivia questions). If the participant is unable to recall the answer, he or she is then asked to provide a judgment evaluating the likelihood that he or she will be able to recognize the answer when seen in a multiple choice type test. When compared with recognition performance, feelings of knowing judgments are generally greater than chance, but far from perfect predictors of recognition. However, research on feeling of knowing has helped establish that people are able to provide accurate self-reports of their metacognitive states.

Confidence judgments are retrospective because they are taken after the retrieval of an item from memory. For example, after an eyewitness to a crime identifies someone from a lineup, he or she is often asked to provide an evaluation of his or her confidence in the identification either on a scale (e.g., from 1–10) or in terms of a percentage (“I’m 100% sure”). Confidence judgments are varyingly related to the accuracy of recall, depending on the type of information that is being recalled (verbal, spatial, pictorial), how much time the person had to study the information, or the context within which the judgment is being taken, among other factors. In some instances, such as in the eyewitness identification example, the relationship between confidence and accuracy is low, and thus confidence is not necessarily predictive of correct identification performance.

Metacognitive monitoring is studied by having participants provide judgments of their metacognitive state (e.g., “I know that,” “I remember that,” “I don’t know,” “I’m not sure”). A more naturally occurring metacognitive state is when a person has difficulty retrieving an item from memory yet has a sense that retrieval is imminent. This is commonly referred to as a tip-of-the-tongue state. In a tip-of-the-tongue state, a person is often able to partially recall bits and pieces of information related to the sought-after item. Researchers have often used partial recall created

while in a tip-of-the-tongue state as a “window” into the memory process because they can examine the types of partial information being recalled in relation to the properties of the memory item actually sought. It is believed that tip-of-the-tongue states are more than a memory curiosity and that they serve as a mechanism to evaluate one’s memory state and direct metacognitive control.

Ease of learning, judgments of learning, feeling of knowing, and confidence are ways metacognitive monitoring is examined. These processes are interrelated with metacognitive control. As with monitoring, metacognitive control is different for the different stages of memory. Control during the acquisition of memory can involve the selecting of the different types of processes to use. For example, if the item to be remembered is thought to be easy, very little processing may be allocated to the item. However, if an item is thought to be difficult, more elaborate rehearsal may be allocated. Control over the allocation of the amount of time given to study each item also occurs at the acquisition phase. For example, when studying for an exam, a student may decide to spend more time on a particular item that he or she feels will be eventually learned and little to no time on an item that is thought to be too difficult to learn and thus resulting in a waste of time. This control process is related to ease of learning. Finally, the decision to terminate study is a control process occurring at the acquisition phase. This decision is usually related to judgments of learning.

Metacognitive control over search strategies occurs during the retrieval of memory. These include the selection of search strategies and the termination of search. How elaborate a search does a person conduct for an item in memory? When approached and asked for directions in an unfamiliar part of town, it is not reasonable to exert too much time and energy attempting recall. However, if approached while in a familiar area, more effort may be allocated to a search. This process is related to the feeling of knowing. Tip-of-the-tongue states also influence retrieval strategies. When in a tip-of-the-tongue state, a person may spend so much time and cognitive resources to recall the information he or she becomes preoccupied and at times immobilized.

*Otto H. MacLin*

*See also* Controlled Processes; Learning Theory; Memory; Self-Awareness

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## METATRAITS

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### Definition

The term *metatraits* refers to differences in the extent to which people possess a given trait. Consider the trait of friendliness. People may differ not only in how friendly they are, but also in how much friendliness is relevant to their personality and guides their behavior. Friendliness may be a central aspect of Jane's personality and influence how she acts in many situations (e.g., with friends, romantic partners, coworkers, family members). However, friendliness may not be very relevant to Sue's personality, and therefore will not predict how friendly she acts around different people. The existence of metatraits means that when people measure a person's standing on a given trait (e.g., Agreeableness), they need to know not only where the person stands on the trait (e.g., how agreeable he or she is), but also how relevant the trait is to his or her personality (e.g., is agreeableness a relevant trait for the individual?).

When someone asks you to describe your personality, you will likely give a description that includes at least some personality traits. When describing other people, people also frequently describe the personality traits they possess. One person you know may be shy, responsible, and determined, whereas another person you know may be open to new experiences, extraverted, and lazy. Most psychologists agree that people's personality can be defined, at least in part, based on their standing on personality traits.

Although psychologists agree that an individual's personality consists of where he or she stands on

particular traits, they disagree about whether different traits are more important and relevant to some individuals than others. Researchers who adopt a *nomothetic* approach to personality argue that an individual's personality can be understood by finding out where he or she falls on a relatively small number of traits, and that one does not need to understand how these traits differ in their importance or relevance to the individual. Researchers who adopt an *idiographic* approach to personality argue that some traits are more relevant to some individuals than to others, and that failing to consider differences in how relevant traits are to individuals leads to important information being lost about the individual's personality. The concept of metatraits comes from the idiographic approach to personality.

### Measurement

Although it is relatively straightforward to measure a person's standing on a personality trait (e.g., to measure Extraversion, one might ask individuals to rate how outgoing they are, how much they like to be around others), it has proven more difficult to measure how relevant that trait is to the individual. One approach researchers have taken is to see how variable people's responses are to items measuring the same personality trait. Imagine you are completing a 10-item scale assessing your ability to empathize with others. If you respond very differently to items that are all supposedly measuring empathy, then an argument could be made that where you stand on empathy is not as relevant to your personality as to someone who responds in a consistent manner to all the items. Although this approach is reasonable, one problem with the method is that factors other than the relevance of the trait may produce variability in item responses (e.g., poor intelligence, laziness).

Therefore, researchers have recommended additional measures to assess metatraits. Some researchers have measured metatraits by seeing how stable people's responses to a personality trait scale are over three administrations (separated by at least a week). The more stable an individual's scores on the personality trait, the more relevant that trait is to the individual. Other researchers have recommended measuring trait relevance by measuring how fast someone responds to items measuring a trait (the faster the individual responds, the more relevant the trait), or by counting how many times a trait is mentioned when a person describes his or her life story (the more times a trait is

mentioned when talking about yourself, the more relevant the trait to your personality).

### Evidence of Importance

Understanding metatraits is important because the relevance of a given trait to an individual's personality is expected to determine whether the trait influences the individual's experience and behavior. Early research supported the hypothesis that personality traits would better predict behavior when the trait was more relevant to the individual. However, other researchers failed to replicate this relationship. More recently, researchers have found that the relationship between a person's self-ratings of personality and other people's ratings of the person's personality is stronger for those traits most relevant to his or her personality. This suggests that other people are more accurate at rating a person on traits more relevant to his or her personality. Recent research has shown that personality is a better predictor of objective job performance when the traits being assessed are more relevant to the individual's personality.

### Future Research

An exciting area for future research on metatraits is whether some personality traits are more relevant to people in general than others. For example, researchers have argued five primary traits underlay our personality: Extraversion, Openness to Experience, Agreeableness, Conscientiousness, and Neuroticism. These traits may be more relevant to people in general than are traits such as empathy, self-consciousness, and body image. The differences among traits in their relevance to individuals emphasize the importance of developing measures to assess how relevant a given trait is to the population of interest. To take an extreme example, imagine a culture in which personal ambition is de-emphasized and individuals are expected to do what they are told by authorities. In such a culture, the trait of achievement striving would not be relevant to the population, and therefore if members of this culture were to complete a measure of achievement striving, their scores on the measure would be largely meaningless. Understanding the relevance of a trait to different samples will help researchers select participants for whom scores on the trait are most meaningful.

*Thomas W. Britt*

*See also* Big Five Personality Traits; Individual Differences; Personality and Social Behavior; Personality Judgments, Accuracy of; Traits

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## MILGRAM'S OBEDIENCE TO AUTHORITY STUDIES

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Nations and cultures differ among themselves in countless ways, ranging from something as superficial as how people dress, to more serious matters, such as unwritten rules of appropriate social conduct. But one of the universals of social behavior that transcends specific groups is the presence of hierarchical forms of social organization. That is, all civilized societies seem to have people in positions of authority who are recognized as having the power or the right to issue commands that others feel obligated to follow. Most of the time, these authority–follower relationships serve useful functions. For example, children need to listen to parents to teach them right from wrong, that it is dangerous to cross the street when the light turns red, and countless other things. But there is also a potentially darker side to commands from authorities: their ability to lead their followers to act in ways that violate the followers' sense of right or wrong.

The most dramatic and powerful demonstration of this dark side of obedience was provided by a classic series of experiments on obedience to authority conducted by Stanley Milgram as a beginning assistant

professor at Yale University in 1961–1962. The work was stimulated by his attempt to shed some light on the Holocaust—the systematic murder of six million Jewish men, women, and children during World War II by the Germans, aided by their allies. For Milgram, obedience seemed a likely explanation to pursue because it was generally known that Germany society placed a high value on unquestioning obedience to authorities. In fact, initially his plan was to repeat his experiment in Germany, after completing his research with American subjects. This plan was scrapped after completing his research at Yale because he found such a high degree of obedience among his American subjects that he saw no need to go to Germany.

Yale was Milgram's first academic position after receiving his Ph.D. in social psychology from Harvard University. Although he was very creative and, later in his career, he conducted many other inventive studies, none surpassed his very first experiments, the obedience studies, in their importance and fame.

### Obedience Experiments

The subjects in the obedience experiments were normal adults who had responded to an ad in the *New Haven Register*, recruiting volunteers for a study of memory. When a subject arrived in Milgram's lab, he was met by the experimenter, who explained that his job was to try to teach another subject—the learner—to memorize a list of adjective–noun pairs. During the testing phase, each time the learner made a mistake, the subject-teacher was to punish the learner with an electric shock by pressing one of a row of 30 switches on a very realistic looking “shock generator.” Above each switch was a voltage label, beginning with 15 volts and ending with 450 volts. The experimenter told the teacher-subject that the rule was that on each subsequent error he had to give the next, more intense shock. So, on the first mistake, he would press the first switch, which supposedly delivered 15 volts; then the next time the learner erred, the teacher would press the next switch, corresponding to 30 volts, and so on. And he was to continue with the procedure until the learner memorized all the word-pairs.

The learner, seated in an adjacent room, was to receive the shocks via electrodes attached to his wrist. In actuality, the shock box was a fake, well-crafted prop that did not really deliver shocks, and the learner was in cahoots with the experimenter, deliberately making mistakes on specific trials and responding

with a scripted set of increasingly agonizing and pitiful protests. For example, at 120 volts, he yelled, “Ugh! This really hurts,” and by 195 volts he was howling, “Let me out of here! My heart's bothering me! . . .” Whenever the subject hesitated, the experimenter commanded him to continue with such prepared prompts as “The experiment requires that you continue.” Despite the learner's apparent suffering and the fact that the experimenter—though he projected an aura of technical proficiency—had no punitive means to enforce his commands, more than 60% of the subjects were fully obedient, continuing to “shock” the victim to the 450-volt maximum.

### Importance

Did we need Milgram to teach us that people tend to obey authorities? Of course not. What he *did* show that was eye-opening was just how powerful this tendency is—powerful enough to override moral principles. When acting autonomously, people don't generally hurt or harm an innocent individual who did nothing to merit harsh treatment. Yet, when commanded by an authority, most subjects readily did just that.

What is the psychological mechanism that enables an authority's commands to transform a normally humane individual into a pitiless tormentor? According to Milgram, when a person accepts the legitimacy of an authority—that the authority has the right to dictate one's behavior—that acceptance is accompanied by two changes in the person's mental set. First, the person relinquishes responsibility for his or her actions to the authority, and in so doing yields to the authority's judgments about the morality of what the person is requested to do. Second, the person accepts the authority's definition of the situation. So, if the authority sees someone as deserving of punishment, the person will also adopt that viewpoint.

Almost as important to know about the obedience experiments as what they tell us is what they *don't* tell us. It would be a mistake to conclude from Milgram's results that beneath the veneer of civility that people usually exhibit in their social relations they are actually ruthless and vicious, and their pent-up meanness is held in check by the rules and laws of society. That is, Milgram's laboratory merely created the opportunity for his subjects to give expression to their normally repressed sadistic tendencies. In other words, according to this view, Milgram's experiments don't enlighten people about the unexpected power of authorities, but

merely expose the force of people's destructive natures that are normally bottled up.

Milgram carried out more than 20 different versions of his obedience experiment, in addition to the one described. One of them clearly demolishes this contrary view. In this experiment, the beginning is very similar to Milgram's other conditions. The teacher-subject "punishes" the learner for each mistake with increasingly intense shocks, while the learner, sitting on the other side of the wall, complains more and more vehemently. This continues to 150 volts, when something unusual happens. The experimenter tells the teacher that they will have to stop because the learner's complaints are unusually strong, and he is concerned about the learner's well-being. Suddenly, a protesting voice is heard from the adjacent room. The learner *insists* that the experiment continue. His friend who had been a previous participant in the experiment told him that he went all the way, and to stop now would be a blot on his own manliness. If bottled-up destructive urges were the underlying cause of the subjects' behavior, they couldn't have asked for a better excuse to vent them. And yet, not *one single* subject continued beyond this point. The experimental authority's command was to stop, and everybody obeyed his commands.

The revelatory power of the obedience experiments goes beyond the vivid demonstration of people's extreme readiness to obey authorities, even destructive ones. Milgram's experiments also serve as powerful sources of support for one of the main lessons of social psychology: To paraphrase Milgram himself, often it is not the kind of person you are but, rather, the kind of situation you find yourself in that will determine how you act.

Among Milgram's series of experiments, a subset of four, the four-part proximity series, speaks directly to this point. In these experiments, Milgram varied the physical and emotional distance between the subject-teacher and the learner. At one end, in the condition of greatest distance, the Remote condition, the teacher and learner are separated by a wall, and there is only minimal complaint from the learner: He bangs on the wall twice during the whole shock sequence. In the second condition—the Voice-Feedback condition—the two are brought closer, at least emotionally. They are still in separate rooms, but now vocal protests are introduced into the procedure. With increasing voltages, the learner's complaints get more urgent and shrill. In the third condition—the Proximity (close

and near) condition—distance is further reduced by seating the learner next to the teacher. Now the teacher not only hears the learner's screams, but also sees him writhing in pain. In the fourth and final condition, the teacher-learner distance is reduced to zero. In this variation, rather than being hooked up to electrodes, the learner gets punished by having to actively place his hand on a shock plate. At 150 volts, he refuses to continue doing that and so the experimenter instructs the teacher to force his hand onto the electrified plate. The results: The amount of obedience gradually declined as teacher-learner distance was reduced. Although in the first condition, the Remote condition, 65% were fully obedient, only 30% continued giving the whole range of shocks in the last one, the Touch-Proximity condition.

## Implications

An important long-range consequence of Milgram's research is the regulations that are now in place in the United States and many other countries to safeguard the well-being of the human research subject. The ethical controversy stirred up by the obedience experiments, in which many subjects underwent an unanticipated and highly stressful experience—together with a handful of other ethically questionable experiments—led the U.S. government to enact regulations governing human research in the mid-1970s. The centerpiece of these regulations is the requirement that any institution conducting research with human subjects have an institutional review board (IRB) that screens each research proposal to ensure that participants will not be harmed. Ironically, the IRBs themselves have become a focus of controversy, especially among social psychologists. Most would agree that, in principle, they play an important role. However, many researchers believe that sometimes IRBs are overzealous in carrying out their duties and disapprove experiments that are essentially benign and harmless, thereby stifling research that could potentially result in valuable advances in our knowledge.

Milgram's productive career was a relatively short one. He died of heart failure on December 20, 1984, at age 51. But the legacy of his obedience experiments lives on, serving as continuing reminders of people's extreme willingness to obey authorities. And, having been enlightened about this, people can try to be more vigilant in guarding themselves against unwelcome commands. When ordered to do something that is

immoral or just plain wrong, stop and ask yourself, “Is this something I would do on my own initiative?”

*Thomas Blass*

*See also* Aggression; Compliance; Deception (Methodological Technique); Influence; Relational Models Theory

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## MIMICRY

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Mimicry refers to the unconscious and unintentional imitation of other people’s accents, speech patterns, postures, gestures, mannerisms, moods, and emotions. Examples of mimicry include picking up regional accents or expressions when on vacation, or shaking one’s leg upon observing another person’s leg shaking.

### Background

In the 1970s and 1980s, research on mimicry focused on exploring the relationship between behavioral mimicry (i.e., shared motor movements) and rapport between interaction partners. The two were found to be positively correlated. For example, counselors who mimic the postures of their clients are perceived by their clients to be more empathetic, warm, genuine, with more expertise; mothers and babies who share motor movements have more rapport; and classrooms characterized by high teacher–student rapport have more shared movements.

By the 1990s, researchers agreed that mimicry is related to empathy, rapport, and liking. However, because the thrust of the early research was on demonstrating an association between behavioral mimicry

and rapport, rather than on demonstrating experimentally that mimicry does occur and the conditions under which it occurs, several questions remained to be explored. One question concerned the ubiquity of mimicry. Does mimicry occur above chance levels in a social interaction? Another question concerned how the effects are produced. Does mimicry lead to rapport or does rapport lead to mimicry? Moreover, early research paid little attention to the fact that most mimicry occurs without conscious intention or awareness. If people’s behaviors passively and unintentionally change to match those of others in their social environments, then what are the minimal conditions needed to produce these chameleon effects? Do people mimic strangers or just friends? Do people need to have an active goal to get along with and be liked by the interaction partner?

Several experiments were conducted in the late 1990s to address these questions. In them, participants took turns with another participant (actually a confederate—part of the research team) describing a series of pictures. When the confederate performed certain behaviors, such as face rubbing or foot shaking, participants unintentionally rubbed their faces more or shook their feet more. In some cases, confederates were intentionally unlikable and mimicry still occurred. Participants were not able to report after the interaction what the confederate’s mannerisms were, or that they mimicked those mannerisms. In other experiments, the confederate either mimicked the postures, movements, and mannerisms displayed by the participants or not. Mimicked participants liked the confederate more and perceived their interactions as being smoother. Taken together, these studies suggested that mimicry leads to greater rapport, and it occurs at greater than chance levels, in the absence of any overarching goal to affiliate with an interaction partner, and without awareness or intention.

### Why Does Mimicry Occur?

One current explanation for why mimicry occurs is the *perception–behavior link*. Essentially, perceiving someone behave in a certain way activates a representation of that behavior in the mind of the perceiver and makes the perceiver more likely to engage in that behavior too. This happens because the mental representation that is activated when a person perceives a behavior overlaps with the mental representation that is activated when the person engages in that behavior

himself or herself, so the activation of one leads to the activation of the other.

Although this explanation suggests that mimicry is a by-product of the way concepts in people's minds are structured, this is not to say that social factors do not influence mimicry. Mimicry has evolved in the context of social interactions and serves an important social function. Recent experimental research has shown that people unconsciously mimic more when they have a goal to affiliate with others. Thus, if they want another person to like them, they start to mimic the other person more. Furthermore, a number of social contexts have been identified that seem to heighten people's desire to affiliate with others and therefore heighten their tendency to unwittingly mimic others' behaviors. For example, people are more likely to mimic peers, someone who has power over their outcomes, or someone who has ostracized them. People also engage in mimicry more if they are feeling too distinct from others.

Research has also shown that personality characteristics make certain people more likely to mimic than others. One such personality characteristic is self-monitoring. People who are motivated and able to monitor their public images and adjust to their social contexts are more likely to mimic their interaction partners when there are affiliation cues in the environment than are people who are less concerned with adjusting to their social environment. Another personality characteristic associated with mimicry is interdependent versus independent self-construal. People who perceive themselves to be part of a collective and strive to assimilate to their group—for example, people from Japan—are more likely to mimic their interaction partners than are people who perceive themselves to be distinct from others and possess individualistic ideals—for example, people from the United States. Finally, perspective taking has been related to mimicry, such that people who tend to put themselves in other people's shoes engage in more mimicry than those who do not.

### What Are the Consequences?

What are the consequences of behavioral mimicry? For the person who was mimicked, mimicry makes interaction partners seem more likable and makes interactions seem smoother. Mimicry also renders the mimicked person more helpful toward the mimicker

and more open to persuasion attempts by the mimicker. The effects of mimicry appear to generalize beyond the mimicker, making the person who was mimicked feel closer to others in general and engage in more prosocial behaviors, such as donating money to charities. Mimicry can also have consequences for the mimicker. For example, by imitating the postures, gestures, and facial expressions of another, one's own preferences, attitudes, and emotional experiences are affected. The phenomenon whereby feelings are elicited by patterns of one's facial, postural, and behavioral expressions is called *mood contagion* or *emotional contagion*.

Tanya L. Chartrand

Amy N. Dalton

*See also* Emotional Contagion; Independent Self-Construals; Interdependent Self-Construals; Nonconscious Processes; Self-Monitoring

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## MINDFULNESS AND MINDLESSNESS

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### Definitions

What is mindfulness? Phenomenologically, it is the feeling of involvement or engagement. How do people achieve it? Learning to be mindful does not require meditation. It is the simple process of actively noticing new things. It doesn't matter how smart or relevant the new distinctions are; just that they are novel for the person at the time. By actively drawing novel distinctions, people become situated in the present, sensitive to context and perspective, and they come to understand that although they can follow rules and

routines, those rules and routines should guide, not govern, their behavior. It is not difficult to understand the advantages to being in the present. When in the present, people can take advantage of new opportunities and avert the danger not yet arisen. Indeed, everyone thinks they are in the present. When they are mindless, however, they're "not there" to know that they are not in the present.

What is mindlessness? It is not the same thing as ignorance. Mindlessness is an inactive state of mind that is characterized by reliance on distinctions drawn in the past. When people are mindless, they are trapped in a rigid perspective, insensitive to the ways in which meaning changes depending on subtle changes in context. The past dominates, and they behave much like automatons without knowing it, where rules and routines govern rather than guide what they do. Essentially, they freeze their understanding and become oblivious to subtle changes that would have led them to act differently, if only they were aware of the changes. As will become clear, mindlessness is pervasive and costly and operates in all aspects of people's lives. Although people can see it and feel it in other people, they are blind to it in themselves.

Mindlessness comes about in two ways: either through repetition or on a single exposure to information. The first case is the more familiar. Most people have had the experience, for example, of driving and then realizing, only because of the distance they have come, that they made part of the trip on automatic pilot, as mindless behavior is sometimes called. Another example of mindlessness through repetition is when people learn something by practicing it so that it becomes like second nature to them. People try to learn the new skill so well that they don't have to think about it. The problem is that if they've been successful, it won't occur to them to think about it even when it would be to their advantage to do so.

People also become mindless when they hear or read something and accept it without questioning it. Most of what people know about the world or themselves they have mindlessly learned in this way. One example of mindlessness is described in the book *The Power of Mindful Learning*. The author was at a friend's house for dinner, and the table was set with the fork on the right side of the plate. The author felt as though some natural law had been violated: The fork "goes" on the left side! She knew this was ridiculous. Who cares where the fork is placed? Yet it felt wrong to her, even

though she could generate many reasons it was better for it to be placed on the right. She thought about how she had learned this. The author didn't memorize information about how to set a table. One day as a child, her mother simply said to her that the fork goes on the left. Forever after, that is where she was destined to put it, no matter what circumstances might suggest doing otherwise. The author became trapped without any awareness that the way she learned the information would stay in place in the future. Whether people become mindless over time or on initial exposure to information, they unwittingly lock themselves into a single understanding of information.

### Costs of Mindlessness

With this understanding of the difference between mindlessness and mindfulness, the next step is to understand the costs of being mindless. For those who learned to drive many years ago, they were taught that if they needed to stop the car on a slippery surface, the safest way was to slowly, gently, pump the brake. Today, most new cars have antilock brakes. To stop on a slippery surface now, the safest thing to do is to step on the brake firmly and hold it down. When caught on ice, those who learned to drive years ago will still gently pump the brakes. What was once safe is now dangerous. The context has changed, but their behavior remains the same.

Much of the time people are mindless. Of course, they are unaware when they are in that state of mind because they are "not there" to notice. To notice, they must have been mindful. More than 25 years of research reveals that mindlessness may be very costly to people. In these studies, researchers have found that an increase in mindfulness results in an increase in competence, health and longevity, positive affect, creativity, charisma, and reduced burnout, to name a few of the findings.

### Absolutes and Mindlessness

Most of what people learn they learn in an absolute way, without regard to how the information might be different in different contexts. For example, textbooks tell us that horses are herbivorous—that is, they don't eat meat. But although typically this is true, if a horse is hungry enough, or the meat is disguised, or the horse was given very small amounts of meat mixed

with its feed growing up, a horse may very well eat meat. When people learn mindlessly, they take the information in as true without asking under what conditions it may not be true. This is the way people learn most things. This is why people are frequently in error but rarely in doubt.

When information is given by an authority, appears irrelevant, or is presented in absolute language, it typically does not occur to people to question it. They accept it and become trapped in the mind-set, oblivious to how it could be otherwise. Authorities are sometimes wrong or overstate their case, and what is irrelevant today may be relevant tomorrow. Virtually all the information people are given is given to them in absolute language. A child, for example, may be told, "A family consists of a mommy, a daddy, and a child." All is fine unless, for example, daddy leaves home. Now it won't feel right to the child when told, "We are still a family." Instead of absolute language, if told that one understanding of a family is a mother, father, and a child, the problem would not arise if the circumstances change. That is, mindful learning is more like learning probable "truths" rather than mindlessly accepting absolutes.

Language too often binds people to a single perspective, with mindlessness as a result. As students of general semantics tell us, the map is not the territory. In one 1987 study, Alison Piper and Ellen Langer introduced people to a novel object in either an absolute or conditional way. The subjects were told that the object "is" or "could be" a dog's chew toy. Piper and Langer then created a need for an eraser. The question Piper and Langer considered was who would think to use the object as an eraser? The answer was only those subjects who were told "it could be a dog's chew toy." The name of something is only one way an object can be understood. If people learn about it as if the "map" and the "territory" are the same thing, creative uses of the information will not occur to them.

## Meditation and Mindfulness

One way to break out of these mind-sets is to meditate. Meditation, regardless of the particular form, is engaged to lead to post-meditative mindfulness. Meditation grew up in the East. Whether practicing Zen Buddhism or Transcendental Meditation, typically the individual is to sit still and meditate for 20 minutes twice a day. If done successfully over time, the categories the individual mindlessly accepted start

to break down. The path to mindfulness that Langer and her colleagues have studied may be more relevant to those in the West. The two paths to mindfulness are by no means mutually exclusive. In their work, Langer and colleagues provoke mindfulness by active distinction-drawing. Noticing new things about the target, no matter how small or trivial the distinctions may be, reveals that it looks different from different perspectives. When people learn facts in a conditional way, they are more likely to draw novel distinctions and thus stay attentive to context and perspective.

Most aspects of American culture currently lead people to try to reduce uncertainty: They learn so that they will know what things are. Nevertheless, things are always changing. Even the cells in the human body are constantly changing. When people experience stability, they are confusing the stability of their mind-sets with the underlying phenomenon. Instead, they should consider exploiting the power of uncertainty so that they can learn what things can become. Mindfulness that is characterized by novel distinction-drawing and meditation that results in post-meditative mindfulness will lead people in this direction. When people stay uncertain, they stay in the present and they notice; when they notice, they become mindful.

*Ellen Langer*

*See also* Automaticity; Conscious Processes; Learning Theory; Meaning Maintenance Model; Meta-Awareness; Metacognition; Need for Closure

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## MIND-WANDERING

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People's experience of their own thoughts is that thoughts rarely stay still; sometimes people's thinking is constrained by the task they are performing; at other moments, people's minds wander easily from topic to topic. The essential property of mind-wandering is that people's attention to the task fluctuates over time; instead of paying attention to the activity in which

they are engaged, they often focus privately on their thoughts and feelings. In this entry, what is known about the situations in which mind-wandering is experienced will be described, along with some of the consequences of these experiences when they occur. Finally, what the future may hold for the study of this remarkable yet ill-understood aspect of people's mental lives will be considered. First, the historical context within which to understand the study of mind-wandering will be considered.

### Historical Context

People are often told that humans are social animals, so it is a surprise to consider that often what goes on in the *private* mental lives of people is most interesting to psychologists. Mind-wandering is an interesting psychological phenomenon for just this reason: It is a uniquely human act, it is an essential part of a person's internal world, and it is an experience that all readers of this encyclopedia will immediately recognize. Moreover, mind-wandering occurs in almost all circumstances, throughout the life span, and, in all cultures, suggesting that it is a universal part of the human condition. Despite the clear importance of mind-wandering to humans, psychologists are still relatively ignorant about mind-wandering relative to other aspects of social psychology covered in this encyclopedia.

One reason for the relative ignorance about mind-wandering is because the nature of the experience often falls outside the boundaries of phenomena considered important by mainstream psychology. The assumptions of the work of behaviorists in the 20th century provide a clear example. Behaviorists often assumed that, first, the data of psychology should be based on observable facts rather than on the introspective evidence that had formed the focus of research in the previous century, and, second, that applying principles of learning was essential to understanding psychological phenomena. Mind-wandering is a clear candidate for neither—it is *private* experience and so accessible only through introspection. Moreover, because of its privacy, mind-wandering is an experience that is specifically unrelated to the learning that occurs in the environment.

In the 1960s, it became clear that the models of psychological functions based on the behaviorist account were too simple. The cognitive revolution, which occurred in response to these simple models,

emphasized the importance of internal cognitive states in determining human behavior. Despite the pioneering work of Jerome Singer and John Antrobus, who developed reliable techniques for measuring private experience, the mainstream of cognitive psychology remained reluctant to embrace mind-wandering research. Many cognitive psychologists felt that these states were best measured by the use of objective measures such as response times, rather than through verbal reports as is the *modus operandi* for mind-wandering. In addition, many researchers were put off because of researchers' lack of ability to manipulate—switch on and off mind-wandering—preventing the ability to draw causal conclusions.

Thirty years have passed and psychologists have not fully grasped the study of mind-wandering, and yet, interest in these spontaneous aspects of humans' internal lives is growing. One reason for this increase in interest is technological advances in psychophysiological measurement of the brain. The development of tools that allow psychologists to make detailed measurements of the extent to which attention is focused externally, such as event-related potentials, or can pinpoint the network of brain regions that show activation during mind-wandering, such as functional magnetic resonance imaging, suggest that it may be possible to observe changes consequent on mind-wandering in the waking brain. Objective correlates for mind-wandering would reduce researchers' reliance on verbal reports and so improve the status of mind-wandering as an important psychological phenomenon.

### The When and Where of Mind-Wandering

Most psychologists would probably agree that mind-wandering occurs most often in simple tasks with few interruptions. It is common, for example, to notice mind-wandering while reading or driving on an empty freeway. Similarly, people who engage in meditation will—all too clearly—recognize the rapidity with which attention can switch away from their breathing to their thoughts. These instincts are borne out by research. In the 1960s, research demonstrated that mind-wandering showed an inverse linear relationship with the time between events in a task. That is, the more targets in a block of a task, the less likely the participants were to report mind-wandering.

Mind-wandering is also frequent when people don't need to hold something in mind. This was demonstrated

in a study in which participants either held a number in mind for a short interval, before saying it out loud, or simply repeated the numbers out loud immediately upon hearing them. Mind-wandering was reported less often when people had to remember the numbers for these very short intervals than if they simply repeated them. The act of holding information in mind involves *working memory*, and so it has been suggested that mind-wandering is suppressed by tasks involving working memory load.

These simple information-processing influences, however, do not do justice to the other main influence on the experience of mind-wandering. A quick review of your last enjoyable visit to the cinema or consideration of the last good book you read clearly indicates that often one's mind wanders least when one is interested, intrigued, or absorbed. One study examined the relation between mind-wandering and interest. Participants read a number of texts, selected on the basis of either interest or difficulty. During reading, participants were less likely to be off task when reading interesting, but not difficult, text. When reading dry expository texts (like a social psychology textbook!), the lack of an absorbing narrative meant that participants had to resort to being vigilant regarding their own lapses to ensure they stayed on task.

### Oh, No! Mind-Wandering and the Attentional Lapse

All people have at some time made a very simple mistake that occurred, not because the task they were performing was difficult, but instead because they were not giving sufficient attention to what they were doing. Common examples of these sorts of mistakes include pouring coffee, rather than milk, onto your cornflakes or throwing away the vegetables but keeping the peelings. In the literature, these mistakes are referred to as *action slips* and often occur as a consequence of mind-wandering.

Researchers can study an analog of these thoughts under laboratory conditions. In these studies, individuals perform an extremely simple signal detection task. Participants are presented with long sequences of stimuli (e.g., the numbers 0 through 9 in a random order) and are asked to press a key whenever these items appear on the screen. Participants are also told not to respond to a small selection of the items (e.g., the number 3). In these circumstances, because the

task is so straightforward, the failure to correctly inhibit a response is often the result of failure to pay enough attention to the task, and so often results from mind-wandering. After this mistake, normal individuals, but not head-injured participants, usually indicate that they were aware that they made a mistake. This awareness that attention had lapsed is referred to as the *Oops phenomenon* and indicates that the attentional system is tuned to disrupt experiences like mind-wandering if they lead to failures in one's ability to react appropriately to salient external events.

Although the attentional system is very aware of some mistakes, certain sorts of errors seem to fly under people's radar when they are mind-wandering. It is common during reading, for example, to notice that even though the words have been sounding in your head, for some little time your attention was elsewhere. When people notice that their minds have wandered in this fashion, it is often apparent that this has been occurring for some time because they can often reconstruct the narrative of their thoughts or trace back in the book to the last place they were paying attention.

To demonstrate this phenomenon in the laboratory, researchers asked people to detect periods when the text turned to nonsense. People often missed these sentences and read for an average 17 words before they recognized that the text was not making sense. The researchers also demonstrated that periods when participants were missing gibberish were associated with greater frequencies of mind-wandering than would be gained by random sampling alone. These empirical studies provide evidence that when the mind wanders, a person often continues to read for some time without actually registering the meaning of what is being presented. The lengths of time for which these errors occur suggest that during mind-wandering, participants may become so wrapped up in their internal worlds that they lose awareness that they are doing so. This failure to be aware of one's awareness is a failure of *meta-awareness* (i.e., the awareness of one's own experiences).

### What's Next?

The questions facing those who study mind-wandering are some of the most intriguing problems in social psychology today. Once research has successfully identified the neural substrates of the system that is

responsible for wandering, this will bring exciting questions. One possibility is that the determination of the neural substrates of mind-wandering will allow psychologists to understand the functional purpose of the system that produces these thoughts. Several authors have suggested that mind-wandering is associated with creativity and insight problem solving, and it is possible that functional magnetic resonance imaging could help elucidate this issue.

The most interesting question that arises from consideration of this topic is why the mind wanders. One possibility is that people mind-wander simply because their cognitive system is only able to maintain awareness of their own experiences intermittently. The common experience of catching one's mind wandering provides strong phenomenal support for the notion that people at times are unaware that they have ceased to pay attention to their task. As such, the frequency of mind-wandering could indicate the extent to which people are unaware of their own experiences. A second suggestion is that mind-wandering simply reflects people's inability to control their own cognitive processes. The simple fact that people often experience these thoughts even though they are attempting to concentrate on a task suggests that mind-wandering may occasionally occur without their tacit consent. In fact, a body of research, *ironic processes theory*, demonstrates that attempts at cognitive control often create conditions when the intentional control of experience is undermined. Finally, it is possible that mind-wandering occurs because pertinent personal goals can become automatically activated in people's awareness.

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*See also* Attention; Ironic Processes; Memory; Meta-Awareness

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## MINIMAL GROUP PARADIGM

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### Definition

The minimal group paradigm is a procedure that researchers use to create new social groups in the laboratory. The goal is to categorize individuals into groups based on minimal criteria that are relatively trivial or arbitrary. For example, the classic procedure involves asking participants to rate paintings made by two artists with similar abstract styles. Participants are then told that they are members of a group that prefers one of the painters to the other. This is their new ingroup, and the people who prefer the other painter represent a new outgroup. In reality, participants are assigned randomly to one of the two groups. In addition, the members of each group remain anonymous and group members have no interaction or contact with one another. Thus, the minimal group paradigm creates a situation in which individuals are separated into novel ingroups and outgroups, and these individuals have no previous experience with these groups.

### Purpose

The minimal group paradigm was first used in the 1960s to examine whether social prejudice and discriminatory behavior result from the mere categorization of people into ingroups and outgroups. Previously, researchers had studied prejudice and discrimination involving preexisting groups with long histories (for example, based on race, ethnicity, or nationality). It largely was believed that these groups perceive real conflict with one another (for example, over resources) and that this conflict leads to beliefs and behavior that favor the ingroup over the outgroup. A European psychologist, Henri Tajfel, wondered whether the experience of conflict was actually necessary to produce ingroup-favoring biases. Perhaps prejudice and discrimination are more fundamental and basic to the human condition. Tajfel and his colleagues demonstrated that participants assigned to

groups using the minimal group paradigm behaved in ways that favored their new ingroup and disadvantaged the outgroup. Thus, conflict between groups does not appear to be necessary to produce ingroup favoritism (although conflict is still very important to intergroup relations).

### **Ingroup Favoritism and Outgroup Derogation**

The minimal group paradigm has since been used by researchers hundreds of times. Merely categorizing people into new groups affects a wide variety of perceptions, evaluations, and behaviors that reveal the degree to which people favor new ingroups over new outgroups. For example, group members evaluate new ingroups more positively on personality and other trait ratings (such as “likeable” and “cooperative”), and they evaluate products and decisions made by new ingroups more positively (even when they personally didn’t contribute to these products or decisions). Group members also allocate more resources (including money) to members of new ingroups. There is some controversy about the degree to which group members respond in a positive way toward the ingroup (ingroup favoritism) versus a negative way toward the outgroup (outgroup derogation). On the whole, however, it appears that ingroup favoritism is more prevalent than is outgroup derogation in the minimal group paradigm.

The tendency to express ingroup favoritism is very robust and persists even when changes are made to the minimal group paradigm. For example, researchers have changed the basis on which participants believe they are assigned into groups. In the original procedure, participants were led to believe that they shared a preference for a particular artist with their fellow ingroup members. Perhaps this perceived similarity drives ingroup favoritism. However, even when group assignment is completely random (e.g., based on a coin flip), people continue to favor the ingroup over the outgroup in many ways. Researchers also have examined how status differences between the new ingroup and outgroup affect ingroup favoritism. For example, participants have been told that either a majority or a minority of people are classified into their new ingroup. Regardless, participants continue to express ingroup favoritism. Participants also have been told that their new ingroup performed either better or worse on an intelligence test than the outgroup.

Surprisingly, participants who were told that their group performed worse than the outgroup still evaluated the ingroup more positively than the outgroup.

### **Theoretical Explanations**

Social psychologists have suggested several reasons why group members display ingroup favoritism in the minimal group paradigm. Tajfel and his colleagues provided an explanation focusing on social categorization and social identity. Social categorization refers to the way in which people are classified into social groups. Just as people automatically perceive nonsocial objects as belonging to different categories (for example, shoes versus mittens), they also tend to categorize people into different groups. Social categorization is useful because it provides order and meaning to the social environment. For example, it is useful to be able to distinguish police officers from pharmacists. In different situations, different bases for categorizing people become relevant. For example, categorization may be based on gender or sexual orientation when people discuss romantic relationships, whereas it may be based on nationality or religious affiliation when people discuss international terrorism. In addition to classifying others into groups, social categorization also typically results in the classification of the self into a particular group. For example, a man may think of himself primarily as being male in some situations, whereas in other situations, he may think of himself primarily as being an American. Social identity refers to the aspects of the self-image that derive from these group memberships. When a particular group membership is used as the basis for social categorization, the corresponding social identity is based on that group membership. Thus, if a man is thinking about himself as an American (perhaps because he is speaking with a Japanese business associate about differences between the two countries), then his American identity is at the forefront. Importantly, according to Tajfel, social identity can be more or less positive in different contexts, and this has implications for self-esteem. Having positive self-regard (high self-esteem) is a basic human motive. So, people often engage in mental gymnastics (so to speak) to maintain or enhance their self-esteem.

How does all of this help explain ingroup favoritism in the minimal group paradigm? According to Tajfel, the link between social identity and self-esteem creates pressure to evaluate ingroups positively in comparison with outgroups. This is called positive differentiation.

In the minimal group paradigm, the only relevant basis for social categorization is the novel ingroup and outgroup that the participants have just learned about. Thus, participants' social identities and self-esteem are linked to these new groups. Because their self-esteem is on the line, they express favoritism toward the new ingroup (in whatever manner the research context provides) to positively distinguish the new ingroup from the new outgroup. So, participants evaluate the ingroup more positively, rate the ingroup's products and decisions as being superior, and give more resources to the ingroup all as ways to maintain a positive social identity and protect or enhance their sense of self-esteem.

Other researchers have suggested other explanations for ingroup favoritism in the minimal group paradigm. For example, it may be that assigning participants into groups affects their expectancies about the proper way to behave in that context. That is, people may have learned that interactions between groups are typically competitive, and thus they act competitively whenever they are in an intergroup context. Alternatively, people may evaluate the ingroup more positively and give them more resources because they expect their ingroup members to do the same for them. This is known as reciprocity. Another explanation is that learning about new social groups creates uncertainty and ambiguity. Generally speaking, people are uncomfortable in situations in which they are uncertain or unfamiliar. Designating the ingroup as being superior to the outgroup may restore some degree of certainty and order to the social environment that is created by the minimal group paradigm. Finally, several researchers have suggested that when people learn about new social groups to which they belong, they automatically assume that the new ingroup will be similar to themselves. Given that most people perceive themselves positively, the default expectation is that new ingroups are also positive.

### Broader Implications

In terms of societal implications, the robust tendency to express ingroup favoritism has two sides. On one hand, the basic tendency appears to be one in which people favor the ingroup rather than derogate the outgroup. This positive orientation toward the ingroup is likely beneficial when interacting with fellow ingroup members. On the other hand, ingroup favoritism sets the stage for negative intergroup relations.

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*See also* Ingroup–Outgroup Bias; Self-Categorization Theory; Social Categorization; Social Identity Theory

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## MINORITY SOCIAL INFLUENCE

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### Definition

Many tasks and decisions are completed by groups of people instead of by a single person. One challenge of group tasks and decisions is that members of groups are not always in agreement with each other; some members of the group might hold that one view or behavior is preferable, whereas other group members might hold that an opposing view or behavior is preferable. For example, work groups may disagree on business plans, medical teams may disagree on patient diagnoses, and trial juries may disagree on a defendant's guilt or innocence.

In many situations in which group members disagree, opposing views are not equally represented in the group. For example, 4 jurors in a 12-person jury may believe the defendant to be not guilty, whereas the remaining 8 believe the defendant to be guilty. One view is expressed by a numerical minority (e.g., 4 jurors who claim not guilty) and an opposing view is expressed by a numerical majority (e.g., 8 jurors who claim guilty). Although subgroups may differ in aspects such as power, status, or individual characteristics, the terms *majority* and *minority* refer to the number of people who support each view. Both the majority and minority groups may strive to change the opposing views of the other group members.

*Minority social influence* refers to the minority group's influence on the majority group members' views or behavior. Although minority and majority members may share the goal of influencing group members who hold opposing views, they differ in their underlying motivations, the strategies to achieve influence, and the outcomes of those strategies.

### Motivations for Minority Influence

Although a majority is typically thought of as more influential than a minority, minority group members may be particularly motivated to influence the group's views and behaviors in certain situations, such as when minority members are highly invested in the outcome of the group task or decision. This is especially likely if the outcome of the task or decision has direct implications for the minority group members. For example, a work group may decide that an effective way to save money is to eliminate departments. The minority members of the work group who would lose their jobs as a result of this decision have a strong interest in lobbying for an alternative plan that would not eliminate their departments.

Sometimes members of the minority may be motivated to influence majority members because the minority members have more knowledge or expertise than the majority members do. For example, the minority of a medical team might include the most experienced doctors of the group. If the team of doctors is in disagreement about a diagnosis, the experts in the minority may be especially motivated to guide the decision that the group makes. The minority of experts may attempt to convince the majority members to trust the minority's knowledge and expertise.

Personal characteristics of the members of minority groups also might encourage them to influence the outcome of a group task or decision. For example, minority members who are very outgoing or have high self-esteem are more likely to speak up if they disagree with the majority. Some minority members may feel threatened because the majority outnumbers them. This feeling of threat might encourage minority members to increase their number of supporters to be equal to or exceed the majority in size. Also, minority group members may feel a personal responsibility to defend their views if their views are very strong or very important to them. Although it is often easier to side with the majority to bring the group to an agreement, the minority might be motivated to take a stand

and attempt to influence the majority view or behavior for many reasons.

### Strategies for Minority Influence

The strategies that minority groups use to influence the majority group are fundamentally different from the strategies majority groups use to influence the minority group. In general, majority group members seek to maintain the status quo, or current majority view and behavior within the group, whereas minority members seek to change the status quo. Stated another way, minority group members work to change the way the group generally believes or acts. In contrast, majority group members tend to play a more defensive role to keep the group view and behavior the way it is. To preserve the status quo, majority members focus on inducing *compliance* in group members to influence them to publicly endorse the majority position, regardless of their private beliefs. Minority members, on the other hand, try to induce *conversion* in group members to change what group members privately believe. Ultimately, minority members hope that the changed private belief will lead to a change in public behavior (e.g., voting) that coincides with the private belief.

To induce conversion, minority members must engage the attention of majority members. Next, minority members should coherently express their alternative view and provide a strong rationale for it. The goal is to cast doubt or uncertainty on the majority view and present the minority's view as the best alternative. After the initial presentation of their position, members of the minority must be consistent in their support for their position over time. In this way, the minority demonstrates that the alternative position is credible and that the minority is committed to the view. Finally, minority members should emphasize that the only way to restore stability and agreement in the group is by majority members changing their views.

Although these general strategies increase the chances that the minority will successfully influence the majority to adopt its position, they might not be effective in all situations. For instance, a particularly powerful majority group might be extremely resistant to the minority view no matter how strong the minority case might be. However, the minority may still influence the majority through indirect routes. For instance, minority members may continuously remind the majority of the importance or implications of the

group's task or decision, which may encourage members of the majority to think more critically about their views or delay a final decision until they seek more information. If majority members are willing to collect more information, they may be more willing to consider the details of the minority's viewpoint.

Another important factor in minority social influence is the relationship between the minority and majority in the group at the time that a disagreement occurs. If the members of the minority have established relationships or shared experiences with members of the majority, then attempts at minority influence may be more successful. For example, the minority members might have agreed with majority members in previous tasks or decisions. As a result, majority members might be more welcoming of an opposing view from minority members who have established a positive relationship with the majority in the past.

### Outcomes of Minority Influence

In general, minority social influence may differ from majority influence in both the degree and kind of outcomes of their strategies. The social influence that is elicited by a minority group is usually more private and indirect than is influence by a majority group. In addition, the effects of minority influence may not appear immediately. However, minority influence may change majority group members' private beliefs, which can lead to changes in outward behavior later.

Minority social influence also may alter the group's general view on issues that are indirectly related to the task or decision at hand. Minority influence may stimulate divergent thinking among majority members, thus encouraging the majority to consider multiple perspectives on an issue. This increased flexibility in majority members' thinking may lead to changes in some different but related views. For example, a majority group that opposes abortion rights may face a minority that supports abortion rights. Although the majority may refuse to change its view on abortion, it may be willing to consider changing views on related issues such as contraception use. Even if divergent thinking does not change the view that the majority holds on the disagreement at hand (e.g., abortion), flexible thinking may be the first step toward change in the future.

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*See also* Dual Process Theories; Group Decision Making; Influence; Social Impact Theory

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## MISATTRIBUTION OF AROUSAL

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### Definition

Misattribution of arousal refers to the idea that physiological arousal can be perceived to stem from a source that is not actually the cause of the arousal, which may have implications for the emotions one experiences. For example, if a professor was unknowingly served a caffeinated latte at her coffee shop one morning instead of the decaf she ordered, and then during her midmorning lecture noticed her heart racing and her hands visibly shaking, she may assess the situation and determine the class full of staring students to be the cause of her arousal (rather than the caffeine buzz actually responsible for the symptoms). Consequently, the professor may feel unusually nervous during her lecture.

### Background

The concept of misattribution of arousal is based on Stanley Schachter's two-factor theory of emotion. Although most people probably think they just spontaneously know how they feel, experiencing an emotion is a little more complicated according to the two-factor theory. The theory suggests that two components are necessary to experience an emotion: physiological arousal and a label for it. Schachter suggested that physiological states are ambiguous, so one looks to the situation to figure out how one feels. So if

your heart is pounding and you have just swerved out of the way of an oncoming car, you will attribute the pounding heart to the accident you almost had, and therefore will label your emotion “fear.” But if your near collision is with a classmate upon whom you have recently developed a crush, you would probably interpret your pounding heart quite differently. You may think, “This must be love that I am feeling.” Based on the two-factor theory, emotional experience is malleable because the emotion experienced depends partly on one’s interpretation of the events that caused the physiological arousal.

### Classic Research

Schachter and his colleague Jerome Singer tested the misattribution of arousal hypothesis in a classic experiment conducted in 1962. They told participants that they were testing the effects of a vitamin on people’s vision. In reality, however, some participants were injected with epinephrine (a drug that causes arousal, such as increased heart rate and shakiness). Of these participants, some were warned that the drug causes arousal and others were not. Schachter and Singer predicted that participants who were not informed of the drug’s effects would look to the situation to try to figure out what they were feeling. Therefore, participants unknowingly given the arousal-causing drug were expected to display emotions more consistent with situational cues compared with participants not given the drug and participants accurately informed about the drug’s effects. The results of the experiment supported this hypothesis. Compared with participants in the other two conditions, participants who had received the drug with no information about its effects were more likely to report feeling angry when they were left waiting in a room with a confederate (a person who appeared to be another participant but was actually part of the experiment) who acted angry about the questionnaire that he and the real participant had been asked to complete. Likewise, when the confederate acted euphoric, participants in this condition were also more likely to feel happy. With no information about the actual source of their arousal, these participants looked to the context (their fellow participants) to acquire information about what they were actually feeling. In contrast, participants told about the drug’s effects had an accurate explanation for their arousal and therefore did not misattribute it, and participants

not given the drug did not have any arousal to attribute at all. These findings parallel the example of the professor who did not know that caffeine was responsible for her jitters and therefore felt nervous instead of buzzed. In each case, attributing one’s arousal to an erroneous source altered one’s emotional experience.

In a classic experiment conducted by Donald Dutton and Arthur Aron in 1974, the misattribution of arousal effect was shown to even affect feelings of attraction. In this experiment, an attractive female experimenter approached men as they crossed either a high, rickety suspension bridge or a low, safe bridge at a popular tourist site in Vancouver, Canada. Whenever an unaccompanied male began to walk across either bridge, he was approached by a female researcher who asked him to complete a questionnaire. Upon completion, the researcher wrote her phone number on a corner of the page and said that he should feel free to call her if he wanted information about the study results. The researchers found that more men called the woman after crossing the rickety bridge compared with the stable bridge. The explanation for this finding is that men in this condition were presumably breathing a bit more rapidly and had their hearts beating a bit faster than usual as a result of crossing the scary bridge, and when these effects occurred in the presence of an attractive woman, they misattributed this arousal to feelings of attraction.

### Implications

The misattribution paradigm has been used as a tool by social psychologists to assess whether arousal accompanies psychological phenomena (e.g., cognitive dissonance). For students of social psychology, the message is that, consistent with many findings in social psychology, aspects of the situation can have a profound influence on individuals—in this case, on the emotions an individual experiences. Consequently, you may want to take your date to a scary movie and hope that your date will interpret his or her sweaty palms as attraction to you, but be careful, because in this context, arousal caused by actual feelings of attraction may also be attributed to fear in response to the scary film.

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*See also* Arousal; Emotion; Excitation-Transfer Theory

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## MODELING OF BEHAVIOR

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### Definition

Modeling is one way in which behavior is learned. When a person observes the behavior of another and then imitates that behavior, he or she is modeling the behavior. This is sometimes known as observational learning or social learning. Modeling is a kind of vicarious learning in which direct instruction need not occur. Indeed, one may not be aware that another is modeling his or her behavior. Modeling may teach a new behavior, influence the frequency of a previously learned behavior, or increase the frequency of a similar behavior.

### Components of Modeling

Four steps are involved in the modeling of behavior. The first is *attention*. Before a behavior can be replicated, one must pay attention to the behavior. The next step is *retention*. One must be able to remember or retain the observed behavior. The third stage is *reproduction*. One must be able to translate the images of another's behavior into his or her own behavior. In short, one must have the ability to reproduce the behavior. The final stage is *motivation*. In the end, one must be motivated to imitate the behavior. Until there is a reason, one will not model the behavior.

### Behaviors Influenced by Modeling

Many categories of behaviors are known to be influenced by modeling. One such category of behavior is helping. For example, studies have indicated that

children exposed to prosocial models were more helpful than were children who lacked exposure to such models. Modeling also influences aggression. Children exposed to a model playing aggressively mimicked the same aggressive play later, whereas peers unexposed to the aggressive model did not play as aggressively. Research has also found that when children observed an aggressive behavior that produced positive outcomes for the model, they behaved more aggressively. It seems that having seen a positive outcome for an aggressive model increased aggressive behavior in the observer. In addition, modeling influences gender-role behavior. Children learn gender-appropriate behaviors and preferences by imitating same sex models.

### Effective Models

Many factors contribute to the effectiveness of a model. Ordinarily, the more attractive or desirable the model is to the observer, the more likely that model will be imitated. The desirability or attractiveness of the model is partially influenced by the prestige the model has to the observer. This explains why parents and teachers often serve as models for behavior. The effectiveness of the model is also to a degree influenced by similarity. The more similar the model is to the observer, the more effective the model will be. This explains why peers provide such strong models for behavior. Furthermore, effective models do not have to be human or live. Puppets and cartoons, as well as television and movie characters, often serve as effective models for behavior.

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*See also* Aggression; Bobo Doll Studies; Helping Behavior; Influence; Social Learning

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## MODE MODEL

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Sometimes people's attitudes predict their behavior and sometimes they don't. Most people have a positive attitude toward donating money to charity, but they don't tend to give their hard-earned cash away whenever a charitable organization requests it. Similarly, many White individuals harbor a negative prejudice toward Blacks, but they often treat many Black individuals they meet with kindness and respect. Why do people's behaviors seem to naturally flow from their attitudes on some occasions but not on others? The MODE model (*m*otivation and *o*pportunity as *d*eterminants of the attitude-behavior relationship) addresses this question.

### Key Concepts

Before describing the model, it is important to clarify some concepts. *Attitude* means any positive or negative association that one has with a given object, which can be anything—a person, political issue, food, and so on. According to the MODE model, one's attitude toward an object, say, one's mother, is an association in memory between the attitude object (mother), and one's evaluation of it (positive or negative). Thus, for many objects in one's memory, there is an evaluation directly linked to it. Importantly, the strength of this association can vary. For some attitude objects, there is a very weak link between the object and its evaluation. This would be the case for someone who, for example, has weak attitudes toward various brands of dish detergent. On the other hand, sometimes the link in memory between an object and its evaluation is very strong, as when someone has a strong positive attitude toward his or her mother. Sometimes the link between an object and its evaluation is so strong that merely seeing the object automatically activates the attitude. If seeing a picture of your mother immediately produces warm, positive feelings, then your attitude toward your mother is automatically activated.

### Direct Influences of Attitudes on Behavior

The MODE model argues that attitudes, particularly strong attitudes, are functional—they steer people toward positive things and away from negative things. The MODE model argues that strong attitudes—those

that are automatically activated—are more likely to guide behavior. Thus, one way that attitudes and behavior can relate is in a relatively direct fashion. For example, your attitude toward your mother might be automatically activated when you see a picture of her, which then prompts you to pick up the phone and call her. Similarly, if you have a strong attitude toward chocolate, the mere sight of a piece of chocolate might immediately prompt you to pick it up and eat it. In both of these cases, attitude-relevant behavior flows directly from your strong attitude. This direct, attitude-to-behavior route is one of the two ways that the MODE model argues attitudes relate to behavior.

As suggested in the opening paragraph, however, sometimes people's attitudes—even strong ones—don't directly guide their behavior. You might, for example, decide to wait until later to call your mother, and you might remind yourself that you're trying to eat more healthfully and resist devouring that chocolate. The MODE model also describes the conditions under which strong, automatically activated attitudes do not guide behavior. As the MODE acronym implies, two factors—motivation and opportunity—must be present to break the direct attitude-to-behavior link. Each factor will be explained.

### Motivation and Opportunity

The term *motivation* is used in a very broad sense within the MODE model, but it refers to any effortful desire one might have to behave in a certain way or reach a certain conclusion. In the example mentioned earlier, you might desire to eat better, which might lead you to overcome your strong positive attitude toward chocolate and avoid eating it. Similarly, you might be motivated to assert your independence from your parents, which might lead you to avoid calling your mother at the mere sight of her picture.

Despite any motivation you might have, however, the opportunity factor must also be present for your behavior not to be determined by your attitude. Opportunity means the time, energy, and ability to overcome the influence of your attitudes. For example, you might be motivated to eat better, but if you don't have the willpower to resist temptation, you might eat the chocolate anyway. Interestingly, there are cases when one lacks the ability to inhibit the influence of one's attitudes on behavior—particularly nonverbal behavior. You might, for example, have a negative attitude toward your boss, yet you are also probably motivated

to be nice to him or her. Despite your efforts to be nice to your boss, you might be unable to contain that subtle sneer when you see him or her. In other words, your motivation to be nice is ineffective at curbing the influence of your attitudes because of a lack of ability. Thus, before any motivation can be effective at overcoming the influence of your attitude, the opportunity factor must also be present.

### Evidence

A large body of research supports the basic tenets of the MODE model. In one experiment, participants were asked to decide between two department stores in which to buy a camera. One store was excellent overall, except for the camera department. The other store had a good camera department, but was poor overall. Participants' store choice indicated whether they used their attitude toward the stores to guide their decision (if they chose the first) or whether they moved beyond their attitudes and focused on the specific attributes of the stores (if they chose the second). Some participants in this study were also told that they would have to justify their answers to others later, and others were not (a manipulation of motivation). Also, some participants had to reach a decision quickly, and others had unlimited time to decide (a manipulation of opportunity). Consistent with the MODE model, only participants in the high motivation, high opportunity condition chose the department store with the better camera department. People relied on their global attitudes toward the stores to guide their behavior unless both motivation and opportunity were present.

The MODE model has also been applied to the study of racial prejudice. In one experiment, White participants' automatically activated attitudes toward Blacks were assessed using a unique measure that taps people's strong attitudes without having to ask them. In an earlier session, participants also completed a measure of their motivation to control prejudiced reactions toward Blacks, which asked participants to indicate their agreement with items like, "I get angry with myself when I have a thought or feeling that might be considered prejudiced." In a final session, participants were shown pictures of people of various races (e.g., Black, White, Asian) depicted in various occupational roles (e.g., doctor, business person, brick layer), and were asked to make first impressions of them. They had unlimited time to make their ratings, so the

opportunity factor was high for all participants. The question this study addressed was whether people's impressions of Black and Whites would be guided directly by their automatically activated racial attitudes, or whether motivation to control prejudice might be used to try to "correct" for their prejudices. The results were consistent with the MODE model: Participants who were not motivated to avoid racial prejudice used their racial attitudes to make their impressions of the people. For those with negative attitudes toward Blacks, their impressions of the Blacks relative to the Whites were negative, and for those with positive attitudes toward Blacks, their impressions of the Blacks relative to the Whites were more positive. However, motivated participants tried to correct for their racial biases. Interestingly, they even appeared to overcorrect. Motivated participants with negative attitudes toward Blacks reported more positive impressions of Blacks relative to Whites. These individuals might have been motivated by a fear of being accused of prejudice. Motivated participants with positive attitudes toward Blacks reported more negative impressions of Blacks relative to Whites. These individuals might have been motivated by a fear of being accused of showing preferential treatment to Blacks.

The MODE model provides a means of conceptualizing situations, such as racial prejudice, where people "can't help" but feel a particular way—that is, when they disagree with their own attitudes. Sometimes people's attitudes influence their behavior directly, through an automatic process. However, as the MODE model states, when both motivation and opportunity are present, people can behave differently than their attitudes would imply.

*Michael A. Olson*

*See also* Attitude–Behavior Consistency; Attitudes; Attitude Strength

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## MODERN RACISM

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*See* SYMBOLIC RACISM

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## MORAL COGNITIONS

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*See* MORAL REASONING

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## MORAL DEVELOPMENT

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### Definition

Moral development refers to age-related changes in the thoughts and emotions that guide individuals' ideas of right and wrong and how they and others should act. In addressing this broad concept, theorists and researchers have focused on the moral cognitions, feelings, and behaviors that tend to evolve from early childhood to adulthood.

### Moral Cognitions

Some researchers have emphasized the cognitive component of morality by studying the development of moral reasoning. Based on his observations of and interviews with 4- to 12-year-old children, Jean Piaget proposed a two-stage model of moral development. In the first stage, young children view rules as rigid, unchangeable, and handed down by authorities. By the second stage, older children have become aware that rules and laws are established and maintained through mutual consent, and as a result, they view rules and laws as flexible and changeable rather than as absolute.

Lawrence Kohlberg revised and extended Piaget's model after extensively interviewing people of different

ages about various moral dilemmas (for example, whether a man should steal from a pharmacist an extremely expensive drug that may save his wife's life). The model that Kohlberg proposed describes individuals' moral reasoning as progressing through an age-related sequence of three levels, each composed of two distinct stages. In general, Kohlberg's model describes the basis of individuals' moral judgments as evolving from externally imposed rules and laws to internally determined standards and principles.

There have been numerous criticisms of Kohlberg's conclusions concerning the development of moral judgment. For example, Carol Gilligan argued that Kohlberg's view of moral reasoning emphasizes issues of justice, law, and autonomy, which are associated with a traditionally male perspective of morality, and ignores issues such as a concern for the welfare of others and the preservation of interpersonal relationships, which are associated with a traditionally female perspective of morality. Other critics of Kohlberg's theory and research on moral judgment caution that how a person thinks about morally relevant situations may provide little insight into how that person will act in such situations.

### Moral Feelings

Some individuals interested in moral development have focused on various emotions (such as guilt, shame, empathy, and sympathy) that are associated with the enactment of morally acceptable behaviors and the avoidance of morally unacceptable behaviors. For example, Sigmund Freud proposed that, through the process of identifying with the same-sex parent, children take on their parent's moral standards and experience feelings of guilt when engaging in (or anticipate engaging in) behaviors that violate those standards.

A more positive emotion than guilt that has been found to be very important in moral development is empathy. Empathy is said to occur when a person responds to another's feeling, such as sadness, with a similar emotion. Changes in the experience of empathy from infancy onward are believed to be associated with age-related changes in the individual's ability to take others' perspectives, both cognitively and emotionally. Individuals who empathize with the feelings of others have been found to be more likely to engage in positive interpersonal behaviors, and less likely to engage in negative interpersonal behaviors, than are

individuals who do not empathize with the feelings of others.

## Moral Behaviors

The range of behaviors that have been considered in studies of moral development is extremely broad. Whereas some researchers have focused on the individual's ability and willingness to engage in various prosocial behaviors (such as helping, sharing, and comforting), others have focused on the individual's ability and willingness to resist engaging in various antisocial behaviors (such as aggressing, cheating, and lying). In addition to examining the role of moral cognitions and emotions in moral behaviors, psychologists have devoted considerable attention to identifying the early socialization experiences that promote the expression of prosocial behaviors and the avoidance of antisocial behaviors.

An extensive body of research has demonstrated that moral development is encouraged when parents love and support their children, provide opportunities for their children to learn about other people's views and feelings, model moral thinking and behavior themselves, and provide opportunities for moral thinking and behavior to be expressed and reinforced in their children.

The discipline technique that has been found to be most effective in encouraging moral development is called *induction*. A parent who uses induction explains to the child why his or her behavior is wrong and should be changed by emphasizing the impact of that misbehavior on others. Children whose parents use induction as their primary approach to discipline have been found to display higher levels of empathy and prosocial behaviors, and lower levels of antisocial behaviors, than do children whose parents rely on physical punishment or the withdrawal of love and attention as their primary approach to discipline.

## Moral Education

Various educational programs have been designed to enhance the moral development of children and adolescents. As an extension of Kohlberg's view, some schools have set up cognitive moral education programs that encourage groups of adolescents to discuss a broad range of issues in the hope of promoting more advanced moral reasoning. The character education approach tends to be more direct, encouraging students

to learn and follow a specific moral code to guide their behaviors in and out of school. Schools with service learning programs attempt to promote social responsibility by encouraging (or, in some cases, requiring) their students to assist needy individuals within their community. Although evidence indicates that providing service to others is beneficial to the young helper as well as to the recipient of the help, the role of service learning and other school-based programs in moral development remains controversial.

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*See also* Antisocial Behavior; Helping Behavior; Moral Reasoning

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## MORAL EMOTIONS

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Social psychologists have long known that emotions influence many aspects of decision making, and a growing body of research demonstrates that this is especially true in the domain of morality. Because morality generally consists of rules guiding our treatment of other people, and because emotions are often (though not always) elicited in the context of our interactions with other people, it is possible to conceive of nearly all our emotions as serving morality in some sense. However, most researchers reserve the term *moral emotions* to refer to those emotions whose primary function is the preservation and motivation of moral thoughts and behaviors. In short, they are the emotions that make us care about morality.

## Reason Versus Emotion

Morality was traditionally thought to be largely a matter of reasoning. Because the Western philosophical tradition placed such a strong emphasis on the role of reasoning for proper moral judgment, and because emotions were seen as damaging to the reasoning

process in general, the study of morality focused heavily on the development of the reasoning ability. If anything, emotions were seen as harmful to the moral process. At first glance, this view is not unreasonable. After all, many emotions further one's own self-interest (such as happiness when one succeeds or anger and sadness when one fails), or bias one toward those individuals who are close to him or her (e.g., you become more angry if someone insults *your* mother than if someone insults a stranger's mother). Because impartiality seems to be critical for proper moral judgment, many thinkers believed that emotions should be eliminated from the process of moral judgment entirely.

Nonetheless, some influential thinkers noted that human morality seemed to depend heavily on the presence of certain emotions. Philosophers such as David Hume and Adam Smith were among the first to implicate emotions (particularly sympathy) as forming the foundations of morality. And recent research seems to support them: Without certain emotions, moral concern would not exist.

### Evolutionary Origins

One area of research that elucidates the role of emotion in morality comes from evolutionary theory. However, because morality is inherently other-serving, and evolution was traditionally understood as a selfish mechanism (e.g., survival of the fittest), morality itself was not properly understood by evolutionary theorists for quite some time. Key insights from a few theorists, however, led to an understanding that a trait that encouraged altruistic behavior (helping others at a cost to oneself) could be adaptive, thus increasing the probability that the trait would be passed on to offspring. These traits likely took the form of emotional tendencies to help those in need and punish those who violated rules (e.g., cheaters). The evolutionary etiology of many emotions is still a matter of debate, but most people now believe that the presence of moral emotions is not inconsistent with an evolutionary account.

### The Moral Emotions

Broadly speaking, three classes of emotions can be termed *moral emotions*: emotions that encourage people to care about the suffering of others (e.g., sympathy), emotions that motivate people to punish others (e.g., anger), and emotions that are, in essence,

punishments upon oneself for violating one's moral code (e.g., guilt). Some researchers also include a class of emotions that are elicited when one sees the positive moral acts of others, such as praise and a form of moral awe termed *elevation*.

### Empathy/Sympathy/Compassion

In most discussions of moral emotions, the terms *empathy* and *sympathy* arise. These emotional processes have long been implicated as the very foundation of morality. A clarification about these terms should be made: Empathy is most often defined as feeling what another person is feeling (whether happy, sad, or angry, for instance). It is best described as a sort of emotional contagion and, as such, is not properly an emotion. Sympathy is more generally understood as caring for others. But because these terms often are used interchangeably, some researchers choose to use the term *compassion* to refer to the emotion of caring for the suffering of others. This compassion is often motivated by empathic/sympathetic responses to the suffering of others. These emotions seem to emerge very early on (infants cry at the sound of other infants crying more than to equally loud noncrying sounds), are present to some extent in non-human primates, and are disturbingly lacking in psychopathic individuals. This lack of empathy in psychopaths is most likely what allows them to hurt others with little compunction—because they don't feel the pain of others, they are not motivated to compassion for the suffering of others. Having a sympathetic reaction to the suffering of another is also one of the best predictors of altruistic helping behavior.

### Anger and Disgust

Much of morality consists of regulating the behavior of others. As moral codes are generated, consequences for the violation of those moral codes become necessary. One way in which individuals mete out immediate consequences to others is by emotional displays of disapproval. Anger is generally a response to a sense of interpersonal violation. Although anger can be elicited across a wide variety of situations, research has demonstrated that many of these situations involve a feeling of betrayal, unfair treatment, or injustice—concerns that fall squarely in the moral domain. The role of disgust in morality is a little less straightforward. Although many individuals report

being disgusted by an individual they perceive as morally blameworthy (e.g., being disgusted at a con artist who robs the elderly), it is not clear that they are referring to the same kind of disgust an individual may feel when he or she sees rotting meat or feces (what some researchers term *core* disgust). One possibility is that individuals can recruit this core disgust when presented with a morally shady character.

### **Guilt and Shame**

When people violate what they perceive to be a moral rule, they often respond with a feeling of guilt or shame. These emotions are often referred to as the self-conscious emotions. Shame, and its cousin, embarrassment, regulate people's behavior when others are present. In non-Western cultures in which the hierarchical structure of society is of primary (often moral) importance, these emotions especially keep individuals acting in a manner befitting their lower-status ranking. Guilt, on the other hand, is an inherently interpersonal emotion. It acts as a signal that an individual may have hurt someone with whom he or she has a relationship. As such, guilt often motivates reparatory behavior—it only seems to go away once an individual has righted his or her wrongs.

### **The Moral-Emotional Life**

It is easy to see how these emotions work in concert to uphold morality in everyday life. For instance, consider this simple situation: Someone is suffering and this bothers you (you feel *empathy/sympathy*); you now care for this person (you feel *compassion*). Either you caused his or her suffering (*guilt*) or someone else caused his or her suffering (*anger, disgust*). These emotions then motivate the proper actions to remedy the situation, such as seeking justice or forgiveness.

*David A. Pizarro*

*See also* Cheater-Detection Mechanism; Disgust; Emotion; Empathy; Guilt; Moral Reasoning

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## **MORAL HYPOCRISY**

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### **Definition**

*Webster's Desk Dictionary of the English Language* (1990) defines *moral* as “1. of or concerned with principles of right or wrong conduct. 2. being in accordance with such principles” (p. 586); it defines *hypocrisy* as “a pretense of having desirable or publicly approved attitudes, beliefs, principles, etc., that one does not actually possess” (p. 444). Moral hypocrisy is the motivation to *appear* moral, while, if possible, avoiding the cost of being moral. This is in opposition to moral integrity, which is the motivation to act in accord with moral principles—to actually *be* moral.

### **Phenomenon**

Moral people often fail to act morally. One of the most important lessons to be learned from the atrocities of the past century—mass killings, terrorist bombings, and corporate cover-ups—is that horrendous deeds are not done only by monsters. There are several possible reasons why a typical person might fail to act morally in some situations. One of these may be that people are often motivated by moral hypocrisy rather than by moral integrity.

Moral philosophers often assume a causal link from moral reasoning to moral action, but there is limited evidence for this link. People's ability to see the morally right path does not guarantee that they will follow it. Early in life, most people learn that moral hypocrisy (e.g., appearing to act fairly when not doing so) can be advantageous if one does not get caught. But how best not to get caught? In the moral masquerade, self-deception may be an asset, making it easier to deceive others. Evolutionary biologist Robert Trivers suggested that if one can convince oneself that serving one's own interests does not violate one's principles, one can honestly appear moral and so avoid detection without paying the price of actually upholding the relevant moral principle. Most people are adept at justifying to themselves why a situation that

benefits them or those they care about does not violate their moral principles—for example, why storing their nuclear waste in someone else’s backyard is fair. Such justification may allow people to apply these principles when judging others, yet avoid following the principles themselves.

### Evidence

Research suggests that moral hypocrisy is common. College students given the opportunity to anonymously assign themselves and another person (actually fictitious) to two different tasks—one clearly more desirable than the other—typically assign themselves to the more desirable task 70% to 80% of the time. Students reminded of the moral principle of fairness, and given the chance to flip a coin to fairly determine the task assignment, flip the coin about half the time. Yet, even those who flip the coin assign themselves to the more desirable task 80% to 90% of the time. Clearly, most who lose the coin flip fail to abide by it. Furthermore, those who lose the coin flip but assign themselves the more desirable task rate their action as more moral than do those who assign themselves the more desirable task without going through the charade of flipping the coin. This appearance of fairness (flipping the coin) while avoiding the cost of being fair (assigning oneself the desirable task) has been taken as evidence of moral hypocrisy.

### Overcoming Moral Hypocrisy

Procedures that one might think would increase moral integrity often increase moral hypocrisy instead. Both (a) expecting to meet the other person when assigning the tasks and (b) explicitly indicating that fairness is important before assigning the task increased moral hypocrisy. In each case, a larger percentage of participants flipped the coin, but those who did still assigned themselves to the desirable task 80% to 90% of the time.

Two procedures have been found to reduce moral hypocrisy. First, when people are made self-aware (e.g., by looking at themselves in a mirror), they become aware of discrepancies between their behavior and salient personal standards. This awareness creates pressure to act in accord with these personal standards. Among self-aware participants, task assignment following the coin flip has been found to be fair. Supporting the role of self-deception in moral

hypocrisy, it seems that participants looking in a mirror could not deceive themselves regarding the fairness of the flip, and so they acted morally.

Second, feeling empathy for the other person seems to reduce moral hypocrisy, but not by increasing moral integrity. Empathy is an other-oriented emotion of sympathy and compassion for someone in distress. When induced to feel empathy for the other participant, many participants assigned the other to the desirable task without flipping the coin, suggesting an altruistic motive. However, those who flipped the coin were no fairer than in other studies, suggesting no increase in moral integrity.

### Implications

Moral hypocrisy research highlights the important question of whether widely espoused moral principles such as fairness motivate people to be moral or only to appear moral. If the latter, then psychologists would expect people to act morally only when (a) there is little personal cost, (b) actually being moral is the only way to appear moral, or (c) they care about those that might be harmed by immoral action. Research to date supports this conclusion. Much behavior that has been assumed to be motivated by moral integrity may be motivated by moral hypocrisy instead.

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C. Daniel Batson*

*See also* Deception (Lying); Empathy; Moral Reasoning; Self-Awareness; Self-Deception

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## MORAL REASONING

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### Definition

Moral reasoning refers to the processes involved in how individuals think about right and wrong and in how they acquire and apply moral rules and guidelines. The psychological study of morality in general is often referred to as the study of moral reasoning,

although moral psychology is now understood as encompassing more than just the reasoning process.

Many of the topics that social psychologists were originally interested in (such as obedience and conformity) had to do in one way or another with questions of moral judgment and behavior. Despite this early interest in morality, the study of moral reasoning specifically had its beginnings in the work of moral philosophers and developmental psychologists rather than in social psychology.

### History

Although morality was originally the domain of religion and theology, interest in the psychology of morality has been around since at least the time of the early Greek philosophers. Plato and Aristotle, for instance, devoted much of their discussion to how people came to acquire moral notions. The tradition continued, as Western philosophers such as Immanuel Kant and David Hume wrote much on the psychological processes involved in moral judgment. These two philosophers famously debated the role of reason versus emotion in moral judgment, with Kant placing a much greater emphasis on rational thought as the proper foundation for moral judgment.

Kant's ideas, particularly his emphasis on reason as the foundation of moral judgment, influenced some of the earliest psychological work on moral reasoning, that of the Swiss psychologist Jean Piaget. Piaget believed that children developed a mature sense of morality as their ability to reason unfolded. Particularly important for Piaget was the idea that mature reasoning caused a shift from children seeing the world from only their perspective (egocentrism) toward being able to take the perspective of others. For Piaget, this developing ability to reason when combined with the natural social interactions children had with one another (which often involved having to share, take turns, and play games together) caused children to move from a morality based on rules, authority, and punishment (heteronomous morality) to a morality based on mutual respect, cooperation, and an understanding of the thoughts and desires of other individuals (autonomous morality).

Lawrence Kohlberg, a developmental psychologist, expanded upon Piaget's stage theory of development to include multiple stages of moral reasoning spanning through adulthood. Kohlberg first outlined his theory of moral development in 1958, in what was to

become one of the most influential psychological dissertations of all time. Heavily influenced by the rationalist philosophies of Kant and John Rawls (whose theory of justice was one of the most influential political theories of the 20th century), Kohlberg, like Piaget, believed that as reasoning developed, so did moral judgment. For Kohlberg, individuals progressed from an early, egocentric morality based on the fear of punishment and the desire for reward (stages 1 and 2, pre-conventional morality), toward a more mature morality based on social norms (stages 3 and 4, conventional morality), and finally (though not always) to an understanding of universal moral principles that existed independently of social convention (stages 5 and 6, post-conventional morality). Like Piaget, Kohlberg believed that being exposed to social interactions involving moral conflicts could cause progression from one stage of moral reasoning to the next.

Although Piaget and Kohlberg set the groundwork for the study of moral reasoning and stimulated a wealth of research in the area (Kohlberg's stage theory continues to stimulate work), their ideas have been challenged. In particular, as the study of moral reasoning expanded from the domain of developmentalists to include other areas of psychology, such as cognitive psychology, evolutionary psychology, social psychology, and cognitive neuroscience, researchers began to question some of the assumptions Piaget and Kohlberg made. For instance, many have argued that stage theories are not the best way to characterize the progression of moral reasoning, and there is mounting evidence that moral emotions may be a greater influence on people's everyday moral thinking than was believed by the developmentalists.

### Social Psychology and Moral Reasoning

Because social psychologists have long studied the areas of reasoning and judgment, they have been particularly well suited to investigate the processes involved in everyday moral reasoning. Recently, researchers have taken the wealth of research on topics such as causal reasoning, intentionality, attitudes, heuristics and biases, and emotion, and applied it toward arriving at a better understanding of moral judgment. One of the most interesting findings to emerge about moral reasoning is that it seems to be different from "regular" reasoning (reasoning about nonmoral issues) in important ways.

For instance, there are several differences in the way people think about their moral beliefs and attitudes than about their nonmoral beliefs and attitudes. First, moral attitudes are unlike other attitudes in that they are surprisingly strong and resistant to change. It is very hard, for instance, to convince a pro-life proponent that abortion should be legal, or a pro-choice proponent that abortion should be banned (persuasion in the moral domain is very rare). Second, most people believe that moral truths are universally binding—if a person believes that something is wrong, others should believe this too. Unlike one's attitude toward chocolate ice cream (the person doesn't particularly care whether or not others like it), it is problematic if others don't share a person's attitude toward rape (it is important to the person that others also believe it is wrong). In fact, although Westerners generally appreciate diversity of all sorts, researchers have shown that diversity of moral opinion causes quite a bit of discomfort. Third, individuals often adhere to strong moral rules despite the consequences. For instance, most Westerners believe that it is not permissible to sacrifice one innocent individual to save five. Indeed, the very notion of sacrificing innocent individuals no matter *what* the benefits seems to be seen as impermissible. These rules that are seen as impermissible despite their consequences are often referred to as *deontological* rules. These deontological rules don't always seem rational in the sense that most psychologists use the word, as rationality is often defined as making choices that maximizing good consequences. In short, what research seems to show is that people treat their moral beliefs, attitudes, or opinions as values that should be protected at nearly any cost. Because of this, many researchers have referred to these moral rules as *sacred* or *protected* values.

Although the topic of moral reasoning has a long history, much work remains to be done before psychologists can be satisfied that they have answered the fundamental question of how people think and decide about issues of right and wrong.

*David A. Pizarro*

*See also* Guilt; Moral Emotions; Reciprocal Altruism

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## MORTALITY SALIENCE

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### Definition

Mortality salience refers to a psychological state in which a person is consciously thinking about his or her own death.

### Background

Jeff Greenberg, Tom Pyszczynski, and Sheldon Solomon coined the term in 1986 to refer to a way to assess terror management theory. The theory posits that the fear of death motivates individuals to sustain faith in a cultural belief system or worldview that makes life seem meaningful and sustain the belief that they are significant and capable of enduring beyond their own death. Greenberg and colleagues proposed that, if the theory is correct, then having people think about their own death—that is, mortality salience—should increase people's support of their own cultural worldview.

### Research

The most common method to induce mortality salience is to ask participants to respond to the following two prompts: "Please describe the emotions the thought of your own death arouses in you" and "Jot down, as specifically as you can, what you think will happen to you physically as you die and once you are physically dead." The first finding was that mortality salience led municipal court judges to recommend a much higher bond in a hypothetical prostitution case than they otherwise would. This was interpreted as support for terror management theory because it showed that mortality salience encouraged the judges to uphold their worldview by punishing someone who violated the morals of their worldview.

Studies have shown that mortality salience leads people to react positively to those who support their worldview and negatively to those who violate or criticize their worldview. Additional research has found

that mortality salience affects a wide range of judgments and behaviors that preserve faith in either one's worldview or one's self-esteem.

More than 200 studies have made mortality salient in a variety of ways and in comparison with many control conditions. Mortality salience has been induced by exposure to gory accident footage, death anxiety questionnaires, and proximity to funeral homes and cemeteries. Control conditions have reminded participants of neutral topics and aversive topics such as failure, uncertainty, meaninglessness, pain, and social exclusion. These findings have generally supported the specific role of mortality concerns in mortality salience effects.

Studies investigating the cognitive processes involved in mortality salience effects have shown that mortality salience initially leads people toward distracting themselves from thoughts of death. After a delay, thoughts of death return to the fringes of consciousness, at which time the worldview and self-esteem bolstering effects of mortality salience occur. Indeed, similar effects have been shown in response to exposure to brief subliminal flashes of death-related words on a computer screen; these subliminal primes bring death thoughts to the fringes of consciousness without making mortality salient.

### Implications

In supporting terror management theory, mortality salience research demonstrates that unconscious concerns about one's own death motivate a wide range of judgments and behaviors to bolster the individual's faith in his or her worldview and self-worth. This work thereby suggests that mortality concerns contribute to nationalism, prejudice, and intergroup aggression, as well as prosocial behavior and cultural achievements.

*Jeff Greenberg*

*See also* Consciousness; Meaning Maintenance Model; Priming; Salience; Subliminal Perception; Terror Management Theory

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## MOTIVATED COGNITION

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### Definition

When people think and reason, they sometimes have a vested interest in the outcome of their thinking and reasoning. For example, people engage in wishful thinking about whether or not their favorite sports team will win, or whether a relative will survive a risky surgical procedure. In these situations, people may be less open-minded than they might be in other situations in which they do not have a preferred outcome in mind.

Motivated cognition refers to the influence of motives on various types of thought processes such as memory, information processing, reasoning, judgment, and decision making. Many of these processes are relevant to social phenomena such as self-evaluation, person perception, stereotypes, persuasion, and communication. It is important to understand the influence of motivation because such research explains errors and biases in the way people make social judgments and may offer ideas about how to offset the negative effects of such motives.

### Examples

One example of a cognitive process influenced by motivation is memory. People tend to remember successes more than failures, and when led to believe that a given attribute is desirable, they are more likely to remember past events where they displayed this attribute than those in which they did not. People overestimate contributions to past events such as group discussions and projects, and revise their memory in accordance with their motives. They might reconstruct their memory of what attributes they considered most important in a spouse after marrying someone who does not have these attributes.

People's motives also influence how they process novel information. They are relatively more likely to trust small samples of information consistent with

desired expectations (even when they know that small samples can be unreliable) and are more critical of messages threatening desired beliefs. If they engage in a particular behavior often (e.g., smoking), they are more likely to find fault with information suggesting this behavior is dangerous. Judgments of frequency and probability are also influenced by motives. People overestimate the frequency of events that support their desired beliefs and consider their personal likelihoods of experiencing positive events to be greater than that for negative events.

Another cognitive process is the way in which people make attributions (i.e., search for underlying causes) for events. Motivational factors may cause people to accept responsibility for successes more than failures, and to believe that others who have experienced negative events (e.g., rape, burglarization) were partially responsible and perhaps deserving of those fates. By doing so, they protect themselves from believing that they could also experience these events. Accessing and applying negative stereotypes about others has been shown to help people cope with threats to their own self-concepts. Furthermore, the way in which people define personality traits may be linked to self-serving motives; for example, most people can believe they are better leaders than average if they define leadership according to their own personal strengths.

### **Types of Motives That Influence Cognition**

Many of the previous examples draw on one particular type of motive: to confirm or sustain favorable beliefs (particularly about the self). Many other motives can influence cognition. When people are accountable for their judgments—such as when these judgments can be verified for accuracy—the motive to make accurate, defensible judgments becomes more impactful. The motive to form an accurate impression of another person helps one carefully organize information about that person and remember that information in the future. The motive to belong, exemplified by people's interest in relationships and group memberships, might also influence various types of cognitive processes, such as judgments about romantic partners. The desire to see one's group as different from others may underlie the tendency to view members of outgroups as more similar to each other (relative to ingroups), as well as the tendency to judge members of other groups more harshly.

Another motive that may influence cognition is terror management. According to terror management theory, thinking about one's own mortality can paralyze individuals with terror. One defense against this terror is a bolstering of one's worldview, which offers figurative immortality by being a part of something that will live on even after the individual's demise. In conditions in which the chances of thinking about one's own death are high, individuals are harsher critics of opposing worldviews.

### **Psychological Processes Linking Motivation and Cognition**

People do not simply ignore information inconsistent with their motives. On the contrary, motivation seems to instigate careful scrutiny of the information. In her theory of motivated reasoning, Ziva Kunda argues that motivation formulates directional hypotheses (e.g., "I am a good person") that people then attempt to test using standard cognitive (and dispassionate) strategies. As it turns out, many such strategies are themselves biased. People often exhibit a confirmation bias when testing hypotheses, being more attentive to information confirming their hypothesis than they are to disconfirming information. They remember more vivid and personal information than they do pallid and impersonal information. Individuals also possess crude statistical heuristics (or rules of thumb) they use when making judgments and may be more likely to draw on these heuristics when doing so is consistent with their motives.

When given other opportunities to protect the self-concept (e.g., self-affirmation, or reflection on one's important values), people are less likely to exhibit biases in their judgments. Nonconscious motives may also influence cognition through the automatic activation of concepts relevant to a given judgment. For example, people asked to circle all cases of *I* in a passage (which activates the self-concept below conscious awareness) tend to be faster at identifying whether they possess a given list of traits.

### **Implications of Motivated Cognition**

The effects of motivation on cognition are likely to be a function of several critical psychological needs. For example, people want to protect their limited emotional resources and protect themselves from constant thoughts of their own mortality. Other work suggests

that individuals who possess positive illusions—overestimations of one's ability, control over one's environment, and chances of experiencing positive events in the future—are also more healthy (both mentally and physically). Positive illusions may motivate actions designed to achieve positive outcomes. On the other hand, such beliefs could also lead to dangerous behavior. If one is motivated to avoid threatening information about an unhealthy behavior, the outcome is likely to be a continuation of that behavior followed by potential health problems. The extent to which motivated biases in cognition are adaptive is still a matter of debate.

*William M. P. Klein  
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*See also* Memory; Positive Illusions

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## MOTIVATED REASONING

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### Definition

Motivated reasoning is a form of reasoning in which people access, construct, and evaluate arguments in a biased fashion to arrive at or endorse a preferred conclusion. The term *motivated* in *motivated reasoning* refers to the fact that people use reasoning strategies that allow them to draw the conclusions they want to draw (i.e., are motivated to draw). Of course, people are not always motivated to confirm their preferred conclusions. Actually, they sometimes are motivated to draw accurate conclusions. However, the term *motivated reasoning* refers to situations in which people want to confirm their preferred conclusion rather than to situations in which people's reasoning is driven by an accuracy motivation.

### The Domain of Motivated Reasoning

Motivated reasoning may be observed in virtually any setting. An important trigger of motivated reasoning is the confrontation with a certain threat to the self. In the absence of such a motivating threat, people may have the goal of attaining the most accurate conclusion rather than attaining a preferred conclusion. The following example may illustrate the difference. Someone who wants to buy a used car will try to make the best decision possible and hence be guided by accuracy concerns to avoid buying a lemon. After buying a used car, however, that same person may engage in motivated reasoning to support his belief that the car is not a lemon when the first signs of malfunction appear. For a less involving choice, like the choice of cereals, people will be less motivated to engage in thorough deliberation before the choice but will also be less likely to engage in motivated reasoning if their choice turns out to be bad. People's self-esteem may suffer much less from choosing bad cereals than from being suckered into buying a lemon car.

Threats to the self may come in many different forms, so different types of conclusions may trigger motivated reasoning. A first type is conclusions that bolster people's self-esteem. For instance, people attribute good test results to themselves but construct a motivated reasoning to explain bad test results to uphold the self-serving belief that they are intelligent human beings. A second type is conclusions that make people optimistic about their future. For instance, smokers engage in motivated reasoning when they dispel scientific evidence that suggests that smoking is bad for one's health. People also engage in motivated reasoning to view future competitors as less competent and future cooperators as more competent than they really are. A third type is conclusions that are consistent with strongly held beliefs or strong attitudes. For instance, supporters of a politician might downplay the consequences of an undesirable act committed by the politician they support or might attribute the behavior to situational pressures. In sum, people construct motivated reasonings when their self-worth, their future, or their understanding and valuation of the world are at stake.

### The Illusion of Objectivity

That motivated reasoning is not driven by an accuracy motive does not imply that motivated reasoners

blatantly disregard the accuracy of their reasoning. Motivated reasoners have to uphold the illusion of objectivity: They cannot ignore the extant evidence regarding the issue at stake. If they are exposed to strong, compelling evidence contrary to their preferred conclusion, they will have to concede that their preferred conclusion is incorrect—the so-called reality constraint. For instance, in the used car example, when the car breaks down very often, the buyer will no longer be able to engage in motivated reasoning to defend his or her belief that the car is not a lemon.

The illusion of objectivity also implies that motivated reasonings must appear logically valid to the motivated reasoners themselves. Still, a motivated reasoning may be compelling only for people who want to endorse its conclusion, but possibly not for neutral observers, and probably not for adversaries, who want to endorse the opposite conclusion.

To uphold the illusion of objectivity, it seems necessary that people are not aware of any bias present in their reasoning; as such, motivated reasoning seems to entail self-deception. The necessity to uphold the illusion of objectivity may seem to entail that people have little latitude in constructing motivated reasonings. Still, to support a preferred conclusion, people may unknowingly display a bias in any number of the cognitive processes that underlie reasoning.

### Mechanisms of Motivated Reasoning

First, people may exhibit motivated skepticism: They may examine information consistent with their preferred conclusions less critically than they examine information inconsistent with those conclusions. Although information consistent with a preferred conclusion is accepted at face value, people may spontaneously try to refute information inconsistent with that conclusion. People also view arguments as stronger or as more persuasive if these arguments happen to be consistent with their preferred conclusions than if the arguments are inconsistent with the preferred conclusions. Motivated skepticism implies that people require less information to reach a preferred conclusion than to reach nonpreferred conclusions.

Second, and related to motivated skepticism, people may use statistical information in a motivated way. For instance, people attach more value to evidence based on a small sample size if the evidence supports their position than if it opposes it. Consistent with the

illusion of objectivity that motivated reasoners have to uphold, for large sample sizes, the value attached to favorable and unfavorable evidence is rather similar. Also, although people commonly neglect base rate information, they may use that information if it supports their preferred conclusions.

Third, to justify preferred conclusions, people may need to retrieve information in memory or look for external information. The search for information may be biased toward retrieving or finding information that is consistent with the preferred conclusion. This biased (memory) search may be because people's preferred conclusions function as hypotheses to be tested and that people often exhibit a confirmation bias in hypothesis testing. This confirmation bias implies that people may more readily come up with supporting arguments than with arguments that are not consistent with their preferred conclusions.

Fourth, people not only access information in a biased way, but also apply concepts in a motivated way. For instance, people display motivated stereotyping: They apply stereotypes, sometimes unjustly, if they support their preferred impressions but resist applying these stereotypes if they run counter to their preferred impressions.

### The Case for Motivated Reasoning

The idea that motivation may affect information processing, including reasoning, seems intuitively plausible and underlies classic cognitive consistency theories as well as cognitive dissonance theory. However, the problem with many early studies that seemed to evidence the impact of motivation on people's information processing was that they were amenable to a purely cognitive explanation. For instance, the classic finding that people attribute their successes internally but their failures externally may be due to people's motivation to see themselves in the best possible way and therefore points toward motivated reasoning. However, the differential attribution of failures and successes may also be because people's self-schema leads them to expect to succeed and not to fail and that they attribute expected outcomes—successes—internally and unexpected ones—failures—externally. Because the latter explanation does not feature any motivation, it is a purely cognitive explanation of the differential attribution of failure and success.

Recent studies, however, have provided unequivocal support for the hypothesis that motivation affects information processing. For instance, in a study on motivated skepticism, where participants had to choose one of two students they would have to work with on a task, participants required less information to conclude that the more dislikable student was the less intelligent of the two than to decide that he was the more intelligent. The level of knowledge of the two students was equal in both cases, so the obtained results seem to implicate the motivation to see the more likeable student—that is, the one that participants wanted to work with—as the more intelligent one.

Numerous studies have now established that people may reason in a motivated way and have found support for the previously described mechanisms through which motivation may bias reasoning. In addition, studies in motivated social cognition have shown that people may define social concepts, such as traits and abilities, in a self-serving way. Such self-serving social concepts may be used in motivated reasonings to support self-serving beliefs.

*Mario Pandelaere*

*See also* Cognitive Consistency; Cognitive Dissonance Theory; Confirmation Bias; Motivated Cognition; Self-Deception

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## MUM EFFECT

Despite the folk wisdom that “no news is good news,” almost everyone is reluctant to communicate bad news. For example, your best friend, Tom, has applied for a job that he wants very badly. You learn that he will definitely be offered the job. You can hardly wait to tell him the good news. You will take pleasure in letting Tom know all the details. Now, contrast this with your feelings if you learn that Tom will definitely not get the job he wants so much. In this case, you probably feel awful and do not look forward to communicating the news to Tom. You might even decide to say nothing about what you found out. This reluctance to communicate bad news is very strong under a large variety of types of news, potential recipients, and circumstances. The reluctance to communicate bad news is so general and so robust that it has been given its own name: the MUM effect. When it comes to bad news, it seems that, indeed, “Mum’s the word.”

Despite its robustness, the reluctance to communicate bad news is not universal. Anyone who has paid attention to the news media can’t help forming the impression that bad news is reported with alacrity. Our experience with rumors or gossip or urban myths also suggests that there is no bias against communicating bad news. So, the MUM effect seems to be restricted to situations in which the news affects the well-being of the potential recipient. In one study, for example, participants learned that there was a telephone message telling another participant to call home right away about some good news or about some bad news. When given the opportunity to communicate the message to the person for whom the message was intended, participants were more likely to mention the good news than the bad news. Interestingly, however, this difference disappeared when the participants were given the opportunity to communicate to a bystander. In fact, participants were slightly more likely to mention the bad news than the good news to a bystander. The implication of this is sobering: The person who is affected by the bad news is less likely to learn about it than is a bystander!

### Understanding the MUM Effect

Psychologists are rarely content with *just* an empirical regularity like the MUM effect. They want to understand why there is a reluctance to communicate bad

news. At least three broad concerns might affect a communicator's propensity to transmit a particular message. Communicators might be concerned with their own well-being, they might be concerned about the potential recipient, or they might be guided by situational norms or what they understand as "the right thing to do."

"Kill the messenger." Folk wisdom suggests that the bearer of bad news may be disliked even if he or she is in no way responsible for the news. And, there is experimental research demonstrating the validity of that suggestion. Perhaps the MUM effect arises because potential communicators fear that they would be disliked if they were to convey the bad news. Another explanation of the MUM effect arising from self-concern implicates guilt. There is a pervasive tendency to believe that the world is (or should be) fair. Perhaps conveying bad news to another tends to make the communicator who is not experiencing the bad fate feel guilty. Because he or she wants to avoid feeling guilty, bad news tends to be withheld. A third self-concern that might account for the MUM effect comes from recognizing that one must adopt a somber if not sad demeanor in conveying bad news. Perhaps potential communicators tend to withhold bad news because they are reluctant to adopt a negative mood. Experimental research has provided evidence for all three of these self-concern factors.

The reluctance to communicate bad news may come from a concern with the recipient. When people are asked to explain why they would or would not communicate good or bad news they seem to focus on the recipient. For example, compared with good news, people are more likely to say that the reason they would communicate bad news is because the recipient might have to use that information in some way. People also say that they withhold bad news because they do not want to put the recipient in a bad mood. Often, communicators assume that potential recipients do not want to hear the bad news. (This assumption is sometimes erroneous. For example, some surveys indicate that medical professionals believe that patients do not want to hear bad news, but patients say they do want to hear such news.) When people are made explicitly aware that a potential recipient wants to hear the news, whether it is good or bad, the MUM effect is reduced.

Finally, the MUM effect may be a result of ambiguous norms. Conveying good news doesn't seem to be

an issue. There are few potential costs. On the other hand, if you give a person bad news, there are potential personal costs such as being disliked or feeling guilty. Or, you might upset the recipient or embarrass him or her. Are you the appropriate person to be handling the aftermath? You could be seen as prying or butting in. There simply aren't clear rules telling people what to do with bad news. Indeed, there is a strong positive correlation between how good a message is and people's willingness to relay the message. Although people are reluctant to communicate bad news, there is little correlation between how bad the news is and their (un)willingness to communicate it. More directly touching the norm issue is the agreement among people on their likelihood to communicate news. There is good agreement (clear norms) in the case of good news but lower agreement (unclear norms) regarding the transmission of bad news.

The MUM effect refers to a tendency to withhold bad news compared with good news. This tendency is most likely to show itself when the potential recipient is the person for whom the news is consequential and appears to be the result of communicators' concern with own well-being, recipient well-being, and unclear norms regarding the handling of bad news.

*Abraham Tesser*

*See also* Bad Is Stronger Than Good; Empathy; Rumor Transmission

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## MUNDANE REALISM

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### Definition

Mundane realism describes the degree to which the materials and procedures involved in an experiment are similar to events that occur in the real world. Therefore, mundane realism is a type of external validity, which is the extent to which findings can generalize from experiments to real-life settings.

## History and Modern Usage

Elliot Aronson and J. Merrill Carlsmith introduced the concept of mundane realism as a potential threat to external validity in 1968. That is, to the extent that procedures are artificial, it may be more difficult to generalize the findings produced by those procedures to the real world. Mundane realism can be contrasted with experimental realism, which refers to whether an experiment has psychological impact and “feels real” to a participant. Both are important for generalizing findings from the laboratory to the real world, but they are independent and distinct dimensions. That is, any particular experiment might be high or low in either mundane or experimental realism.

For example, Muzafer Sherif’s classic Robbers Cave experiment concerning rivalry and hostility between groups at a summer camp is considered to have both high mundane realism and high experimental realism. Sherif randomly divided a group of boys attending a summer camp into two teams. The teams competed against each other in camp activities. This setting closely resembles a typical summer camp experience, so the experiment has a high level of mundane realism. Because of the great psychological impact of the manipulations used in the experiment, the study is also considered to have high experimental realism.

In contrast, Solomon Asch’s classic experiment on conformity is considered to be low in mundane realism, but high in experimental realism. Participants were asked to make relatively objective judgments concerning the relative length of three lines after

hearing the answers of several of their “peers.” Those “peers” were actually confederates of the experimenter, and on critical trials, they were instructed to unanimously provide incorrect answers. Participants had stressful, realistic reactions to the conformity pressure involved in the experiment, demonstrating its experimental realism. However, the experiment was low in mundane realism because it is rare in the real world to have a majority give an incorrect answer to a simple, objective, visual task.

At first glance, it might seem that field studies are always high in mundane realism just because they occur outside of the laboratory. However, because of the potential artificiality of the manipulations that can be used in field studies, they are just as subject to a lack of mundane realism as are experiments conducted in other types of settings.

*Janice R. Kelly*

*See also* Conformity; Ecological Validity; Experimental Realism; Robbers Cave Experiment

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## NAIVE CYNICISM

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### Definition

Naive cynicism is the tendency of laypeople to expect other people's judgments will have a motivational basis and therefore will be biased in the direction of their self-interest. We expect that others will see things in ways that are most flattering to them, while thinking that our own opinions and beliefs are based on objective evidence.

### Context and Importance

Naive cynicism is the counterpart to naive realism, the belief on the part of laypeople that they see the world as it really is. Although we often don't believe that the judgments we make are biased, we readily recognize that others' judgments may be. Naive cynicism may even lead people to overestimate the amount of bias in other people's judgments. For example, husbands and wives are known to overestimate their responsibility for household tasks, giving individual estimates that add up to more than 100%; it can't be possible that Mr. Smith washes the dishes 60% of the time while Mrs. Smith washes them 70% of the time. A woman might expect that her husband will overestimate how much he should take credit for positive events and underestimate how much he is to blame for negative events; he might expect the same of her. However, because of the accessibility of their own participation in both positive and negative events, they will each tend to overestimate how much they are responsible for both good *and* bad things, meaning their partners will have cynical

views of their beliefs and vice versa. Viewing the other person as part of your ingroup or at least as working in cooperation with you may attenuate this belief; for instance, the happier a married couple was, the less likely they were to show cynical beliefs about each other's judgments. We may be especially likely to be naively cynical when the other person has a vested interest in the judgment at hand, but if that person is a dispassionate observer, we expect that he or she will see things the way we do (the way things "really are"), not biased toward his or her own beliefs. Naive cynicism extends to many of the basic heuristics and biases studied in social psychology; people think that others are prone to commit the fundamental attribution error, the false consensus effect, and self-enhancement bias. Naive cynicism is related to the norm of self-interest. Many intellectual fields, such as classical economics and evolutionary biology, stress how their theories indicate that people should always act in self-interested ways. This emphasis reflects and helps maintain a societal license to act in one's self-interest, and, more importantly, to believe that others will too, even though people are often inclined to behave in a cooperative, empathetic, or altruistic manner.

*Elanor F. Williams*

*See also* Lay Epistemics; Naive Realism

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## NAIVE REALISM

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### Definition

Naive realism describes people's tendency to believe that they perceive the social world "as it is"—as objective reality—rather than as a subjective construction and interpretation of reality. This belief that one's perceptions are realistic, unbiased interpretations of the social world has two important implications. First, that other, rational people will have similar perceptions as oneself. Second, that other people who have different perceptions from oneself must be uninformed (i.e., not privy to the same information as oneself), irrational, or biased.

### Context and Importance

One of psychology's fundamental lessons is that perception is a subjective construction of the world rather than a direct representation of objective reality. That is, people's beliefs and perceptions are a function of both the objective properties of the world and the psychological processes that translate those objective features into psychologically experienced features. Take, for instance, the loving father who happens to be a judge at his daughter's science fair. The father's ranking of his daughter's project in the 90th percentile may result from the fact that his daughter's project truly was above average or from the fact that the father interprets his daughter's science project in a particularly favorable light.

To be sure, people recognize that their initial thoughts, feelings, and behaviors are often subjective and biased. The father may well recognize that his initial inclination to award top honors to his daughter's model volcano is unduly influenced by his desire for his daughter's achievement. After carefully scrutinizing and correcting his initial inclination, then, the father may reign in his judgment, placing his daughter in the 90th percentile rather than the 99th percentile, as he was initially wont to do. In this case, like many others, people's attempts to correct their initially biased judgments are often incomplete.

The important point for naive realism is that people are seldom, if ever, aware of the degree to which their

corrective efforts fall short; people consequently infer that their judgments are more accurate, objective, and realistic than they really are. Thus, the loving father truly believes that his daughter's project deserves to be ranked in the 90th percentile, even if a more objective assessment places the project in the 75th percentile.

Lee Ross and his colleagues have discussed several important implications of naive realism for social judgment. One is that because people believe that their perceptions are realistic, it follows that other reasonable people who have access to the same information will share those perceptions. This assumption is one reason why people project their own beliefs, feelings, and opinions on to other people. If one assumes that a preference for 1970s over 1990s music is a consequence of the inherent superiority of Led Zeppelin over M. C. Hammer, it seems only natural that other people would share that preference. By failing to see that one's own preference is partly the result of a particular construal of 1970s and 1990s music, one may fail to recognize that other people may have a different preference arising from a different construal—for example, construing the Village People and Nirvana as typical bands of the 1970s and 1990s. Naive realism tends, therefore, to produce an expectation that others think, feel, and behave similarly as oneself.

Often, however, other people see things differently than the self, and naive realism helps explain people's reactions in these situations. One reaction is that because people's own reactions seem rational and realistic, other people who have different reactions seem uninformed or irrational and biased. When a staunch Democrat learns, for instance, that her cousin is a Republican, she may initially assume that cousin John had not learned about Republican positions on taxation—that John was simply misinformed—and that providing him with the correct information would change his stance. After learning, however, that John knows all about Republican taxation positions, the Democrat might infer that her cousin is simply not a clear thinker or, worse, that he is systematically biased in favor of taxation positions that favor his own income tax bracket at the expense of less financially fortunate individuals.

Because people repeatedly encounter other people who see things differently from themselves, they may become accustomed to thinking that other people are irrational and biased. Over time, people may come to expect others' beliefs and opinions to be based on careless reasoning and systematic bias. The staunch Democrat may come to expect that all Republicans, not just her cousin, are irrational and biased.

Believing the self to be rational and objective whereas others are irrational and biased can pose a substantial barrier to successful dispute resolution. When parties on opposite sides of a conflict both assume that the other side is irrational and biased, achieving a mutually beneficial resolution is that much more difficult. For instance, to the extent that Democrat and Republican members of Congress both assume that lawmakers on the other side of the aisle are self-interested and illogical, they are less likely to craft beneficial and purposeful legislation.

*Leaf Van Boven*

*See also* Egocentric Bias; False Consensus Effect; Lay Epistemics; Naive Cynicism

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## NAME LETTER EFFECT

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### Definition

The name letter effect refers to people's tendency to favor the letters that are included in their names more than letters that are not in their names. In plain terms, people like the letters in their names better than they like the rest of the alphabet. Because the link between name letters and the self is arbitrary, the effect implies that anything that is associated with the self becomes automatically endowed with positive feelings.

### History

The name letter effect was discovered in the 1980s by Belgian researcher Jozef Nuttin. Nuttin observed that people prefer their own name letters even when they do not consciously notice the link between name letters and the self. The name letter effect also occurs for infrequent alphabet letters, suggesting that it is not because of more frequent exposure to name letters. The name letter effect is highly robust, particularly for

initial letters. Indeed, name letter effects have been observed in at least 15 European countries such as the Netherlands, Poland, and Greece, and at least 3 non-European countries, including Japan, Thailand, and the United States. The name letter effect may thus be universal across different languages and cultures.

### Links With Implicit Self-Esteem

The name letter effect seems to be a valid marker of implicit self-esteem, or unconscious positive feelings that people have toward the self. For instance, the name letter effect corresponds more with self-evaluations that are provided very quickly and intuitively than with self-evaluations that are provided more slowly and deliberately. Mothers who report having been more nurturing and less overprotective have children with stronger name letter effects than do mothers who report having been less nurturing and more overprotective. The name letter effect may therefore tap into deeply rooted feelings of self-worth that are formed in early childhood.

### Consequences

The name letter effect may influence important decisions. Indeed, Brett Pelham and associates have documented how people gravitate toward other people, places, and things that share their name letters. For instance, people whose surname is Street live disproportionately often at addresses like Lincoln Street. People named Dennis are disproportionately likely to become dentists, whereas people named Laura are disproportionately likely to become lawyers. People also tend to prefer brand names that resemble their own names and are disproportionately likely to marry others whose names resemble their own. Although the influence of the name letter effect on important decisions may seem maladaptive, most researchers believe that the name letter effect is rooted in the adaptive tendency to associate the self with positive qualities.

*Sander Koole*

*See also* Implicit Attitudes; Mere Ownership Effect; Self-Esteem

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## NARCISSISM

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### Definition

Narcissism in its extreme forms is considered a personality disorder. It is defined as a syndrome or combination of characteristics that includes the following: (a) a pervasive pattern of grandiosity, self-importance, and perceived uniqueness; (b) a preoccupation with fantasies of unlimited success and power; (c) exhibitionism and attention seeking; (d) emotional reactivity especially to threats to self-esteem; (e) displays of entitlement and the expectation of special treatment from others; and (f) an unwillingness or inability to show empathy.

Researchers have also investigated a less-extreme form of narcissism that is termed the *narcissistic personality type*. These individuals possess most or all of the characteristics of the narcissistic personality disorder but are considered within the normal range of personality. Several self-report measures of narcissistic personality have been used to identify narcissists for research purposes. The most widely used scale is the Narcissistic Personality Inventory (NPI), and it is thought to measure both narcissistic personality disorder as well as narcissism in the normal population. The NPI is understood to contain at least four subscales: leadership/authority, superiority/arrogance, self-absorption/self-admiration, and entitlement/exploitativeness. However, an individual must score fairly highly on each dimension to be considered a narcissistic personality type.

### Development

Clinical theories of narcissism posit that adult narcissism has its roots in early childhood experiences. Although Sigmund Freud originally applied the term, Hans Kohut and Otto Kernberg are the two most influential theorists in the area of narcissism. Both Kohut

and Kernberg focus on disturbances in early social (parental) relationships as the genesis of adult narcissistic personality disorder. Also, both view narcissism at its core as a defect in the development of a healthy self. According to Kohut, the child's self develops and gains maturity through interactions with others (primarily the mother) that provide the child with opportunities to gain approval and enhancement and to identify with perfect and omnipotent role models. Parents who are empathic contribute to the healthy development of the child's self in two ways. First, they provide mirroring that fosters a more realistic sense of self. Second, parents reveal limitations in themselves that lead the child to internalize or assume an idealized image that is realistic and possible to attain. Problems are introduced when the parent is unempathetic and fails to provide approval and appropriate role models. According to Kohut, narcissism is in effect developmental arrest in which the child's self remains grandiose and unrealistic. At the same time, the child continues to idealize others to maintain self-esteem through association.

Kernberg argues that narcissism results from the child's reaction to a cold and unempathetic mother. His theory is quite the opposite of Kohut's position. According to Kernberg, the emotionally hungry child is enraged by his parents' neglect and comes to view them as even more depriving. Narcissism in this view is a defense reflecting the child's attempt to take refuge in some aspect of the self that his parents valued; a defense that ultimately results in a grandiose and inflated sense of self. Any perceived weaknesses in the self are split off into a separate hidden self. Narcissists, in Kernberg's view, are grandiose on the outside but vulnerable and questioning of their self-worth on the inside. The theories of Kernberg and Kohut are different in many important respects; however, both characterize narcissists as individuals with a childhood history of unsatisfactory social relationships who as adults possess grandiose views of the self that foster a conflicted psychological dependence on others.

### Contemporary Views of Narcissism

More recent social and personality psychologists have studied narcissism as a syndrome or collection of traits that characterizes the narcissistic personality type as opposed to narcissistic personality disorder. This perspective views narcissists as people who are preoccupied with maintaining excessively positive

self-concepts. These individuals become overly concerned about obtaining positive, self-aggrandizing feedback from others and react with extreme positive or negative emotions when they succeed or fail to receive information that others hold them in high regard. Narcissists want positive feedback about the self, and they actively manipulate others to solicit or coerce admiration from them. In this view, narcissism is thought to reflect a form of chronic interpersonal, self-esteem regulation.

### Assessment

The diagnosis of narcissistic personality disorder is usually determined through clinical evaluation of the person. However, the narcissistic personality type is measured through self-report questionnaires such as the NPI. This questionnaire presents respondents with a set of forced-choice items in which they must decide which of two statements is most descriptive of them. For example, a person completing the NPI would be asked whether the statement “people always seem to recognize my authority” or “being an authority doesn’t mean that much to me” best describes them. People who score high on the NPI have been shown to display a wide variety of narcissistic behaviors such as arrogance, superiority, and aggressiveness. In addition, people with a clinical diagnosis of narcissistic personality disorder score higher on the NPI than do people with other psychiatric diagnoses or normal controls.

### Relevant Research

Research findings employing the NPI describe a portrait of narcissists as possessing inflated and grandiose self-images. It is not surprising then that they report having high self-esteem. However, these positive self-images appear to be based on biased and inflated perceptions of their accomplishments and their distorted views of what others think about them. For example, they overestimate their physical attractiveness relative to judges’ ratings of their attractiveness, and they overestimate their intelligence relative to objective assessments of their IQ. In one experiment, narcissistic and nonnarcissistic men were interviewed by a woman whose responses were completely scripted. That is, all men received the same social feedback. Nonetheless, narcissistic men believed that the woman liked them better and was more romantically interested in them than did nonnarcissistic men. Other findings

indicate that narcissists take greater credit for good outcomes even when those outcomes occurred by luck or chance.

Although narcissists’ self-esteem is high, it is also fragile and insecure. This is evidenced in that their self-esteem is much more variable, fluctuating from moment to moment, day to day, than is the self-esteem of less narcissistic people. Other research indicates that narcissists are more likely to have high explicit self-esteem and low implicit self-esteem. This finding suggests that although narcissists describe themselves in positive terms, their automatically accessible self-feelings are not so positive.

Narcissists’ positive but insecure self-views lead them to be more attentive and reactive to feedback from other people. However, not just any response or feedback from others is important to narcissists. They are eager to learn that others admire and look up to them. Narcissists value admiration and superiority more than being liked and accepted. Studies find that narcissists’ self-esteem waxes and wanes along with the extent to which they feel admired. Moreover, narcissists are not passive in their desire for admiration from others but, rather, pursue it by attempting to manipulate the impressions they create in others. They make self-promoting and self-aggrandizing statements and attempt to solicit regard and compliments from those around them.

It follows that if narcissists are constantly seeking positive feedback from other people then they should react negatively when people around them fail to provide such support. Accordingly, narcissists respond with anger and resentment when they feel threatened by others. They are more likely to respond aggressively on such occasions. They will derogate those who threaten them even when such hostile responding jeopardizes the relationship.

Narcissists attempt to solicit admiration from those around them, and their hostility when others fail to respond appropriately contributes to the disturbed interpersonal relationships that are a hallmark of the disorder. Research has shown that people describe their narcissistic acquaintances as trying to impress others by bragging and putting down others. These behaviors are initially successful in that interaction partners find narcissists to be competent and attractive. However, over time these partners come to view the narcissist as arrogant and hostile.

Findings from an impressive range of studies suggest a picture of the narcissists as people who use their

friends to feel good about themselves. They pander for attention and admiration to support self-images that are positive but easily threatened. They are constantly on alert for even the smallest slight that they perceive as disrespect. Perhaps most important, narcissists' striving to self-enhance at the expense of their friends ultimately costs them the friendships.

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*See also* Narcissistic Entitlement; Self-Enhancement; Self-Esteem; Self-Esteem Stability

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## NARCISSISTIC ENTITLEMENT

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### Definition

Narcissistic entitlement refers to a belief that one's importance, superiority, or uniqueness should result in getting special treatment and receiving more resources than others. For example, individuals high in narcissistic entitlement think that they should get more respect, more money, and more credit for doing the same work as everyone else. Narcissistic entitlement also includes a willingness to demand this special treatment or extra resources.

### Context and Importance

Narcissistic entitlement contains three components. At the root of narcissistic entitlement, individuals believe that they are uniquely superior. That is, they believe

that they are different from others in ways that make them superior. Second, individuals with high levels of narcissistic entitlement feel that they are more deserving of special treatment and limited resources by virtue of their superiority and uniqueness. Finally, they are likely to demand the special treatment and resources to which they believe they are entitled (e.g., receiving a bigger handful of candy than the other children at a holiday party or a paycheck that is larger than what comparable individuals earn). These demands may be in the form of verbal statements, but may also include aggressive and even violent behavior.

Special treatment can include a wide range of things but in general refers to an expectation of treatment that is unique (and usually better) from how others are treated. For example, individuals with high levels of narcissistic entitlement might demand the best seat at a restaurant or not to have to wait in line when everyone else does. They might demand to be called "Sir" or "Doctor" at all times. They might refuse to allow other individuals to be critical of or challenge their thoughts or ideas (a courtesy that they might not reciprocate).

Narcissistic entitlement is traditionally measured with a short subscale of the Narcissistic Personality Inventory as proposed by Robert Raskin and Howard Terry in 1988. This scale has proven to predict narcissistic behavior very well, but also to lack in statistical reliability. As a result, W. Keith Campbell, Angelica M. Bonacci, Jeremy Shelton, Julie J. Exline, and Brad J. Bushman have created other stand-alone measures of entitlement that have greater reliability.

Narcissistic entitlement can have both positive and negative outcomes for the entitled individual. When individuals act in a narcissistically entitled way, they may actually receive better treatment or greater resources than others (and more than they deserve). For example, the person at the airline counter who says he is a very important business person and demands to be seated in first class might actually end up in a first class seat. However, acts of narcissistic entitlement are often perceived by others as rude, selfish, and even pathetic. If upon landing, the businessman appears lost, the other passengers might simply ignore him rather than offering directions. Indeed, narcissistic entitlement by individuals often leads to scorn and replies such as, "Who died and made you king?"

Narcissistic entitlement can be a short-term and context-dependent state of mind. An individual might display narcissistic entitlement in one situation but not

in others. For example, a person may display narcissistic entitlement at home around his younger brother, but not around his peers back at school. Narcissistic entitlement can also be a general feature of an individual's personality. Some individuals display more narcissistic entitlement than do others across most situations and at most times. For example, a person might insist upon special treatment from her parents and deference from her younger sister, demand an A from a professor in a class when she really earned a C, and expect everyone to pay for her drinks when she is out.

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Joshua D. Foster

See also Narcissism; Psychological Entitlement

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## NARCISSISTIC REACTANCE THEORY OF SEXUAL COERCION

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### Definition

The narcissistic reactance theory of sexual coercion and rape explains how the personality of rapists intersects with situational factors to produce reactance. Reactance is a psychological motive to reassert one's sense of freedom when freedom has been denied. In the case of rape, some men will desire sex more after they have experienced a sexual rejection. Rapists will be motivated to reassert their freedom by aggressing

against the woman who has denied them sex and by forcing her to have sex. Reactance cannot fully explain rape because most men do not rape when they are refused sex. The narcissistic reactance theory of sexual coercion asserts that men who display narcissistic personality characteristics are more prone to rape in the face of sexual refusal.

### Reactance Results From Sexual Refusal

The typical date rape occurs after a man and a woman have engaged in some sexual activity short of intercourse such as kissing or oral sex. The man wants to continue, but the woman refuses. The rapist then uses physical strength or psychological intimidation to force the woman to have sexual intercourse. Theories of psychological reactance help explain why a man might steal sex from a woman who has refused him.

Reactance is a psychological state that results from threats to one's freedom. When a person's freedom has been limited by rejection, reactance theory predicts that the threatened freedom will be viewed as a forbidden fruit. Held out of reach, the forbidden fruit is seen as more important than before. Freedom is reasserted by aggressing against the individual who has refused and engaging in the behavior that has been forbidden.

Reactance theory can apply to the typical date rape scenario. When a woman refuses a sexual advance, a rapist may perceive this refusal as a threat to his freedom. Then he may feel more motivated to have sex with the woman. Some evidence on rape supports this view. Men who are sexually aggressive believe that when a woman "teases" and then denies a man, rape is justified. Ex-lovers and husbands are especially likely to rape women with whom they have had prior sexual relations. It is possible that after the break-up, sex with this woman becomes even more valuable, and the ex-lover feels he must use force to reassert the freedom that he has lost.

### The Narcissistic Rapist

Narcissism as a general personality trait may help explain how some men cross the line from sexual rejection to rape. Narcissists are arrogant and feel an exaggerated sense of self-importance. They harbor delusions that they are more successful, important,

intelligent, and handsome than the average person. Because of their perceived superiority, narcissists possess strong feelings of entitlement. They tend to be demanding of admiration from others. They are also exploitative and lack empathy for other people. Narcissists also become aggressive when they have been criticized or their egos have been threatened.

Given these characteristics, narcissists would be especially susceptible to reactance following a sexual rejection. The narcissist believes that he is superior to other men in intelligence and attractiveness, and he becomes aggressive when his self-views are challenged. A sexual refusal would likely be the ultimate challenge because the narcissist believes that he is especially deserving and entitled to a woman's admiration and sexual compliance. This increased sense of entitlement intensifies his desire to have sex following a refusal and leads to an increased need to reassert his freedom by forcing a woman to have sex.

Research on rapists supports the idea that rapists have narcissistic qualities. Rapists tend to be arrogant and show cognitive delusions. Rapists also tend to demonstrate a sense of entitlement in that they are likely to feel that they were entitled to sex with a woman whom they had courted with effort and money especially if she had consented to some sexual activity in the past. Rapists often claim that their victims were promiscuous. A narcissist would become especially angry at a woman whom he believed was easy for other men but refusing of him and would likely take this refusal as a personal insult: If she has had sex with an inferior man, she should definitely not refuse the narcissist! Rapists also show the selective empathy that narcissists demonstrate. Rapists are unwilling to see the situation from their victim's perspective. They may report that they never thought about how the woman was experiencing the event or that they believed the woman actually enjoyed the rape.

### Evidence for the Theory

Although ethical restraints prohibit direct laboratory tests of this theory, some experimental evidence indicates that narcissism and reactance combine to foster attitudes that are supportive of date rape. Narcissists are more likely to endorse myths about rape and show less empathy for rape victims than are non-narcissists. Although most men are turned off by a rape that occurs after a couple has shown mutual affection, narcissists

find the same scenario enjoyable, entertaining, and sexually arousing. Laboratory tests have also shown that when a female accomplice in an experiment refuses to read a sexually explicit passage to a narcissist, narcissists find this personally insulting and retaliate against her. Men who are not narcissistic do not behave similarly. These results suggest that narcissists support rape that occurs after they believe a man has been led on, and they experience psychological reactance when they undergo a sexual refusal.

*Kathleen R. Catanese*

*See also* Date Rape; Narcissism; Rape; Reactance

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## NEED FOR AFFILIATION

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### Definition

Human beings differ from each other in how much they like to associate with other people. Some people avoid being alone, put a high priority on their friendships, and try hard to please other people. Others are just the opposite: They are content to be alone, they don't put much effort into their relationships with other people, and they aren't very concerned about making other people happy. Henry Murray coined the term *need for affiliation* to differentiate people who are generally friendly, outgoing, cooperative, and eager to join groups from those who are unfriendly, reserved, and aloof. Most people could probably be described as having a moderate need for affiliation, but some people have an extremely low need and others have an extremely high need.

Murray used the term *need* to describe a kind of force within a person that organizes a person's thoughts, feelings, and behavior. A person with a high need for affiliation is so motivated to build and maintain relationships with other people that many of his or her thoughts, emotions, and actions are directed toward fulfilling this motivation.

### Nature of the Need

Having a high need for affiliation probably sounds like an important part of a desirable personality. Many people, after all, would rather think of themselves as being friendly than as cold or standoffish. And there are some advantages to having a high need for affiliation. Murray noted that people with a high need for affiliation try hard to make other people happy, which probably helps them build and maintain strong relationships. But there are also some disadvantages. People with high need for affiliation tend to be conforming and may even go along with unwise choices made by people around them. Under some circumstances, people with a high need for affiliation may also have trouble getting their work done. They may put such a high priority on socializing that they neglect some of their other goals.

Murray believed that the way people express their need for affiliation depends on other aspects of their personality. A person who is high in the need for affiliation and also high in need for nurturance might be extremely kind, but a person who is high in the need for affiliation and high in the need for deference might be extremely compliant. In other words, a group of people who are all high in the need for affiliation might consist of people who are all outgoing, but they would differ in other ways according to their unique need profiles.

Social psychologists have recently shown much interest in the need to belong, and it is important to understand how this related concept is different from the need for affiliation. The need to belong is considered a universal human drive to establish and maintain lasting, positive relationships with other people. Most researchers describe the need to belong as a component of human nature, or something that all normal human beings possess. Much research suggests that if people do not maintain at least a minimum quantity of enduring, healthy relationships, their well-being will suffer. The need for affiliation, on the other hand, is

used to describe people's personalities. People vary in how motivated they are to socialize and establish new contacts, and this is what is meant by the idea that there are individual differences in the need for affiliation. People who are high in the need for affiliation are more motivated to form relationships than other people are, and as a result, they may be more successful at fulfilling their need to belong.

### Research Developments

Murray conducted his research on the need for affiliation in the mid-20th century, and researchers have since advanced psychologists' understanding of this motive considerably. Early research on the need for affiliation used the Thematic Apperception Test, which requires respondents to interpret a number of ambiguous pictures, to identify the strength of people's need for affiliation. But since that time, other tests of the need for affiliation have emerged. For example, Douglas Jackson designed a need for affiliation scale as part of his comprehensive measure of personality known as the Personality Research Form. Years later, Craig Hill developed the Interpersonal Orientation Scale, a self-report questionnaire that measures several specific components of affiliation motivation. The development of these and other tests have made it possible for researchers to find out how the need for affiliation shapes people's experiences.

Early research on the need for affiliation yielded results that confirmed Murray's description of the need. Relative to people with a low need for affiliation, people with a high need for affiliation are more concerned about others' acceptance, feel more empathy for others, are more likely to initiate contacts and friendships, and are more likely to conform to the wishes of experts who pressure them into a decision.

Other research has made discoveries that Murray might not have anticipated. For example, Hill's research shows that in some ways women have a higher need for affiliation than men do. Compared with men, women report that they get more pleasure from interacting with other people and are more likely to seek out others' company when they are upset. Hill's research also shows that people with a high need for affiliation can be discriminating when they choose a conversational partner: They prefer people who are warm and friendly to more than reserved people. This result makes sense in light of much social psychological

research that shows that people tend to like others who are similar to themselves.

People with a high need for affiliation may also be better leaders than people with a low need for affiliation. In a study conducted by Richard Sorrentino and Nigel Field, students with a high need for affiliation were described by their fellow students as more leader-like than students with a low need for affiliation. But the students who were considered the most leader-like of all were students who were high in both the need for achievement and the need for affiliation. This research suggests that successful leaders are both ambitious and sociable.

*Paul Rose*

*See also* Contingency Model of Leadership; Introversion; Need to Belong; Thematic Apperception Test; Traits

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## NEED FOR CLOSURE

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### Definition

Need for cognitive closure refers to the desire or motivation to have a definite answer or knowledge instead of uncertainty or doubt. The need for closure is resolved by any answer, and the answer is accepted simply because it is available. Thus, need for closure does not refer to knowledge or decisions regarding a specific question, nor does it refer to the need for accuracy. The need for closure can arise from within the person, as a personality trait—or from the situation, such as when it is urgent to make a decision quickly.

### History and Modern Usage

Early psychologists used ideas similar to need for closure, such as openness to experience and intolerance of ambiguity, to refer to broad personality traits and an often dysfunctional style of thinking. Today, need for

closure is described as a broader motivation that may affect how a person thinks or reacts in a situation. In addition, need for closure is described as both a stable personality trait and as something that can be provoked by the situation.

Situations that may trigger need for closure include those in which failing to decide has harmful consequences, as well as situations in which the act of thinking about or working on the task is unpleasant. For example, pressure to make quick decisions, boring tasks, and uncomfortable environments (e.g., extreme heat or noise) tend to increase need for closure. In contrast, individuals may avoid closure when the task is enjoyable or the answer is obviously wrong. In addition, individuals vary in their need for closure. Across situations, some individuals prefer to have firm answers quickly, whereas others are more comfortable with uncertainty.

One consequence of need for closure is urgency, or the desire to come to an answer quickly. Urgency leads to a tendency to quickly seize upon the first information that provides an answer. A second consequence of need for closure is permanence, or the tendency to stick to an answer. Permanence leads to a tendency to freeze upon the answer or decision once it is reached. Thus, need for closure may lead individuals to focus only on the initial information provided and to be less likely to change their answers when confronted with new evidence.

The urgency and permanence tendencies of need for closure have been shown to affect how individuals consider information. Need for closure results in focusing on initial information when forming impressions of others, searching for fewer alternative explanations, and using more stereotypes. Need for closure may result in less empathy and perspective taking because these may challenge one's own judgment. Need for closure may also result in being less persuaded by other people's arguments and a preference to interact with people who are more susceptible to persuasion. During group interaction, need for closure may also result in less tolerance of group members who disagree with the majority or who may hinder task completion.

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*See also* Cognitive Consistency; Mindfulness and Mindlessness; Need for Cognition

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## NEED FOR COGNITION

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### Definition

Need for cognition refers to an individual's tendency to engage in and enjoy activities that require thinking (e.g., brainstorming puzzles). Some individuals have relatively little motivation for cognitively complex tasks. These individuals are described as being low in need for cognition. Other individuals consistently engage in and enjoy cognitively challenging activities and are referred to as being high in need for cognition. An individual may fall at any point in the distribution, however.

### Background and History

The term *need for cognition* was originally introduced by Arthur Cohen and his colleagues in the 1950s and was brought back into popularity by John Cacioppo and Richard Petty in the 1980s. In Cohen's original work, need for cognition was defined as the need to make sense of the world. Therefore, greater need for cognition was associated with preference for structure and clarity in one's surroundings. That approach emphasized intolerance for ambiguity and thus appears closer to contemporary scales that measure need for structure or need for closure than to the current definition of need for cognition. However, Cacioppo and Petty retained the term *need for cognition* in acknowledgment of Cohen and his colleagues' early work.

Cacioppo and Petty conceptualized need for cognition as a stable individual difference (i.e., a personality trait) in the tendency to engage in and enjoy cognitively effortful tasks across a wide variety of domains (e.g., math, verbal, spatial). Need for cognition is assumed to reflect a stable intrinsic motivation that can be developed over time. In the modern way of thinking about need for cognition, the emphasis is on

cognitive processing (i.e., the activity of engaging in mentally challenging tasks) rather than on cognitive outcomes (e.g., a structured knowledge of the world). Importantly, need for cognition taps into differences in motivation rather than ability. This is supported by research showing that need for cognition is only moderately related to measures of ability such as verbal intelligence, ACT scores, and high school and college GPA, and continues to predict relevant outcomes after cognitive ability is controlled. It is a matter of whether one likes to think, not whether one is good at thinking.

### Measurement

Although the Need for Cognition scale was originally developed as a 34-item inventory, the most commonly used version contains 18 items that people rate on 5-point scales as being characteristic of themselves (or not). Some examples of scale items are "I prefer complex to simple tasks," "The notion of thinking abstractly appeals to me," and "I prefer my life to be filled with puzzles that I must solve." The scale has been established to have high internal consistency, suggesting that the individual scale items tap into the same construct. The scale also demonstrates good validity. That is, the scale correlates with other scales that measure individual differences that should be independent of but related to need for cognition. For instance, the scale correlates positively with other scales that measure the tendency to make complex attributions and the tendency to seek relevant information for decision making and problem solving.

### Enjoyment of Cognitive Challenges

Consistent with the definition of need for cognition (NC), research indicates that high NC individuals spontaneously engage in a variety of mentally effortful tasks, whereas low NC individuals will participate in such activities only when there are external incentives to do so. For example, high NC individuals distinguished between strong and weak messages in a persuasive communication. This occurred regardless of whether the message came from a trustworthy or untrustworthy source or took a surprising position or not. Low NC individuals, on the other hand, distinguished between strong and weak arguments only when the arguments came from an untrustworthy source or took a surprising position. This means that low NC

individuals scrutinized the message only when there were other motivations to do so (e.g., to check on an untrustworthy source). Other special circumstances that motivate low NC individuals to think include unexpected arguments, an approaching deadline, and a personally relevant topic.

This research suggests that high NC individuals find mentally complex activities inherently enjoyable, but low NC individuals do not. Much evidence indicates that high NC individuals experience cognitively demanding tasks more positively than low NC individuals do. Several studies demonstrated that compared with low NC individuals, high NC individuals reported more positive affective reactions (e.g., ratings of task enjoyment and pleasantness) and less negative ones (e.g., frustration and tension) to mental challenges such as math problems and complex number search tasks. Furthermore, high NC individuals have a greater tendency to seek information about new products and complex issues. For example, they are more likely to tune in to presidential debates. Such active pursuit of information reflects high NC individuals' intrinsic motivation for mental activity and challenges.

### **Engagement in Cognitively Effortful Tasks**

Given their enjoyment of mental challenges, it is expected that high NC individuals have a chronic tendency to participate in cognitively effortful tasks. For example, high NC individuals are more likely to have an abundance of task-relevant thoughts than low NC individuals do. Furthermore, these thoughts are more likely to determine the attitudes of high rather than low NC individuals. For example, in one study, participants saw an advertisement that contained strong arguments for an answering machine. High NC individuals listed more positive thoughts to the strong arguments presented than did low NC individuals. In addition, attitudes toward the answering machine were correlated with thoughts among high NC individuals but not low NC individuals.

High NC individuals have more thoughts regarding persuasive messages and other stimuli, and they are more likely to think about their thoughts, engaging in metacognition. When high NC individuals are confident in their thoughts, they rely on them more than when they lack confidence in them. For low NC individuals, metacognitive processes are less likely. That

is, they are less likely to think about whether the few thoughts they have are valid.

In sum, high NC individuals' thoughts and attitudes are influenced by their effortful assessment of the merits of the information they receive and the perceived validity of their thoughts. Low NC individuals, on the other hand, are more affected by simple cues that are contained in communications. In one study, participants viewed an ad for a typewriter. The ad was endorsed by either two unattractive women or two attractive women. Although high NC individuals gave equally positive ratings to the typewriter regardless of endorser attractiveness, low NC individuals' ratings were more positive when the typewriter was endorsed by attractive than unattractive women. Because the attitudes of high NC individuals are more likely to be based on effortful thought, they tend to be held more strongly. Indeed, research has demonstrated that the attitudes of high NC individuals, compared with low NC individuals, are more persistent, more resistant to attacks, and more predictive of behavior.

Besides attitude-related consequences, another implication of high NC individuals' tendency to process information is that they have better memory for information to which they have been exposed. For instance, when students received arguments about the implementation of senior comprehensive exams, those high in NC recalled a greater proportion of the arguments than did those low in NC. In addition, high NC individuals have more knowledge on a variety of issues. In the domain of politics, high NC individuals listed more information about presidential candidates and more consequences of electing various candidates to office. In other research, high NC individuals listed more types of birds and performed better on a trivia test than low NC individuals did.

### **Biased Processing**

Sometimes, variables can bias one's processing. Because high NC individuals tend to focus on generating their own thoughts to information rather than relying on simple cues, their processing of information is more susceptible to various biases. One source of bias is mood. In one study, positive mood made attitudes more favorable in both high and low NC individuals. The difference is that whereas mood had a direct impact on attitudes in low NC individuals (i.e., mood served as a simple cue), it influenced attitudes in high

NC individuals in a more thoughtful way (i.e., by affecting their perception of the message arguments).

Although high NC individuals may sometimes be biased in their processing, they are also more likely to correct their judgments if biases are detected because they are more likely to engage in the cognitive effort required for such correction. When the biasing factor is subtle and not very salient, it tends to bias the thoughts of high NC individuals (as just described), but when the biasing factor is more blatant, high NC individuals tend to correct for the bias. When they overcorrect for the bias, this can actually lead to a reverse bias.

Need for cognition is an often-researched variable in social psychology because of its implications for people's attitudes, judgments, and decision making. This is because whether an individual is high or low in NC influences how the individual processes information and reacts to variables such as a source's trustworthiness, the individual's own mood, and so on.

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*See also* Elaboration Likelihood Model; Individual Differences; Intrinsic Motivation; Traits

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## NEED FOR POWER

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### Definition

Need for power is defined as the desire to control or influence others. It is not necessarily associated with actually having power, but instead with the *desire* to have power. In 1933, Henry Murray defined a long list of what he considered to be basic human needs. These needs were seen as directing behavior, and people were assumed to vary by how important each need was to them as an individual. One of these needs was the need for power. Some of the early empirical work on need for power was done by David McClelland and

David Winter, who refined the definition and developed methods of testing for people's level of need for power. Need for power (also called power motivation) was seen as one of the three fundamental social motives, along with need for achievement and need for affiliation.

### Associated Behaviors

Needs for power can be expressed in behavior in many ways. One of these is the use of physical or psychological aggression to force others to comply with what one wants from them. One can also express the need for power through gaining a reputation as an important person. Other behaviors associated with high power motivation include trying to affect the emotions of others. This could be done by telling jokes, or by a musical or dramatic performance. Finally, need for power can be expressed through providing (often unsolicited) advice or help. The association of helping behavior with other expressions of power motivation is not intuitively obvious, but the diverse set of behaviors listed here have been tied together empirically. They are all forms of exerting power over others. This power is sometimes exercised for one's own direct benefit, but can also be done with the apparent goal of doing something good for another person.

Some behaviors that have been found to characterize those high in need for power include having a high level of physical fights or verbal arguments with others. Enjoyment of debating might be a characteristic of someone high in need for power. Those who express their power motivation in this way may be very uncomfortable when others see them as powerless or weak. For this reason, they may be seen as hostile or chronically angry. This type of expression of need for power is often seen in negative terms.

Another type of behavior associated with need for power that is more socially acceptable is taking leadership in group situations. Those high in need for power enjoy running an organization, making decisions, or being in charge of a group. They run for elected office. They define what they are doing as motivated by "service" or "duty," but this labeling of their behavior may be a result of the fact that American society frowns on people openly saying they like to have power.

Gaining a reputation is another expression of power motivation. People may display their need for power

by making sure their names are visible on their doors, writing letters that will be published, with their names identified, or doing other things that stand out and lead to other people knowing who they are. One way of building a reputation is to have possessions that are valued by others in the group. These prestige possessions might be particular types of clothing, or music, or any other objects that will impress others. When asked to remember members of a group at a later point, those high in power motivation are more often remembered than are those low in power motivation.

Those high in need for power may also express this by taking a guiding role within their close relationships. They like to give advice to their friends and to propose and plan joint activities. These types of behaviors result in the high-need-for-power individual being more dominant in the relationship. However, when two people who are both high in power motivation do form a relationship, they may alternate in taking the dominant role within the relationship.

Helping behavior resulting from high need for power can be expressed in work roles. One form of this is mentoring, whereby one takes responsibility for guiding a person of lower status within the organization. Mentors motivated by need for power tend to believe that by mentoring others, they will gain a more positive reputation within the organization. By establishing relationships with talented junior members of the organization, they also build a power base that may enable them to gain more power within the organization as those they have mentored rise in the organizational hierarchy.

Knowing levels of need for power provides information that can predict job choice and performance. People who are successful managers within large corporations have been found to be high in need for power. Those working in government positions, where one is providing some type of service, or enforcing regulations, have also been found to be high in power motivation. Being a journalist is another power-related occupation, possibly because of the link with gaining reputation. The set of occupations known as the helping professions are associated with high power motivation. Thus, people who are interested in teaching, being members of the clergy, or being psychologists all tend to be high in need for power. In these types of fields, although the goal is to provide important help to other people, one is also able to exert influence over others and to express desires for power in a way that is socially acceptable, especially

for women, who tend to dominate in many of these helping professions.

Although there are many ways of expressing power motivation, those high in the motive may focus on only one type of expression, or they may display many of these. They may express power in one way at one point in their lives, but in another way at a different point. It has been suggested that more aggressive forms of power expression are more common in younger adults, whereas parenting and helping others may be seen more in older adults. Social role expectations affect power motivation expression as well. In general, men are more able to express power through aggression and leadership in large organizations. Women often express power in close relationships or the family.

### **Testing Methods**

Need for power is considered to be an unconscious motivation. People are not necessarily aware of their own level of need for power. In fact, openly admitting a desire to have power or influence is not considered socially acceptable, and many would deny having a high need for power. Because of this, researchers cannot simply ask people if having power is important to them. Instead, a variety of projective techniques are used, where people are given some type of vaguely defined task. One of the best known of these is the Thematic Apperception Test. This involves showing people a series of fuzzy pictures and asking them to write a story about each of them. It is assumed that they will draw details in these stories from their own unconscious as they write these stories. Stories are coded for the existence of specific types of themes and given a score for need for power (or other psychological needs). This coding system is very complex and extensive training is needed to do this well. More recently, power motivation has been measured through asking about some of the behaviors mentioned earlier that are associated with the basic need, as determined by the earlier Thematic Apperception Test story coding. Those who display these power-oriented behaviors are assumed to be high in the need for power.

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*See also* Control; Influence; Leadership; Power; Thematic Apperception Test

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## NEED TO BELONG

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### Definition

The need to belong refers to the idea that humans have a fundamental motivation to be accepted into relationships with others and to be a part of social groups. The fact that belongingness is a need means that human beings must establish and maintain a minimum quantity of enduring relationships. These relationships should have more positivity than negativity and be meaningful and significant to the relationship partners.

### Background and History

The psychological history of a belongingness motive has a long history, with psychologists including Sigmund Freud recognizing that humans need to be a part of groups and relationships. Freud believed that the desire for relationships comes from people's sex drive or was connected more to bonds between parents and children. Abraham Maslow, whose great psychological legacy was to create a motivational hierarchy, put belongingness needs in between satisfying physical needs (such as being fed and getting enough sleep) and needs for self-esteem. Thus, these early psychologists recognized that humans strive to be a part of relationships, but they did not place supreme significance on this drive.

John Bowlby was probably the first psychologist to develop the idea that belongingness is a special need and was one of the first to perform experimental tests on the idea. Bowlby is best known for his attachment theory, which says that people's early relationships with their caregivers (e.g., parents) are the foundation for how people will respond to others in close, intimate relationships for the rest of their lives. Bowlby

saw that people varied in how they behaved toward people they were close to, and that these variations could be observed among children and their mothers.

The most influential version of the need to belong theory was proposed by Roy Baumeister and Mark Leary, whose theory put relationship needs as one of the most important needs that humans must fulfill. They compared satisfying the need to belong to securing necessities, such as food and shelter, which are needed to survive. Baumeister and Leary said that satisfying the belongingness motive requires that two aspects of relationships be met: The first part is that people need to have positive and pleasant, not negative, interactions with others. The second part specifies that these interactions cannot be random but, rather, should take place as part of stable, lasting relationships in which people care about each other's long-term health and well-being.

The reason that the need to belong is essential for humans is that being a part of groups and intimate relationships helped humans to survive in ancestral history. When enemies would attack, when animals would prey, or when it was difficult to find food or shelter, those people who were part of a group were more likely to survive than was the lone man or woman needing to fend for himself or herself. Reproduction too was much easier with another person, as is fairly obvious, and those people who could get into and start a part of a band of others were more likely to have offspring and thus pass their genes onto future generations of humans. Even if loners can create a pregnancy by having sex during a chance encounter with one another, those children would be less likely to survive to adulthood than would children who grow up supported and protected by a group. In these ways, evolution likely favored early humans with a stronger need to belong, and so today's humans are mainly descended from them—and therefore probably inherited that strong need.

Although early theories about the need to belong emphasized one-to-one relationships, more recent work has made clear that larger groups can satisfy the need also. Some people (and perhaps men more than women) can feel connected to a large group, such as a team or company or university, and this bond can take the place of intimate relationships to some extent.

### Importance and Consequences

The importance of the need to belong was documented by Baumeister and Leary when they detailed

the emotional, cognitive, and physical aspects of the need to belong. One way to look at the importance of the need to belong is to document what happens when the need is unmet. The reason that scientists would examine the consequences of an unsatisfied need to belong is the same reason that scientists would need to study what happens when people fail to get enough food or water; not having enough of something and seeing the negative outcomes that follow gives meaningful scientific information that the missing piece (in this case, relationships with others) is essential for healthy functioning.

Support for need to belong idea was demonstrated by research showing that social bonds are formed easily and without the need for special circumstances or additions. Even when people must part (such as when graduating from college), they are often quite upset about having to part and consequently make promises to keep the relationships going through visits, mail, telephone, and so on. Sometimes people who are not going to see each other again will say “see you soon” as a parting because the idea of not seeing someone again is too unsettling to say aloud.

There are cognitive (mental) components to the need to belong. For instance, people seem to categorize information in terms of relationships, and they readily see relationships between people, even when they do not exist. Have you ever been at a store and had the clerk ask if you and the person next to you in line (a stranger) are on the same bill? This is an example of people’s tendency to see relationships between others. When two people are part of a couple, the cognitive representations of the self and the partner get clumped together in mind, making it so that information about the partner is classified in a similar manner as to the self. When relationships break up, people find themselves thinking about the relationship partner over and over again, with thoughts of the other person intruding into other thoughts.

Emotions play a large role in the formation and dissolution of relationships. When people make a new friend or fall in love, they experience happiness and joy. Getting into a desired social group, such as a sorority or academic club, brings people happiness. Despite the stress that comes from having a child, people are excited about becoming a parent before it happens, express positivity with being a parent (usually) during the child’s years at home, and look back on the experience as being joyful and rewarding. Having a new relationship, especially one as central to

the person as having one’s own child, is likely responsible for those good feelings. In fact, being happy with one’s life is largely the result of how many relationships one has and how satisfying those relationships are. Although people may think that money makes them happy, it turns out that being a part of happy, stable relationships is a much bigger influence on happiness.

Conversely, when people are excluded from groups or their relationships fall apart, they feel a variety of negative emotions. Anxiety is one of the primary forms of negative emotions resulting from a loss of a relationship, with children as young as 1 year old showing separation anxiety when they must be without their mothers for some time. Depression and sadness too can result from not being accepted into groups or relationships, and often depression and anxiety go hand in hand when people feel rejected. Jealousy is another negative feeling that is directly related to interpersonal bonds. Jealousy is the feeling that someone is going to (or has) taken away something that one has and does not want to lose (such as a special relationship partner). More than 50% of people say they are jealous people, and the number may be even higher than that because some people try to hide their jealousy. Loneliness is a chronic state of feeling that one does not have enough satisfying relationships. Loneliness is more than not having social contact because a person could have multiple interactions throughout the day but still feel lonely. Feeling lonely is an example of how interactions must take place in the context of long-lasting relationships to satisfy the need to belong.

Researchers have documented physical ills that occur when people are not part of groups or relationships. For instance, married people have better health than single, divorced, or widowed people. Married people live longer, have fewer physical health problems, and have fewer mental health problems. Married people who are diagnosed with cancer survive longer than do single people who have similar forms of cancer. Lonely people are especially known to have ill health. Researchers have studied lonely people for some time and have shown that they get more common illnesses, such as head colds and the flu, as well as have weakened immune systems more generally. Women who have eating disorders are more likely to have had troubled relationships with their mothers when they were young. Veterans who feel they have a lot of social support are less likely to suffer from

post-traumatic stress disorder when they return from battle. In short, people have higher quality lives and live longer when they feel a part of supportive, caring relationships.

### Individual Differences

People differ in how much they need to be around others and how badly it hurts not to have other people accept them. Mark Leary and his colleagues created a scale, the Need to Belong Scale, to measure people's individual needs for acceptance. People who score high on the Need to Belong Scale want badly to be accepted into social interactions and react strongly to being excluded. People who score low on the scale desire fewer close relationships, although again a minimum number of close ties are important for all human beings.

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*See also* Attachment Theory; Close Relationships; Interdependent Self-Construals; Kin Selection; Rejection

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## NEGATIVE-STATE RELIEF MODEL

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### Definition

The negative-state relief (NSR) model is a theory that attempts to describe how one situational factor—sadness—relates to the willingness to help others. Specifically, this theory predicts that at least under certain circumstances, a temporary feeling of sadness is likely to result in an increased willingness to help others. For example, a person who is sad because a close friend just cancelled a planned visit would be more likely to help a stranger push his or her car out of a snow bank. Why would a sad mood lead to an increased willingness to help others? According to this theory, this is for selfish reasons. Specifically, people have been socialized in such a way that they

are rewarded for helping other people. Over time, people internalize this and find helping others rewarding. When a person is sad, he or she is motivated to repair that mood and anticipates that helping another person would do so. More simply, when people are sad, they may be more likely to help others because they believe that doing so will make them feel better.

### Significance and History

Human beings would have been unlikely to survive their early history as a species without the existence of helping behavior. Even in modern times, human beings often need assistance from others. Sometimes such assistance is provided; other times, it is not. Knowing why people do or do not help others in particular situations, then, is important both for a complete understanding of human social behavior and for informing attempts to increase helping behavior. The study of helping behavior has a rich history in social psychology, and the NSR model is an early theory of such behavior.

Early studies on the association between positive mood and helping provided unambiguous results. Being in a positive mood is consistently associated with a greater willingness to help others. This might suggest that being in a negative mood ought to make people less likely to help others, but early research on this topic provided less clear results. Some of these studies found that people were more likely to help when in a negative mood whereas others found that people were less likely to help when in a negative mood. The NSR model was an attempt to reconcile these inconsistent findings. This theory suggests that people in a negative mood are more likely to help others only when the helping behavior is not overly aversive and when they have internalized the rewarding nature of helping others. If helping another person is too costly, then doing so is unlikely to improve one's mood. Moreover, if a person does not anticipate that helping another person will improve one's mood, sadness is unlikely to result in increased helping.

### Evidence

Considerable evidence indicates that helping other people does indeed improve one's mood. In experimental studies, participants who were able to provide help to another person reported that they were in better moods than did participants who were not given

a chance to provide help to another person. This suggests that helping others may be a successful means of repairing a sad mood, and that people may be aware of this. These findings support the NSR model.

Direct evidence also shows that the induction of a sad mood causes people to be more helpful. Pre-teen and teenage research participants who were asked to recall depressing events were more likely to help others when given a chance. However, this pattern was reversed in younger children. These findings provide nice support for the NSR model. Older participants, who presumably have learned that helping other people is rewarding, were more likely to help when they were sad. Younger participants, however, presumably have not yet internalized the lesson that helping others is rewarding, and therefore do not do so as a means of improving their own mood.

Additional evidence is consistent with other aspects of the NSR model. First, research has demonstrated that negative moods only lead to increased helping when the cost of such help is relatively low. This makes sense given that incurring high costs to help someone else is likely to offset any mood improvement resulting from the provision of help. Second, evidence suggests that sad people help even more when they view their own mood as changeable. This, too, makes sense in light of the NSR model. If a person does not believe that his or her mood is changeable, it follows that helping another person will not improve mood. It makes sense, then, that they help less than do people who do think their moods can change.

Whereas the NSR model, as originally written, was intended to apply only to sadness, some evidence suggests that it may apply to at least one other negative emotion. Studies indicate that the experience of guilt is consistently associated with a greater likelihood of helping others. Other studies indicate that negative emotions like anger and anxiety do not increase helping, however.

### Controversy

Despite evidence in support of the NSR model, there are critics. Some researchers have found results that seem to contradict the model. For example, evidence indicates that sadness leads to increased helping even when people anticipate that their mood will improve for other reasons. This seems to contradict the NSR model because it shows that sad people are more likely to help even when they do not need to do so to improve their moods. Moreover, an analysis of several

published studies has challenged key assumptions of the NSR model (e.g., that the relationship between sadness and helping increases with age). This analysis has its own critics, however, and there is still disagreement regarding the accuracy of the NSR model.

Regardless, the NSR model has contributed to psychologists' understanding of conditions under which people are more or less likely to help. It has generated a substantial amount of research, continues to do so, and is likely to have an enduring influence, despite differences of opinion regarding its accuracy.

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*See also* Altruism; Empathy–Altruism Hypothesis; Helping Behavior; Prosocial Behavior

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## NEUROTICISM

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### Definition

Neuroticism refers to a broad personality trait dimension representing the degree to which a person experiences the world as distressing, threatening, and unsafe. Each individual can be positioned somewhere on this personality dimension between extreme poles: perfect emotional stability versus complete emotional chaos. Highly neurotic individuals tend to be labile (which means they have plenty of emotional reactions), anxious, tense, and withdrawn. Individuals who are low in neuroticism tend to be content, confident, and stable. The latter report fewer physical and psychological problems and less stress than do highly neurotic individuals.

Neuroticism is associated with distress and dissatisfaction. Neurotic individuals (i.e., those who are high on the neuroticism dimension) tend to feel dissatisfied with themselves and their lives. They are more likely to report minor health problems and to

feel general discomfort in a wide range of situations. Neurotic individuals are more prone to negative emotions (e.g., anxiety, depression, anger, guilt). Empirical studies suggest that extremely high levels of neuroticism are associated with prolonged and pervasive misery in both the neurotic individuals and those close to them.

## History

The concept of neuroticism can be traced back to ancient Greece and the Hippocratic model of four basic temperaments (choleric, sanguine, phlegmatic, and melancholic, the latter most closely approximating neuroticism). In modern psychometric studies of personality and psychopathology, neuroticism tends to be identified as a first general factor (i.e., the variable with the broadest power in explaining individual differences). For example, as much as 50% of the variability in “internalizing” forms of psychopathology (mental illness) such as depression, anxiety, obsessive-compulsion, phobia, and hysteria can be explained by a general dimension of neuroticism. For this reason, neuroticism almost always appears in modern trait models of personality, though sometimes with slightly different theoretical formulations or names (e.g., trait anxiety, repression-sensitization, ego-resiliency, negative emotionality). Hans Eysenck popularized the term *neuroticism* in the 1950s by including it as a key scale in his popular personality inventory. Neuroticism figures prominently in the influential Big Five model of personality disposition and in tests designed to measure the Big Five, such as the NEO Personality Inventory. Neuroticism is even reflected in inventories designed for clinical psychological use, such as the recently developed “Demoralization” scale on the Minnesota Multiphasic Personality Inventory–2.

Growing but still limited evidence suggests that most major personality traits (including Neuroticism) identified by Western psychology manifest universally. Evidence of the importance of neuroticism in individuals from diverse cultures (and who use different languages) can be found in large-scale cross-cultural studies of personality.

## Biological Basis

Accruing research data show persuasively that individual differences in neuroticism are substantially heritable (which means they are passed from parent to child). Heritability estimates based on twin studies

generally fall in the 40% to 60% range. The remaining individual differences in neuroticism are attributed primarily to unique (nonfamilial) environmental differences; the shared familial environment appears to exert virtually no reliable influence on individual differences in neuroticism. Researchers speculate that overreactivity of the limbic system in the brain is associated with high levels of neuroticism, but specific neurochemical mechanisms or neuroanatomical loci have not yet been identified.

## Costs of Extreme Levels of Neuroticism

Highly neurotic individuals are defensive pessimists. They experience the world as unsafe and use fundamentally different strategies in dealing with distress than non-neurotic people do. They are vigilant against potential harm in their environment and constantly scan the environment for evidence of potential harm. They may withdraw from reality and engage in protective behaviors when they detect danger.

Highly neurotic individuals tend to be poor problem solvers. Because of their tendency to withdraw, they tend to possess an impoverished repertoire of behavioral alternatives for addressing the demands of reality. Consequently, they tend to engage in mental role-play (rumination and fantasy) instead of constructive problem-solving behaviors. In contrast to their impoverished behavioral repertoires, however, they may possess a rich inner world. Introspective and apt to analyze their thoughts and feelings, they are highly invested in seeking the true nature of their intrapsychic experiences. Successful artists (e.g., Woody Allen) are sometimes neurotic individuals who have developed creative channels through which to tap their rich, overpopulated intrapsychic worlds.

Although high neuroticism is related to a deflated sense of well-being, high levels of neuroticism are not always associated with unfavorable characteristics. Neurotic behaviors may be essential for survival by facilitating safety through the inhibition of risky behaviors. Neurotic individuals tend to possess high anticipatory apprehension that may orient them to pay closer attention to contingencies previously associated with punishments. Also, the subjective discomfort (i.e., anxiety) regarding violations of social convention is greater in a neurotic individual than in others; thus, it is less likely that a neurotic individual will become involved in antisocial activity. For instance, adolescents with extremely low neuroticism

have been shown to possess a higher risk of adult criminality and to experience low levels of uncomfortable physiological arousal over violations of social conventions.

Keenly attuned to their inner experiences, those high in neuroticism are also attentive to their physical discomforts. Their health maintenance behaviors (e.g., consultations with a physician) are more frequent than those of individuals with less neuroticism. Although their complaints regarding health are more frequent, their objectively assessed health is not poorer than those low in neuroticism. To the contrary, their general health is often found to be better, for example, with less frequent diagnosis of cancer. Researchers hypothesize that this finding is attributable to early detection of potentially harmful symptoms associated with frequent health maintenance behaviors.

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*See also* Big Five Personality Traits; Defensive Pessimism; Genetic Influences on Social Behavior; Individual Differences; Traits; Twin Studies

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## NONCONSCIOUS EMOTION

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It seems that people can be wrong about or unaware of many things, but at least they can be sure about their own emotions. Yet, psychologists challenge even that certainty and point out that one's emotional life can be a mystery, even to oneself. The idea of nonconscious

emotion proposes in its strongest form that people can be in an emotional state (as demonstrated by its impact on behavior, physiology, and cognition) without having any conscious awareness of being in that state.

### Evidence

One source of speculation about the relation between emotion and awareness are the works of Sigmund Freud. Freud clearly believed that people can be wrong about the cause of their emotion (as when a person's anger at his or her boss comes from the similarity of the boss to the person's father) or the exact nature of their emotions (as when a person confuses love with hate). There is little empirical support for Freud's most dramatic speculations. However, some evidence indicates that people can be mistaken about some aspects of their emotional states. For example, one study found that in phobic individuals, negative mood can be elicited by presenting them with fear-relevant snakes and spiders. Another study found that positive mood can be elevated by repeated subliminal presentation of simple geometric figures. Many studies demonstrated that arousal resulting from one source (e.g., crossing a bridge) can be mistaken as deriving from another source (e.g., romantic attraction).

Note, however, that in these studies, people were aware of their emotions (though not of the causes). Could an emotion itself be nonconscious? Among psychologists, the issue is somewhat controversial. Some researchers think that the presence of a conscious feeling (the phenomenal component of emotion) is necessary to call a state an emotion. Other researchers think that conscious feeling is only one aspect of emotion, and the presence of emotion can be detected in behavioral and physiological changes. The latter possibility is supported by several lines of evidence.

First, from the standpoint of evolution and neuroscience, at least some forms of emotional reaction should exist independently of subjective correlates. Evolutionarily speaking, the ability to have conscious feelings is a late achievement compared with the ability to have behavioral affective reactions to emotional stimuli. Basic affective reactions are widely shared by animals, including reptiles and fish, and at least in some species may not involve conscious awareness comparable with that in humans. After all, the original function of emotion was to allow the organism to react appropriately to positive or negative events, and conscious feelings might not always have been required.

The neurocircuitry needed for basic affective responses, such as a positive reaction to a pleasant sensation or a disliking reaction to a threatening stimulus, is largely contained in emotional brain structures that lie below the cortex, such as the nucleus accumbens, amygdala, hypothalamus, and even lower brain stem. These subcortical structures evolved early and may carry out limited operations that are essentially preconscious, compared with the elaborate human cortex at the top of the brain, which is more involved in conscious emotional feelings. Yet even limited subcortical structures on their own are capable of some basic affective reactions. A dramatic demonstration of this point comes from affective neuroscience studies with anencephalic human infants. The brain of such infants is congenitally malformed, possessing only a brain stem, and lacking nearly all structures at the top or front of the brain, including the entire cortex. Yet sweet tastes of sugar still elicit positive facial expressions resembling liking from anencephalic infants, whereas bitter tastes elicit negative facial expressions resembling disgust.

Even in normal brains, the most effective “brain tweaks” so far discovered for enhancing basic related affective reactions all involve deep brain structures below the cortex. Thus, animal studies have shown that liking for sweetness increases after a drug that activates opioid receptors is injected into the nucleus accumbens (a reward-related structure at the base of the front of the brain). Liking reactions to sugar can even be enhanced by injecting a drug that activates other receptors into the brain stem, which is perhaps the most basic component of the brain. Such examples reflect the persisting importance of early-evolved neurocircuitry in generating behavioral emotional reactions in modern mammalian brains. In short, evidence from affective neuroscience suggests that basic affective reactions are mediated largely by brain structures deep below the cortex, raising the possibility that these reactions might not be accessible to conscious awareness.

However, neuroscientific evidence from animals and brain-damaged patients by itself is only suggestive about the idea of nonconscious emotion. Fortunately, there are some demonstrations of nonconscious emotion in typical individuals. One study explored nonconscious emotion in a paradigm where participants rated visible Chinese ideographs preceded by subliminal happy or angry faces. Though the subliminal faces influenced the ratings of ideographs, participants

interviewed after the experiment denied experiencing any changes in their conscious feelings. Furthermore, participants’ judgments were still influenced by subliminal faces even when they were asked not to base their judgments of ideographs on their emotional feelings. Even better evidence for nonconscious emotion comes from a study showing that participants are unable to report a conscious feeling *at the same time* a consequential behavior reveals the presence of an affective reaction. Specifically, in this study participants were subliminally presented with a series of happy, neutral, or angry emotional facial expressions. Immediately after the subliminal affect induction, some participants first rated their conscious feelings (mood and arousal) and then poured themselves and consumed a novel fruit drink. Other participants first poured and consumed a drink and then rated their conscious feelings. The results showed that, regardless of the task order, the ratings of conscious feelings were unaffected by subliminal faces. Yet, participants’ consumption behavior and drink ratings were influenced by subliminal affective stimuli, especially when participants were thirsty. Specifically, thirsty participants poured more drink from the pitcher and drank more from their cups after happy, rather than after angry, faces. In short, these results suggest a possibility of nonconscious emotion in the strong sense—a reaction powerful enough to alter behavior, but of which people are simply not aware, even when attending to their feelings.

## Implications

Thus, it seems that there are situations when a person can have an emotional reaction without any awareness of that reaction. This phenomenon has several important implications. For example, nonconscious emotions are, almost by definition, hard to control, thus raising the possibility of insidious influence by stimuli strong enough to change behavior without influencing conscious feelings. Clinically, the idea of unconscious emotion is relevant to certain kinds of psychiatric disorder, such as alexithymia, characterized by inability to access or describe one’s own feelings. The possibility that emotional behavior may occur without consciousness also raises some troubling questions whether, for example, facial or bodily emotional expressions (including that of pain) of brain-damaged patients reflect an activity of nonconscious emotional programs or some minimal consciousness.

The existence of nonconscious emotional reactions does not mean that conscious feelings are epiphenomenal—which means an interesting but unnecessary “icing on emotional cake” that plays little role in controlling behavior. Clearly, conscious feelings play an important function in what people do and deserve a central place in emotion research and clinical practice. However, the research suggests that many aspects of what is called emotion may be separable from conscious feeling, and that researchers and practitioners of emotion science should not limit themselves to self-reports of subjective experiences when assessing the presence of emotion.

Several critical questions need to be addressed by future research. First, nonconscious states might be primarily differentiated only on a positive-negative valence, rather than on more qualitative aspects associated with specific emotions (fear, anger, disgust, etc.). Some evidence indicates that subcortical circuitry is capable of qualitative differentiation, and studies could test whether different emotional behaviors could be elicited without accompanying conscious feelings. Second, the human studies discussed here relied on simple and highly learned stimuli, such as subliminal facial expressions. Future research should address whether complex, culturally coded stimuli can also elicit valenced behavioral changes without accompanying feelings. Finally, future work should examine what exact psychological and neural mechanisms determine whether an emotional reaction remains nonconscious or is accompanied by conscious feelings. The scientific research on nonconscious emotion has just began, and the near future is certain to bring many exciting findings.

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*See also* Affect; Emotion; Mere Exposure Effect; Nonconscious Processes

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## NONCONSCIOUS PROCESSES

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### Definition

Nonconscious (or unconscious) processes are all the processes people are not consciously aware of. As opposed to what most people think, nonconscious processes make up most interesting psychological processes. People are only consciously aware of a very limited subset of psychological processes.

### Analysis

There is logic behind this division of labor between nonconscious and conscious processes whereby consciousness is only involved in a very limited subset. First, consciousness can generally do only one thing at a time. You cannot simultaneously engage in two activities that both require conscious attention (e.g., watching a good movie and reading a book). Second, the amount of information consciousness can process is very limited. In the 1950s, researchers tried to compare the amount of information consciousness can handle with the amount all our senses (all nonconscious processes combined) can deal with. They measured information in bits—the simple dichotomous unit computers work with. They found, for instance, that when we read, we can process about 50 bits per second (this is a fairly short sentence). Generally, consciousness can process about 70 bits per second. Our senses though, can deal with a stunning amount of information: about 11.2 million bits per second.

It is difficult to quantify the processing capacity of humans, so one should not take these numbers too literally—they are approximations. Still, the difference is enormous. If we translate them to distances, we could say that if the processing capacity of all our senses is the height of the Empire State Building, the processing capacity of consciousness is a tenth of an inch. No wonder most psychological processes are nonconscious!

### Structural Versus Learned Nonconscious Processes

Some psychological processes are nonconscious simply because we are the way we are. Other psychological processes are nonconscious because they are well-learned. Initially, such processes are conscious.

It is impossible to provide an exhaustive list of the structural nonconscious processes and the learned nonconscious processes because there are too many. Examples have to suffice.

An example of a structural nonconscious process is search in memory. If I ask you, “What are the three largest cities in the United States?,” you will be able to come up with an answer (the correct one is New York, Los Angeles, and Chicago). However, you do not really have conscious insight about how this works. Your nonconscious provides your consciousness with answers, but how you derive the answers is a mystery to consciousness. Memory search is a nonconscious process.

An example of a learned nonconscious process is an increase in achievement motivation when you do an exam. As children, we learn that when we do an exam or test, we have to do our best. We concentrate hard, we think hard, and we use all our energy to do the test the best we can. Initially, however, we have to learn this. After having taken a few tests, the process becomes nonconscious. The mere fact that we are facing an exam is enough to increase our achievement motivation.

*Ap Dijksterhuis*

*See also* Automaticity; Controlled Processes; Dual Process Theories; Memory; Nonconscious Emotions

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randomly assign people to be in a relationship or not or to stay in a relationship for a long versus short period of time. Similarly, research participants cannot be randomly assigned to be male or female, homosexual or heterosexual, or Black or White. Therefore, the impact of important variables such as relationship status, culture, and ethnicity must be studied using nonexperimental designs.

## Characteristics of Nonexperimental Research

Many nonexperimental studies address the same types of research questions addressed in experiments. They are aimed at testing whether the variable of interest *causes* people to react in certain ways to social stimuli. When this is the goal, nonexperimental studies often measure the variable of interest, often by asking people to report their beliefs or perceptions (such as measures of amount of self-confidence, of commitment to one’s relationship, or of identification with one’s ethnic group). Statistical analyses are then used to relate people’s ratings to measures of other variables thought to be influenced by the initial variable. Consider a simple example in which a researcher wants to learn whether being committed to remaining in a romantic relationship leads people to be happier than not being committed to a relationship. This researcher might survey research participants who are in relationships, asking them to report their current level of commitment to the relationship and their current level of general happiness. A typical type of statistical analysis in this case might be to correlate relationship commitment with level of happiness. Because correlation is a common type of analysis in these designs, many people use the term *correlational designs* when they are actually referring to nonexperimental designs. The term *nonexperimental* is preferred primarily because the same correlational analyses could be performed on either nonexperimental or experimental data. The status of the study is determined by the research methods, not by the type of statistics used to analyze the data. Yet, the reader should understand that the terms *correlational* and *nonexperimental* are often used interchangeably.

If, in the previous example, the data show that people currently committed to their relationships are happier than are people not committed to their relationships, does this mean that being committed to a relationship *makes* people happier? Maybe, but maybe not. One of the major problems with nonexperimental designs is the result might have occurred in many

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## NONEXPERIMENTAL DESIGNS

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### Definition

Nonexperimental designs are research methods that lack the hallmark features of experiments, namely manipulation of independent variables and random assignment to conditions. The gold standard for scientific evidence in social psychology is the randomized experiment; however, there are many situations in social psychology in which randomized experiments are not possible or would not be the preferred method for data collection. Many social psychological variables cannot be manipulated, or ethics would keep one from doing so. For example, a researcher cannot

ways. In this example, it could be that commitment to their current relationships does make people generally happier. However, it could be that people who are generally happier also make more attractive mates. People may flock to those who seem happy (and may want to stay with them), but may shy away from people who seem sullen and unhappy (and may want to leave them). If commitment loves company, being happy may also make people more likely to be committed to a relationship, rather than relationship commitment making people happier. It could also be that a third variable might encourage people to be committed to relationships and might also make people happy. For example, if the research participants are students, it could be that people who are doing well in school are happier than people not doing well in school. It could also be that people who are doing well in school have the time for social activities that draw them closer to their relationship partners. However, if people are doing poorly in school, spending more time outside of class studying to catch up (or the stress of struggling to catch up) may pull them farther away from their relationship partners. Third variables could also be called *confounding* variables, because they confound the original causal link that is hypothesized to exist between the two variables of interest.

In a nonexperimental study, it can be difficult to tell which of a variety of explanations is the best. Because of this, researchers should include additional study features that help determine which explanations are best supported by the data. For instance, if our relationship researcher is concerned that happiness might lead to relationship commitment rather than commitment leading to happiness, he or she might measure people's happiness and relationship commitment over time. If it is true that happiness precedes commitment to a relationship, it should be possible to see that happy uncommitted people are more likely to become highly committed than are unhappy uncommitted people. It would also be possible to look at effects of relationship commitment controlling for one's level of happiness before committing to the relationship. That is, even if happier people want more to stay with their partners, it could be that commitment to the relationship provides an additional boost to happiness beyond the original level of happiness. Measuring the variables over time does not always identify the ordering of the variables in their causal chains, but it can help.

Measuring possible third (confounding) variables can also help in identifying the most likely causal relations among the variables. When these third (confounding)

variables are measured, specific alternative explanations can be tested. For example, if a researcher is concerned that class performance influences both the likelihood of relationship commitment and overall happiness, then a measure of class performance can be used to predict both of these variables. If class performance fails to predict one of the original variables, then it can be rejected as an explanation for the original relation between the two. Even if good class performance was correlated with relationship commitment and with increased happiness, analyses could be conducted using both relationship commitment and class performance to predict happiness. If commitment predicted happiness beyond class performance, this would undermine any concerns about class performance providing the best explanation for a relation between commitment and happiness.

Nonexperimental research can be conducted in laboratories or in naturalistic settings. In general, it might be more likely to see nonexperimental designs when research is conducted in natural (field) settings because the natural settings themselves might make it difficult or impossible to randomly assign people to conditions or to manipulate variables, even though one might still observe or measure the variables in that setting. Yet, it is important to realize that the distinction between experimental and nonexperimental research is not the same as the distinction between lab and field research. Either the laboratory or the field may serve as settings in which to conduct nonexperimental or experimental research.

It is equally important to realize that nonexperimental research includes a wide variety of research methods. Research questions similar to those described earlier (i.e., research aimed at addressing causal relations among variables) can use procedures other than asking research participants to directly report their beliefs or perceptions. For example, researchers might use archival data or direct observation to categorize a research participant's gender, ethnicity, or occupation. If so, the researcher might treat differences between these known groups as reflecting effects of the variables thought to differ between the groups. The problem, of course, is that these known groups might differ in many ways. Therefore, there are many potential third (confounding) variables to consider and possibly to test. Because of this, even if known groups are identified, the study should include direct measurement of the variables thought to differ across the groups to account for the effects of the third (confounding) variables.

Although many nonexperimental studies ask the type of causal questions described earlier, there are also other kinds of research questions. Some research asks whether a set of measures all tap one underlying psychological dimension. Correlational analyses of this type are used to create many of the multi-item scales that are used across areas of psychology. For example, if a researcher wants to create a multi-item measure of political affiliation, research participants might be asked to respond to a large set of measures asking about their liking or disliking of political figures, about political behaviors in which they have engaged, and about social policies they support or oppose. When determining which of these measures best fit together to assess overall political preferences, the research question is not which variables cause the others but instead what the best set of measures is to assess a person's political preferences. Other research questions might simply address which variables are correlated with which other variables or might attempt to identify what a certain group of people does or thinks about a certain issue. These research questions are both nonexperimental and noncausal, though forms of these studies can also be the building blocks for creating hypotheses about the causal relations among the variables of interest.

Duane T. Wegener

Jason T. Reed

*See also* Experimentation; Research Methods

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## NONVERBAL CUES AND COMMUNICATION

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### Definition

Nonverbal cues are all potentially informative behaviors that are not purely linguistic in content. Visible nonverbal cues include facial expressions, head

movements, posture, body and hand movements, self- and other-touching, leg positions and movements, interpersonal gaze, directness of interpersonal orientation, interpersonal distance, and synchrony or mimicry between people. Auditory nonverbal cues include discrete nonlinguistic vocal sounds (e.g., sighs) as well as qualities of the voice such as pitch and pitch variation, loudness, speed and speed variation, and tonal qualities (e.g., nasality, breathiness). Several additional behaviors are often included among nonverbal cues even though they are closely related to speech: interruptions, pauses and hesitations, listener responses (such as “uh-huh” uttered while another is speaking), and dysfluencies in speech. Clothing, hairstyle, and adornments, as well as physiognomy (such as height or facial features) are also considered to be nonverbal cues.

Psychologists' interest in nonverbal cues focuses on its relation to encoded meaning, relation to verbal messages, social impact, and development, and on differences between groups and individuals in their nonverbal behavior or skill in using and understanding nonverbal cues. Nonverbal behavior is ubiquitous throughout the animal kingdom, with numerous documented resemblances between the nonverbal behaviors of higher primates and humans. Nonverbal behavior is studied in many disciplines, including ethology, anthropology, sociology, and medicine, as well as all the subdisciplines of psychology. The content of the *Journal of Nonverbal Behavior* reflects the interdisciplinary nature of the field.

The distinction between nonverbal behavior and nonverbal communication is important, but not always easy to maintain in practice. Nonverbal behavior includes behavior that might be emitted without the awareness of the encoder (the one conveying the information), whereas nonverbal communication refers to a more active process whereby encoder and decoder (the one receiving the information) emit and interpret behaviors according to a shared meaning code. Because it is often difficult to distinguish the two, the terms *nonverbal behavior* and *nonverbal communication* are used interchangeably in this entry.

### Interpretations

Nonverbal cues emitted by a person are likely to be interpreted by others, whether correctly or not, allowing for misunderstandings to occur. The process of drawing inferences from nonverbal cues is often not in conscious awareness; similarly, encoders may or may not be aware of the cues they are sending. The

unintentional conveyance of veridical information through nonverbal cues is called *leakage*.

Nonverbal cues often accompany spoken words, and when they do, the nonverbal cues can augment or contradict the meanings of the words as well as combine with the words to produce unique messages, as in sarcasm, which involves the pairing of contradictory messages through verbal and nonverbal channels. Research has explored the impact of mixed verbal and nonverbal messages.

Some nonverbal behaviors have distinct meanings, most notably the hand gestures called emblems that have direct verbal translations (such as the “A-okay” sign or the “thumbs up” sign in North American usage). However, most nonverbal cues have multiple and often ambiguous meanings that depend on other information for correct interpretation (associated words, situational context, antecedent events, other cues, etc.). Some nonverbal behaviors are discrete (i.e., have distinct on-off properties), examples being nodding, blinking, pausing, and gestural emblems. Others are continuous, such as the fluid movements of the hands while speaking (called speech-dependent gestures), vocal qualities, and movement style.

The face and voice have been extensively studied relative to emotional expression, with at least six emotions having characteristic configurations of facial muscle movements and a variety of acoustic correlates. Nonverbal cues can also contribute to a person’s emotional experience and self-regulation via physiological feedback processes; engaging in certain behaviors can produce the associated emotions.

Although it is commonly assumed that the main function of nonverbal behavior is to convey emotions, this is only one of several important purposes served by nonverbal behavior in daily life. Nonverbal cues are used to convey interpersonal attitudes, such as dominance, affiliativeness, or insult. Nonverbal cues of the face, eyes, voice, and hands are used in the regulation of turn-taking in conversation, and also for purposes of providing feedback regarding comprehension and interest to a speaker. Face and hand movements serve dialogic functions, for example, to illustrate, comment, refer, and dramatize. Speech-dependent gestures also contribute to fluent speech by facilitating word retrieval; speakers lose fluency and complexity if they are constrained from gesturing while speaking. Nonverbal cues can also arise from cognitive activity, as when hard thinking produces a furrowed brow or averted gaze.

The coordination of nonverbal behavior between people helps produce and maintain desired levels of arousal and intimacy. People (including infants) often mimic, reciprocate, or synchronize their movements with others. Such behavior matching can contribute to rapport. However, behavioral compensation is also a common occurrence; one person adjusts his or her behavior to compensate for another’s behaviors, for example, by gazing less at another, or backing up, if the other is standing too close.

Another important function of nonverbal behavior is self-presentation, that is, to represent oneself in a desired way (as honest, nice, brave, competent, etc.). Related to self-presentation are societal display rules, conventions regarding what kinds of expressions are appropriate at what times and by whom. Examples are norms for how to behave nonverbally in different social situations (when disappointed, at a funeral, etc.) and norms that produce different degrees of outward emotional expressiveness in men and women. At one extreme of self-presentation is deliberate deception.

Nonverbal cues convey information, both intentionally and unintentionally, about emotions, attitudes, personality traits, intelligence, intentions, mental and physical health, physical characteristics, social group membership, deception, and roles, to give a few examples. However, the effects are often small in magnitude, indicating much variation in the predictability of such associations.

The following is a very short list of the many associations that have been found: Lying is associated with blinking, hesitations, and finger movements; a smile of true enjoyment can be distinguished from a polite, social smile by the movement of the muscles at the corner of the eyes; in friendly interaction, more gaze signifies a more positive attitude; persons of higher status or dominance engage in relatively less gazing while listening and relatively more gazing while speaking, and also speak louder and interrupt more; under stress, the pitch of the voice rises; more self-touching is associated with anxiety; women differ from men on a wide variety of nonverbal behaviors (including more smiling and gazing); Mediterranean, Middle Eastern, and Latin American cultures—called contact cultures—display more interpersonal touching and closer interaction distances in public than do non-contact cultures (Asia, Northern Europe); and the personality trait of extraversion is associated with louder and more fluent speech and heightened levels of gaze.

Of course, these are generalizations for which many exceptions can be found.

Nonverbal cues play a role in social influence, for example, persuasion and interpersonal expectancy effects, also called self-fulfilling prophecies. In the latter, one person's beliefs or expectations for another person can be fulfilled via nonverbal cues in a process that can be out of awareness for both parties. Thus, a teacher may be especially warm and nonverbally encouraging to a student believed to be very smart, or a new acquaintance may treat you coolly if he or she has heard you are not a nice person. In both cases, the expected behavior will actually be produced if the student responds with heightened motivation and achievement (confirming the teacher's belief) or if you reciprocate the other's coolness (confirming the acquaintance's belief).

Individuals and groups differ in the accuracy with which they convey information via nonverbal cues (called encoding, or sending accuracy) and interpret others' nonverbal cues (called decoding, or receiving accuracy). Researchers measure encoding accuracy by asking expressors to imagine or pose the intended message, by observing them in specific situations that arouse an intended state, or by observing them displaying their characteristic behavior styles. Accuracy in decoding nonverbal cues is measured by asking perceivers to watch or listen to nonverbal behaviors, either live or recorded, and to make assessments of the meanings of the cues (or to recall what behaviors occurred). The measurement of accuracy requires the establishment of a criterion for deciding what state or trait is actually conveyed in the stimulus.

Nonverbal skills advance over childhood and are often higher in females than in males. There is also evidence for cultural expression "dialects" that allow expressions of emotions to be more accurately judged by other members of that culture, or by people with greater exposure to that culture, than by outsiders. Research shows that nonverbal communication skills are higher in children and adults with healthy mental and social functioning.

*Judith A. Hall*

**See also** Babyfacedness; Behavioral Contagion; Crowding; Cultural Differences; Deception (Lying); Emotion; Emotional Intelligence; Expectancy Effects; Facial Expression of Emotion; Facial-Feedback Hypothesis;

Mimicry; Nonconscious Processes; Person Perception; Self-Fulfilling Prophecy; Thin Slices of Behavior

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## NORMATIVE INFLUENCE

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### Definition

Normative influence refers to the fact that people sometimes change their behavior, thoughts, or values to be liked and accepted by others. This results in conformity, in the form of individuals altering their utterances or demeanor to be more like what they perceive to be the norm. At the individual level, pivotal factors leading to normative influence are the desire to form a good impression and the fear of embarrassment. Normative influence is strongest when someone cares about the group exerting the influence and when behavior is performed in front of members of that group. It is one of social psychology's paradigmatic phenomena because it epitomizes the impact of the social world on an individual's thoughts and actions.

Normative influence has a somewhat negative image in Western industrialized cultures that value independent selves and individualistic values, and where being influenceable is seen as a character flaw. In reality, normative influence regulates people's daily lives much more than they like to recognize. Most people don't pay close attention to the dictum of fashion magazines, yet very few would go out dressed in ways that others might deem inappropriate. Furthermore, social psychological research has shown the surprising power and

scope of normative influence: For example, it can lead to conformity to complete strangers, it can cause people to ignore evidence of their senses, it can effect widespread body image issues and eating disorders because of unrealistic ideals of beauty, and it can have disastrous consequences in cases of bystander effect and groupthink.

### Normative Versus Informational Influence

Morton Deutsch and Harold Gerard first provided the useful distinction between normative and informational influence: Whereas normative influence results from wanting to fit in regardless of accuracy, informational influence results from believing that the group may know better. If a person enters a room and everyone else is whispering, he or she might start whispering too. If the person does it because he or she assumes others have a good reason that the person doesn't know about (e.g., a baby is sleeping or the roof could collapse at any minute), the person is yielding to informational influence; if the person does it because he or she is afraid of the sideway glances and frowns that the person might get for being loud, then the person is succumbing to normative influence. As this example illustrates, the two forms of influence are often intertwined, but this distinction is useful in analyzing instances of conformity, including some classics in the field. Muzafer Sherif's studies of conformity with the autokinetic effect, for example, are typically interpreted as showing primarily informational influence: Faced with the ambiguous stimulus of an apparently moving dot of light in a dark room, participants converged to a common understanding of their reality when estimating the light's movement. In contrast, Solomon Asch's line-naming paradigm is often seen as demonstrating normative influence: In deciding which stimulus line matched the length of a template, conforming participants chose to suppress the answer they knew to be true to go along with the clearly wrong response endorsed by the majority of their peers. Informational influence is fueled by wanting to know what's right, whereas normative influence is motivated by wanting to get along.

### Norms That Influence

The social norms at work in normative influence can be thought as the set of acceptable behaviors, values, and beliefs governing a particular group or situation.

They include prescriptions (how one should act) as well as proscriptions (what one shouldn't do). Some are culture-wide (e.g., one wears black at a funeral in the United States), whereas some are more situation-bound (e.g., if everyone else is standing up at a gathering, one might feel uncomfortable sitting down). Some norms are explicit (e.g., announcements about turning off one's cell phone in a movie theater), but some are more implicit and need to be figured out. Humans show remarkable skill at this, enabling them to get along in groups. One way that people discover implicit norms is through behavioral uniformity: If everyone is wearing a suit on a person's first day of work, the person realizes he or she should probably wear one too. Another is by seeing deviants being punished: After hearing several students making fun of a classmate for wearing a tie at a lecture, a professor might realize that the allegedly permissive campus actually has strong implicit norms dictating that one shouldn't dress formally for class. Norms can even be inferred when no one else is around by observing traces of other people's behavior in one's environment: In a littered street, people are more likely to litter than in a perfectly clean one. This last example has sometimes been used as an argument for zero-tolerance approaches to policing, under the assumption that evidence of petty vandalism in a neighborhood communicates a norm of lawlessness that leads to greater crimes.

One interesting feature of normative influence is that people conform to norms as people perceive them, not necessarily as they really are. Because discerning implicit norms is an imperfect inference process, it can lead to misperceptions. And indeed social psychology has documented such breakdowns, leading to conformity to an illusory norm. One such case is pluralistic ignorance, whereby a majority is ignorant of the true attitudes of the rest of the majority. On some college campuses, for example, most incoming students may misperceive that binge drinking is widely accepted, even though most students may in reality have private misgivings about it. Because of this misperception, normative influence leads students to keep their discomfort to themselves, and to boast instead about their drinking exploits. This leads others to believe in turn that drinking is widely accepted, a vicious cycle that ensures that the illusory norm is maintained. This example also illustrates the dynamic nature of normative influence more generally, in that each individual choosing to follow the norm publicly reinforces its grip on other individuals, and this snowballing can be reciprocal.

## Deviants and Normative Influence

The weight of normative influence is felt most strongly by individuals who deviate from the group. Stanley Schachter's pioneering research suggested that groups react to deviants by monitoring them, trying to bring them into the fold, and if that doesn't work, rejecting them. Only people who have paid their dues by conforming to the group in the past, thus amassing what has been called idiosyncrasy credit, can express dissenting views with relative impunity. Especially in times of urgency or stress, when a consensus needs to be reached and a decision needs to be made, strong pressures to conform can lead groups to ignore doubts and suppress dissent, sometimes with disastrous consequences. Deviants can disrupt normative influence and instead propagate their own views when they present those consistently and uncompromisingly, a phenomenon called minority influence. They can also loosen the grip of normative influence on others merely by the fact that they exist, regardless of their own message: Studies show that people are less likely to conform when someone else disagrees with the majority, even if their own position differs from the deviant's.

### How Deep Is Normative Influence?

How real are the changes brought about by normative influence? Some researchers have argued that whereas normative influence merely leads to compliance, a superficial and temporary behavior change with no accompanying change in values or beliefs, informational influence (as well as minority influence) is more likely to lead to conversion, a deeper reorganization of one's perceptions and attitudes, with longer-lasting consequences. This is suggested because normative influence seems to be strongest when the behavior is performed publicly in front of members of the group exercising the influence, and by the observation that individuals often revert to their initial attitude or belief once they are out of the normative influence situation. This intuition is captured by the use of private voting booths in democratic elections, recognizing that one's true attitude can be adulterated when expressed in the presence of others, but also assuming that it can be rekindled in isolation. By contrast, informational and minority influence has been found to lead to changes even in private responding, and to changes that can still be observed long after the individual left the influence setting.

*Benoît Monin*

*See also* Bystander Effect; Conformity; Deviance; Embarrassment; Group Polarization; Groupthink; Informational Influence; Norms, Prescriptive and Descriptive; Pluralistic Ignorance; Risky Shift

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## NORMS, PRESCRIPTIVE AND DESCRIPTIVE

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### Definition

Social norms are attributes of groups that generate expectations for the behavior of group members. Two types of norms differ in the source of the expectations. Descriptive norms refer to what most people in a group think, feel, or do; prescriptive or injunctive norms refer to what most people in a group approve of. The distinction here is between what is true of group members and what ought to be true of group members. In many cases, these two types of norms overlap. For example, wearing business suits is both a descriptive and a prescriptive norm for executives, just as wearing jeans is both a descriptive and a prescriptive norm for teenagers. Liberal political views are both a descriptive and a prescriptive norm on college campuses, just as traditional values are both a descriptive and a prescriptive norm in wealthy suburbs. However, sometimes descriptive and prescriptive norms diverge. For example, healthy eating and exercising are prescriptive norms for most adult Americans, but less so descriptive norms. Conversely, driving to work (as opposed to taking public transportation) is a descriptive norm in many communities, but certainly not a prescriptive norm.

## Analysis

Although both descriptive and prescriptive norms guide behavior, they do so through different psychological processes. Descriptive norms guide behavior because people take them to represent the most sensible course of action, a process known as informational social influence. Prescriptive norms guide behavior because people take them to represent the socially sanctioned course of action, a process known as normative social influence. The two types of norms also differ in how people experience the consequences of violating them. Specifically violating a descriptive norm does not have quite the sting that violating a prescriptive norm has. For example, if knowing Latin is a descriptive norm at College X, a student who does not know Latin may feel relatively Latin-challenged; however, if knowing Latin is a prescriptive norm at College X, this student may very well feel ignorant and uneducated.

One final difference between descriptive and prescriptive norms concerns the scope of their influence on behavior. Descriptive norms influence behavior only within the particular situation and group for

which the norm operates. Prescriptive norms have more far-reaching influence; they influence behavior across situations and populations. Thus, a descriptive norm of not smoking at College X will lead students to avoid smoking on campus but not off; a prescriptive norm of not smoking at College X will lead students to avoid smoking all together.

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*See also* Conformity; Informational Influence; Normative Influence

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## OBJECTIFICATION THEORY

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### Definition

Objectification theory is a framework for understanding the experience of being female in a culture that sexually objectifies the female body. The theory proposes that girls and women, more so than boys and men, are socialized to internalize an observer's perspective as their primary view of their physical selves. This perspective is referred to as *self-objectification*, which leads many girls and women to habitually monitor their bodies' outward appearance. This, in turn, leads to increased feelings of shame, anxiety, and disgust toward the self, reduces opportunities for peak motivational states, and diminishes awareness of internal bodily states. Accumulations of these experiences help account for a variety of mental health risks that disproportionately affect women: depression, eating disorders, and sexual dysfunction. The theory also helps illuminate why changes in these mental health risks occur alongside life-course changes in the female body, emerging at puberty and diminishing after menopause.

### Background and History

At the beginning of the 20th century, American psychologists explored the notion of the looking-glass self, which says that a person's sense of self is a social construction and reflects how others view him or her. This perspective is a precursor to objectification theory, which takes the looking glass, or mirror, component of this metaphor quite literally. The field's earlier

notions of self disregarded the physical body as an important component of self-concept and focused almost exclusively on attitudes, values, motivations, and the like. However, studies show that for women, positive self-regard hinges on perceived physical attractiveness, whereas for men, it hinges on physical effectiveness. So objectification theory asks, what would a more embodied view of the self tell us about gender differences in mental health?

Feminist theorists have pointed a finger at Western culture's sexually objectifying treatment of women's bodies for a long time. Psychologist Karen Horney wrote, 75 years ago, about the socially sanctioned right of all males to sexualize all females, regardless of age or status. More recently, Sandra Bartky defined sexual objectification as occurring whenever a woman's body, body parts, or sexual functions are separated from her person, reduced to the status of mere instruments, or regarded as if they were capable of representing her. Furthermore, the notion that within this cultural milieu women can adopt an outside-in perspective on their own bodies has a fairly long history in feminist philosophy. Simone de Beauvoir argued that when a girl becomes a woman, she becomes *doubled*; so instead of existing only within herself, she also exists outside herself. The art historian John Berger showed that women become their own first surveyors as a way of anticipating their treatment in the world.

Objectification theory argues that, with the sexualization of the female body as the cultural milieu in which girls are raised, girls are socialized to treat themselves as objects to be looked at and evaluated for their appearance. The external pressures that encourage girls' own preoccupation with their physical appearances abound. Empirical evidence demonstrates that

sexy, eye-catching women receive massive rewards in American culture. For example, compared with average weight or thin girls, heavier girls are less likely to be accepted to college. Physical attractiveness also correlates more highly with popularity, dating experience, and even marriage opportunities for girls and women than for men. It is as if physical beauty translates to power for girls and women. So, what Sigmund Freud called vanity in women, objectification theory explores as a survival strategy in a sexually objectifying culture; a survival strategy that may bring immediate rewards, but carries significant psychological and health consequences.

### Importance and Consequences of Self-Objectification

Self-objectification functions as both a trait and a state. That is, some people are simply more likely to define themselves in ways that highlight a third person's, or observer's view, of their bodies. These people are high self-objectifiers. Studies show that, in general, women score higher than men in trait self-objectification. Situations can also call attention to the body as observed by others, and this is when self-objectification is a state. Imagine receiving a cat-call or whistle while jogging.

A great deal of research has been conducted on the theorized consequences of self-objectification. The first, and perhaps most insidious, consequence of self-objectification is that it fragments consciousness. The chronic attention to physical appearance that girls and women can engage in leaves fewer cognitive resources available for other mental activities. One study demonstrated this fragmenting quite vividly. In it, college students were asked to try on and evaluate, alone in a dressing room, either a swimsuit or a sweater. While they waited for 10 minutes in the garment, they completed a math test. The results revealed that young women in swimsuits performed significantly worse on the math problems than did those wearing sweaters. No differences were found for the young men. In other words, thinking about the body, comparing it with sexualized cultural ideals, disrupts women's mental capacity.

Other work has demonstrated physical as well as mental capacity can be disrupted by self-objectification. One study showed girls whose bodily self-concepts were more appearance-oriented threw a softball with

a less-effective shoulder and humerus swing than did girls with a more competence-based view of their bodily selves. The widely scorned phenomenon of "throwing like a girl," in other words, might better be phrased, "throwing like a self-objectified person."

Studies show that the constant monitoring of appearance that accompanies self-objectification leads to increased feelings of shame and anxiety about one's body. Shame is an emotion that occurs when one perceives one's failure to meet cultural standards of conduct. The chronic comparison of one's own body with the impossible cultural standards of attractive, sexy appearance is a recipe for shame. Most girls and women can never win. Numerous studies have shown stronger body shame, appearance anxiety, and feelings of self-disgust in young women who internalize a sexualized view of self, and also in young women after viewing media portrayals of idealized women's bodies, or even being exposed to sexualizing words that commonly appear on magazine covers such as *sexy* or *shapely*.

These cognitive and emotional consequences can compound to create even more profound mental health risks. Studies have demonstrated a link between the feelings of shame engendered by self-objectification and eating disorders as well as depression in women. Other work has explored the ways in which the mental preoccupation of self-objectification diminishes women's *flow*, or ability to fully absorb themselves in enjoyable activities, and their sexual satisfaction.

Janet Shibley Hyde recently conducted a massive exploration of gender differences in psychological traits and attitudes. She found that there are actually very few such differences, despite the media's emphasis on women and men being from entirely different planets. Men and women are far more alike than different. Self-objectification appears to be one exceptional area. Here researchers do find significant and important differences between men and women. The work of objectification theory helps researchers see the ways that the cultural milieu of sexual objectification diminishes girls' and women's well-being, and limits their potential.

Tomi-Ann Roberts  
Barbara L. Fredrickson

*See also* Gender Differences; Looking-Glass Self

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## OMISSION NEGLECT

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### Definition

Omission neglect refers to insensitivity to missing information of all types—including unmentioned or unknown options, alternatives, features, properties, characteristics, possibilities, and events. When people fail to think about what they do not know, they underestimate the importance of missing information, and this leads people to form strong opinions even when the available evidence is weak. This can lead to bad decisions that people later regret.

### History and Background

It is often surprisingly difficult to notice that important information is missing. For example, in the story, “The Silver Blaze,” Sherlock Holmes asked Inspector Gregory to consider a curious incident involving a dog. Gregory replied that nothing happened, and Holmes proclaimed, “That was the curious incident.” This clue enabled Holmes to deduce that the culprit must have been someone familiar to the victim’s dog. Most people would miss this important clue because most people, like Gregory, pay little attention to nonevents.

Other types of omissions are also important. It took scientists hundreds of years to discover the importance of using a control group, or a condition involving the omission or the absence of a cause, in their experiments. In fact, scientists failed to recognize the critical importance of a control group until relatively

recently in the history of science (following the publication of *A System of Logic* by John Stuart Mill in 1848). Even scientists are surprisingly insensitive to the absence of a property, such as the absence of a cause. Similarly, it took early mathematicians thousands of years to discover the crucial concept of zero, the number that represents nothingness or the absence of quantity.

### Omission Neglect in Everyday Life

In everyday life, people typically receive limited information about just about everything—such as political candidates, public policies, job applicants, defendants, potential dating partners, business deals, consumer goods and services, health care products, medical procedures, and other important topics. News reports, advertisements, conversations, and other sources of information typically provide only limited information about a topic. When people overlook important missing information, even a little information can seem like a lot. Ideally, people should form stronger beliefs when a large amount of information is available than when only a small amount is available. However, when people are insensitive to omissions, they form strong beliefs regardless of how much or how little is known about a topic. Furthermore, in rare instances in which a large amount of information is available, forgetting occurs over time and insensitivity to information loss from memory, another type of omission, leads people to form stronger beliefs over time.

For example, consumers should form more favorable evaluations of a new camera when the camera performs well on eight attributes rather than only four attributes. However, research shows that consumers form equally favorable evaluations of the camera regardless of how much attribute information was presented. The amount of information presented matters only when consumers were warned that information might be missing. This warning increased sensitivity to omissions and lead consumers to form more favorable evaluations of the camera described by a greater amount of information.

Similar results are observed in inferences, or judgments that go beyond the information given. Consumers received a brief description of a new 10-speed bicycle and were asked to rate its durability even though no information about durability was provided. When consumers inferred durability immediately after

reading the description, they realized that no information about durability was presented and they formed moderately favorable inferences about durability. However, when consumers inferred durability one week after reading the description, extremely favorable and confidently held inferences were formed. This result was observed even though memory tests showed that people forgot most of the information that was presented after the one-week delay. Hence, people's inferences were stronger when they remembered a little than when they remembered a lot. In other words, omission neglect leads people to form less accurate opinions and, at the same time, leads people to hold these opinions with greater confidence.

### **Why Does Omission Neglect Happen?**

Omission neglect occurs for several reasons. First, missing information is not attention drawing: out of sight, out of mind. Second, people often focus on one object at a time rather than comparing many objects. This makes it difficult to determine whether enough information is available. It also makes it difficult to determine how much better or worse one option is relative to another. Third, thinking about presented information can inhibit or prevent people from thinking about nonpresented information.

Fortunately, people are not always insensitive to omissions. People are less likely to overlook missing information when they are highly knowledgeable about a topic or when they are encouraged to compare objects or issues described by different amounts of information. Under these special circumstances, people are less likely to underestimate the importance of missing information, less likely to overestimate the importance of readily available information, and less likely to make bad decisions.

### **Omission Neglect in Judgments and Decision Making**

Although judgments and decisions are often more reasonable when people are sensitive to omissions, people frequently and typically neglect omissions. Research on the feature-positive effect, or the tendency to learn more quickly when a distinguishing feature or symbol (e.g., a letter, number, or geometric figure) is present versus absent, has shown that people find it very difficult to learn that the absence of a feature is informative when people try to categorize a new object.

A fault tree is a list of possible reasons why an object might fail to perform properly, such as why a car will not start. Many people think that a fault tree will help them to determine the cause of a problem more quickly. However, when using fault trees, people typically underestimate the likelihood that an unmentioned alternative could be the cause of a problem. This result is observed regardless of how many or how few alternatives are presented in the fault tree. This result is also similar to previous research results showing that people form strong beliefs regardless of how much or how little is known about a topic.

Missing information is also neglected in the Ellsberg paradox, which is the name given to the fact that people prefer to bet on known probabilities rather than on unknown probabilities. Most people are indifferent between red and black when betting on whether a red or black marble will be drawn from a jar containing 50% red and 50% black marbles. Most people are also indifferent between red and black when betting on whether a red or black marble will be drawn from a jar of red and black marbles with an unknown distribution. When given a choice between the two jars, however, most people prefer to bet on the jar with the 50–50 distribution rather than the jar with the unknown distribution. Hence, making comparisons can help people to notice important omissions and can help people to form better judgments and decisions.

Evolutionary forces may have played a role in the development of omission neglect. The presence of a dangerous predator is a relatively rare event that requires immediate action. However, the absence of a predator is a commonplace event that does not raise a call to action. Because infrequently encountered objects are more informative than frequently encountered objects, it may be more efficient to focus on objects that are encountered rather than not encountered.

People have become accustomed to making judgments and decisions based on whatever information they happen to encounter. Sometimes judgments are based on a relatively large amount of information, and sometimes they are based on a relatively small amount. Regardless of the quality or the quantity of the information that is encountered, omission neglect is common because missing information is not attention drawing, presented information seems more important than it actually is, and presented information interferes with the ability to think about missing information. Frequently, people would be better off if they stopped to think about what they do not know rather

than taking whatever information is readily available and running with it.

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*See also* Attention; Availability Heuristic; Base Rate Fallacy; Decision Making

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response to frustration. To answer the question, the researcher must first define “aggression” and “frustration,” both conceptually and procedurally. In the example of frustration, the *conceptual* definition may be obstruction of goal-oriented behavior, but this definition is rarely specific enough for research. Therefore, an *operational* definition is needed that identifies how frustration and aggression will be measured or manipulated. In this example, frustration can be operationally defined in terms of responses to the question: How frustrated are you at this moment? The response options can be (a) not at all, (b) slightly, (c) moderately, and (d) very. The researcher could then classify people as frustrated if they answered “moderately” or “very” on the scale.

The researcher must also operationalize aggression in this particular study. However, one challenge of developing an operational definition is turning abstract concepts into observable (measurable) parts. For example, most people will agree that punching another person in the face with the goal of causing pain counts as an act of aggression, but people may differ on whether teasing counts as aggression. The ambiguity about the exact meaning of a concept is what makes operationalization essential for precise communication of methodological procedures within a study. In this particular example, aggression could be operationalized as the number of times a student physically hits another person with intention to harm. Thus, having operationally defined the theoretical concepts, the relation between frustration and aggression can be investigated.

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## OPERATIONALIZATION

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### Definition

Operationalization is the process by which a researcher defines how a concept is measured, observed, or manipulated within a particular study. This process translates the theoretical, conceptual variable of interest into a set of specific operations or procedures that define the variable’s meaning in a specific study. In traditional models of science, operationalization provides the bridge between theoretically based hypotheses and the methods used to examine these predictions.

### Examples of Operational Definitions

Imagine a researcher who is interested in helping curb aggression in schools by exploring if aggression is a

### The Pros and Cons of Using Operational Definitions

Operationalization is an essential component in a theoretically centered science because it provides the means of specifying exactly how a concept is being measured or produced in a particular study. A precise operational definition helps ensure consistency in interpretation and collection of data, and thereby aids in replication and extension of the study. However, because most concepts can be operationally defined in many ways, researchers often disagree about the correspondence between the methods used in a particular study and the theoretical concept. In addition, when definitions become too specific, they are not always applicable or meaningful.

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See also Experimentation; Logical Positivism; Research Methods

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## OPPONENT PROCESS THEORY OF EMOTIONS

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### Definition

Richard L. Solomon's opponent process theory of emotions—also commonly referred to as the opponent process theory of acquired motivation—contends that the primary or initial reaction to an emotional event (State A) will be followed by an opposite secondary emotional state (State B). In other words, a stimulus that initially inspires displeasure will likely be followed by a pleasurable *after-feeling* and vice versa. The second important aspect of this theory is that after repeated exposure to the same emotional event, the State A reaction will begin to weaken, whereas the State B reaction will strengthen in intensity and duration. Thus, over time, the after-feeling can become the prevailing emotional experience associated with a particular stimulus event. One example of this phenomenon is how, for some people, an initial unpleasant fear aroused by a good roller-coaster ride becomes, over time, an enjoyable and much sought-after experience.

### Explanation

According to this theory, a primary *a-process*—directly activated by an emotional event—is followed by an opponent process, the secondary *b-process*, which gives rise to the opposite emotional state. In the first few exposures to an emotion-eliciting event, such an opponent process can act to return an organism to a state of emotional homeostasis or neutrality following an intensely emotional episode. After repeated exposures, however, the State A response weakens and the

State B response strengthens. Because these states change over time, the later acquired effects are often referred to as States A' and B' to indicate change over time. Thus, an initially positive emotional experience (e.g., love or interpersonal stimulation or drug use) can eventually give rise to a prevailing negative emotional experience (e.g., grief or withdrawal), whereas an initially negative emotional experience (e.g., giving blood or parachuting) can eventually give way to a prevailing positive experience (e.g., warm-glow effect or exhilaration). As such, this theory has been commonly used to help explain the somewhat puzzling behavioral tendencies associated with addictive behavior.

### Background and Significance

Solomon supported his theory by drawing on numerous examples of opponent process effects in the literature. Four such examples are described in some detail: (1) love/interpersonal stimulation, (2) drug use, (3) parachuting, (4) donating blood. The first two of these represent events that give rise to initially positive emotional states; the others initially create negative emotional states. In each of these examples, two core aspects of the theory are evident: (1) The emotional value of the primary a-process and opponent b-process are always contrasting, and (2) repeated exposures to the same emotion-eliciting event lead the a-process to weaken and the b-process to strengthen.

In the first example, the initial happiness elicited by a loving relationship may eventually give rise to a negative emotional state. A common anecdote used to illustrate this point is that of a couple engaged in the height of sexual passion (highly positive), which is then abruptly interrupted, giving rise to contrasting irritability, loneliness, perhaps craving in its absence (highly negative). The opponent process has also been used to help explain more general separation anxiety in interpersonal relationships as well (e.g., in infant attachment when a parent leaves the room, and even in ducklings when the object of their imprinting is removed).

In the second example, the intense euphoria induced by a drug wears off over time leaving a user with a prevailing negative withdrawal reaction, making it difficult for him or her to ever return to the original high state first experienced. The acquired nature of this response may also help explain occurrences of accidental overdose. If the b-process becomes tied to environmental cues (e.g., when and where the drug is

generally taken), and the drug is then taken in a different context, the acquired b-process may then not be powerful enough to counteract the initial a-process, resulting in a stronger drug reaction than anticipated.

In the third example, beginning parachuters often report experiencing absolute terror when jumping out of a plane and plummeting to the earth, and are reported to be in a stunned state once they land, gradually returning to neutrality. After many jumps (for those that dare try it again), however, most jumpers cease to be terrified. Instead, they often become expectant, eagerly anticipating the next jump, and feel a strong sense of exhilaration that can last for many hours after the jump is completed. This acquired and intensely positive experience causes some people to continue jumping to recapture the rewarding after-feeling.

The fourth example similarly shows how when people first give blood, they often report feeling anxious during the experience but relief once it is done. Over time, however, most people report experiencing reduced or no anxiety when giving blood but instead report an increasing warm-glow sensation that keeps them returning to donate more.

### Implications

Here very different types of effects are explained by a single, simple mechanism, thereby demonstrating the utility of this theory. From this theory, psychologists learn that the initial emotional response elicited by a stimulus event might not necessarily explain the subsequent long-term behavioral tendencies related to that event. In the case of love, for example, which produces intensely euphoric responses initially, the opponent process theory suggests that over time people may become motivated to stay in the love relationship perhaps more in an attempt to avoid feeling lonely or grief stricken than to sustain the loving feeling. Similarly, drug addicts may take drugs in increasingly large doses not to chase the initial high so much as to avoid the increasing feelings of withdrawal. On the other hand, the very events that initially give rise to negative emotional states (e.g., fear or anxiety), such as parachuting or giving blood, over time may be sought after in an attempt to attain the rewarding effects of the after-feelings associated with them. In this way, it becomes apparent how, eventually, initial pleasure can ironically give rise to behavioral tendencies governed

by avoidance motivation, and initial negative emotions such as fear by approach motivation.

*Reginald B. Adams, Jr.*

*See also* Approach–Avoidance Conflict; Emotion; Learning Theory; Love

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## OPTIMAL DISTINCTIVENESS THEORY

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### Definition

“Everyone needs to belong.” “Everyone needs to be unique.” That both of these statements are true is the basis for Marilynn Brewer’s theory of optimal distinctiveness, which helps explain why people join social groups and become so attached to the social categories they are part of. Optimal distinctiveness theory is about social identity—how people come to define themselves in terms of their social group memberships.

According to the optimal distinctiveness model, social identities derive from a fundamental tension between two competing social needs—the need for inclusion and a countervailing need for uniqueness and individuation. People seek social inclusion to alleviate or avoid the isolation, vulnerability, or stigmatization that may arise from being highly individuated. Researchers studying the effects of tokenism and solo status have generally found that individuals are both uncomfortable and cognitively disadvantaged in situations in which they feel too dissimilar from others, or too much like outsiders. On the other hand, too much similarity or excessive deindividuation provides no basis for self-definition, and hence, individuals are uncomfortable in situations in which they lack distinctiveness. Being just a number in a large, undifferentiated mass of people is just as unpleasant as being too alone.

Because of these opposing social needs, social identities are selected to achieve a balance between needs for inclusion and for differentiation in a given social context. Optimal identities are those that satisfy the need for inclusion within one's own group and simultaneously serve the need for differentiation through distinctions between one's own group and other groups. In effect, optimal social identities involve shared distinctiveness. (Think of adolescents' trends in clothes and hairstyles; all teenagers are anxious to be as much like others of their age group as possible, while differentiating themselves from the older generation.) To satisfy both needs, individuals will select group identities that are inclusive enough that they have a sense of being part of a larger collective but exclusive enough that they provide some basis for distinctiveness from others.

### Importance and Implications

Optimal distinctiveness theory has direct implications for self-concept at the individual level and for inter-group relations at the group level. If individuals are motivated to sustain identification with optimally distinct social groups, then the self-concept should be adapted to fit the normative requirements of such group memberships. Achieving optimal social identities should be associated with a secure and stable self-concept in which one's own characteristics are congruent with being a good and typical group member. Conversely, if optimal identity is challenged or threatened, the individual should react to restore congruence between the self-concept and the group representation. Optimal identity can be restored either by adjusting individual self-concept to be more consistent with the group norms, or by shifting social identification to a group that is more congruent with the self.

Self-stereotyping is one mechanism for matching the self-concept to characteristics that are distinctively representative of particular group memberships. People stereotype themselves and others in terms of salient social categorizations, and this stereotyping leads to an enhanced perceptual similarity between self and one's own group members and an enhanced contrast between one's own group and other groups. Consistent with the assumptions of optimal distinctiveness theory, research has found that members of distinctive minority groups exhibit more self-stereotyping than do members of large majority

groups. In addition, people tend to self-stereotype more when the distinctiveness of their group has been challenged.

Optimal identities (belonging to distinctive groups) are also important for achieving and maintaining positive self-worth. Group identity may play a particularly important role in enhancing self-worth and subjective well-being for individuals who have stigmatizing characteristics or belong to disadvantaged social categories. In effect, some of the potential negative effects of belonging to a social minority may be offset by the identity value of secure inclusion in a distinctive social group. Results of survey research have revealed a positive relationship between strength of ethnic identity and self-worth among minority group members, and some experimental studies have demonstrated that self-esteem can be enhanced by being classified in a distinctive, minority social category.

Finally, because distinctive group identities are so important to one's sense of self, people are very motivated to maintain group boundaries—to protect the distinctiveness of their groups by enhancing differences with other groups and limiting membership to “people like us.” Being restrictive and excluding others from the group may serve an important function for group members. In effect, exclusion may be one way that individuals are able to enhance their own feelings of group inclusion. Those who are the least secure in their membership status (e.g., new members of a group or marginalized members) are sometimes the most likely to adhere to the group's standards and discriminate against members of other groups. For example, new pledges to a sorority house are often more likely than the more senior sorority members to wear clothing with sorority letters and to attend functions held by the sorority. Ironically, these noncentral group members may be even more likely than those who truly embody the group attributes to notice and punish others for violating the norms and standards of the group. When given the power, marginal group members may also be more discriminating in determining who should belong in the group and who should be excluded—for example, when it comes time to decide on the next group of new pledges.

In experimental studies, it has been demonstrated that when individuals are made to feel that they are marginal (atypical) group members, they become more stringent about requirements for group membership and more likely to exclude strangers from their group. Similarly, when group identity is under threat

(e.g., the fear of being absorbed or assimilated into some larger group), members tend to become more exclusionary. Thus, the upside of social identity processes is that secure group identity enhances well-being and motivates positive social behavior. The downside is that insecure group identity motivates exclusion, intolerance, and possibly intergroup hatred.

*Marilynn B. Brewer*

*See also* Group Identity; Need to Belong; Rejection; Self-Concept; Self-Stereotyping; Social Identity Theory; Token Effects; Uniqueness

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## ORDER EFFECTS

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### Definition

Order effects refer to differences in research participants' responses that result from the order (e.g., first, second, third) in which the experimental materials are presented to them. Order effects can occur in any kind of research. In survey research, for example, people may answer questions differently depending on the order in which the questions are asked. However, order effects are of special concern in within-subject designs; that is, when the same participants are in all conditions and the researcher wants to compare responses between conditions. The problem is that the order in which the conditions are presented may affect the outcome of the study.

### Types of Order Effects

Order effects occur for many reasons. Practice effects occur when participants warm up or improve their performance over time. In reaction time studies, for example, participants usually respond faster as a result of practice with the task.

Participants may also perform differently at the end of an experiment or survey because they are bored or

tired. These fatigue effects are more likely when the procedure is lengthy and the task is repetitive or uninteresting.

Carryover effects occur when the effect of an experimental condition carries over, influencing performance in a subsequent condition. These effects are more likely when the experimental conditions follow each other quickly. They also depend on the particular sequence of conditions. For example, people's estimates of height may be lower after they have been exposed to professional basketball players than after they have been exposed to professional jockeys.

Interference effects occur when previous responses disrupt performance on a subsequent task. They are more likely when the second task quickly follows the first and the response required in the second task conflicts with the response required in the first task.

### Ways to Control Order Effects

Researchers use a variety of methods to reduce or control order effects so that they do not affect the study outcome. The choice depends on the types of effects that are expected. Practice effects can be reduced by providing a warm-up exercise before the experiment begins. Fatigue effects can be reduced by shortening the procedures and making the task more interesting. Carryover and interference effects can be reduced by increasing the amount of time between conditions.

Researchers also reduce order effects by systematically varying the order of conditions so that each condition is presented equally often in each ordinal position. This procedure is known as counterbalancing. For example, with two conditions, half of the participants would receive condition A first followed by condition B; the other half would receive condition B first followed by condition A.

Sometimes there are so many possible orders that it is not practical to include all of them in a study. Researchers may then present the conditions in a different random order for each participant, or they may include a subset of the possible orders.

*Carey S. Ryan*

*Kelvin L. Van Manen*

*See also* Control Condition; Experimental Condition; Experimentation; Research Methods

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## ORGANIZATIONAL BEHAVIOR

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Organizational behavior (OB) defines a field of applied social science that has two complementary objectives related to the fact that the term *organization* refers both (a) to an entity (e.g., a corporation or business) in which people's behavior is coordinated and regulated, and (b) to the outcome of that coordination and regulation. The first objective is to understand the behavior and experience of people who participate in organizational life. What motivates them to work hard? How can they be influenced and led? What produces effective communication and decision making? How do group affiliations and power affect people's perceptions and interaction? The second objective is to understand how organizations themselves function as a consequence of the social and contextual elements they contain and that impinge on them. How is an organization's performance affected by the knowledge, skills, and abilities of the individuals within it; by group dynamics; and by the economic and political conditions in which it operates? How does the organization respond to change in these elements, and how does it produce it?

To answer such questions, OB draws on insights from a range of disciplines: multiple branches of psychology (e.g., social, personality, cognitive, health, clinical) as well as sociology, anthropology, politics, administration and public policy, management, business, and economics. One consequence of this enormous breadth is that the study of OB is characterized by work that differs greatly in its level of analysis. At a macro-level (broad focus), work focuses on more abstract features of organizations (e.g., their culture, climate, ethics, and design), whereas at a micro-level (narrow, individual focus), attention is paid to more concrete organizational elements (e.g., the personality of employees, the structure of tasks, the nature of rewards). Intermediate levels of analysis focus on the nature of the processes and dynamics that occur within and between different groups and networks (which themselves are defined at more or less inclusive

levels, e.g., the work team, the department, the professional body).

Organizations are a common and important element of social life, and the capacity to analyze them—with a view to understanding both how they work and how they might be improved—is a fundamental human capacity. For this reason, contemplations on the nature of OB are a key component of the earliest human texts on religion and philosophy (a notable early example being Plato's *The Republic*). Nevertheless, formal OB theorizing dates back only about 100 years and is typically traced to Frederick Taylor's writings on scientific management. Taylor sought to identify the one best way to maximize organizational efficiency and placed an emphasis on principles of hierarchical command and control. Critically, these ideas were backed up by experimental research that demonstrated that productivity could be enhanced through the implementation of systems (e.g., of financial reward and task structure) that regularized all aspects of individuals' organizational activity. This work was soon complemented by Hugo Munsterberg's development of personnel selection methods, the purpose of which was to identify the one best worker. These methods emphasized the value of breaking tasks into their constituent parts and then recruiting workers on the basis of their possession of the clearly defined and measurable skills that were associated with superior performance in these discrete areas.

In the 1930s, however, widespread dissatisfaction with individual-level analyses and the philosophy of the one best way led to the growth of the human relations movement. The experimental work on which this was based (notably the Hawthorne studies) pointed to the role played by the informal workgroup (and its norms and values) in determining organizational outcomes. Led by Elton Mayo and later developed by researchers such as Douglas McGregor and Frederick Herzberg, the movement as a whole placed an emphasis on the value of teams, and on processes and practices that recognized, valued, and enriched their experience.

After World War II, there was an explosion of interest in OB as a field, fuelled by the desire to drive and maintain economic performance in a world that was increasingly globalized and appeared to be ever-changing. The massive amount of work that this led to paralleled major developments in OB's various feeder disciplines. Indeed, although the methods of the field have remained avowedly scientific, there is scarcely a significant intellectual development in the last

century—from cybernetics and chaos theory to semiotics and post-structuralism—that has not somehow been fed into attempts to understand and improve OB.

Nevertheless, the tension between individual- and group-level approaches continues to be a major defining feature of the field. Moreover, social psychology has played an increasingly important role in the study of OB—largely because its methods and theories are so pertinent to this central debate and to the practices it informs. Typically, this tension is resolved through the development of contingency models that argue that individuals' performance in any domain (e.g., leadership, motivation, decision making, communication, negotiation) is the result of an interaction between their personality (e.g., as measured by personality instruments) and features of the social and organizational context in which they operate. However, although such models remain very popular (not least because they are often translated into lucrative commercial products), they tend to lack predictive ability and fail to account for the capacity (first observed by Mayo) for organizational context to transform individual psychology. Moreover, by breaking down the study of OB into a series of discrete topics, such approaches contribute to a lack of joined up thinking. This means that important connections between topics (e.g., leadership motivation, communication) are not made and that there is a piecemeal quality to both theory and practice. Accordingly, in recent years, social psychologists have led a move toward more integrative approaches (e.g., informed by principles of social cognition and/or social identity) that attempt to address these concerns.

Finally, although OB tends to be concerned primarily with behavior that occurs in the workplace, an organization can be defined more generally as any internally differentiated and purposeful social group that has a psychological impact on its members. In these terms, sporting teams, clubs, societies, churches, and families are all organizations. People do perform work in all these groups, but they are also a locus for leisure and recreation. OB's relation to this breadth of human experience and activity gives it such relevance to people's lives, which in turn makes attempts to understand its social and psychological dimensions so important, so complex and ultimately so interesting.

*S. Alexander Haslam*

*See also* Decision Making; Group Dynamics; Group Identity; Group Performance and Group Productivity; Influence; Leadership

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## OSTRACISM

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### Definition

Ostracism refers to the act of ignoring and excluding individuals. It is differentiated from social exclusion in that ostracism generally requires ignoring or lack of attention in addition to social exclusion. Ostracism is distinguishable from overt acts of rejection and bullying because rather than combining acts of exclusion with verbal or physical abuse, ostracism involves giving no or little attention to the individual or groups.

### Context and Importance

Ostracism is a powerful and universal social phenomenon. Individuals and groups ostracize and are ostracized. A variety of species other than humans have been observed using ostracism, usually to strengthen the group (by eliminating weaker or nonconforming members). Ostracism among humans was first known to be occurring in Athens more than 2,000 years ago, where citizens voted to expel individuals by writing the nominated individual on ostraca—shards of pottery. Nations and tribes, in religious, penal, and educational institutions, and among informal groups, use ostracism. In small groups or dyads, interpersonal ostracism—often referred to as the silent treatment—is common, even in close relationships and among family members.

Humans are social creatures who rely on bonds with others to fulfill fundamental social, psychological, and survival needs. Even when strangers in a minimal interaction context ostracize individuals for a very short time, ostracized individuals show signs of distress and report that their needs have been thwarted. The negative reactions to being ostracized are immediate and robust. The instant unpleasant reaction to even the most minor forms of ostracism indicate that detection of ostracism is a functionally adaptive response. With less than five minutes of exposure to

ostracism, individuals report lower satisfaction levels of four fundamental needs—belonging, self-esteem, control, and meaningful existence—and higher levels of sadness and anger. Ostracism appears to be unique in threatening all four of these four basic human needs simultaneously.

## Evidence

### **Reflexive Reactions**

The reflexive reaction to ostracism is characterized by immediate and precognitive responses to being ostracized. The same region of the brain that detects physical pain, the dorsal anterior cingulate cortex is similarly activated during a brief episode of minimal ostracism, in which individuals believe others are not including them in a virtual ball-toss game. Researchers propose that social pain and physical pain detection architectures and mechanisms are related to emotional reactions indicative of increased caution and defensiveness such as anxiety, anger, and depression. Essentially, the current thinking is that people have a built-in mechanism that automatically detects social exclusion, registers it as pain, and then triggers coping responses to combat the pain of ostracism.

This effect is argued to be precognitive in the sense that factors that should minimize its distress appear to have no effect as the ostracism occurs. Thus, distress, subjective pain, and thwarted needs are reported whether or not the ostracizers are friends, rivals, or despised others, or even if it is clear to the individuals that they are being ostracized by the computer.

### **Reflective Responses**

The reflective response to ostracism is characterized by deliberate and thoughtful reactions following the social pain reaction to being ostracized. Coping with ostracism is aimed at recovering or fortifying the threatened needs. Because fortifying these needs may result in conflict responses, coping responses are more likely to be variable across situations and people. Thus, one can fortify a loss to belonging or self-esteem by trying to behave in ways that will meet the group's approval, by joining a new group, or even by thinking of strong ties in other realms of one's life. Fortifying control and existence needs, however, might lead to exerting social control over others, provoking recognition

and reactions in others, and even aggression and violence.

The collected findings suggest that with reflection, people can presumably cope with meaningless or inconsequential forms of ostracism, despite the fact that these forms of ostracism are initially detected as painful. Given time to consider the circumstances, individual tendencies for coping and the consideration of relevant situational factors ought to moderate ostracism's negative impact. For example, researchers found that although immediate reactions to ostracism were similarly negative for individuals low and high on social anxiety, only individuals high in social anxiety continued to feel less need satisfaction 45 minutes later. Other research also alludes to the importance of time when it comes to responses to social exclusion.

## Methods to Experimentally Induce Ostracism

A variety of interesting and efficient methods have induced ostracism. These include being told that after a group get-acquainted interaction, no one wished to work with the individual, receiving a personality prognosis of living a life alone, and being ignored and excluded in a conversation, ball-toss game, Internet ball-toss game (Cyberball), a chat room, or text messaging on cell phones. Each method has advantages and disadvantages and is likely to contribute to the variety of coping responses that have been observed.

## Implications

Ostracism, in all its many forms, permeates almost every aspect of an individual's life. One form of short-term ostracism, time-out, is used routinely in schools and homes, and a majority of individuals report having it used on them by loved ones, and using it on loved ones. Research indicates that on average, individuals report experiencing one act of ostracism a day. Research into the nature and interpersonal and intrapersonal costs of this ubiquitous phenomenon continues. Current research focuses on the conditions under which ostracism leads to generally prosocial responses and when it leads to antisocial, even violent responses.

*Kipling D. Williams  
Adrienne R. Carter-Sowell*

*See also* Need to Belong; Rejection; Social Exclusion

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## OTHER–TOTAL RATIO

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Part of understanding how groups operate is understanding how the individual within the group looks at the group he or she belongs to. Once dividing the larger group into subgroups, one usually becomes more attached to one subgroup and sees the people in other groups as less distinct from one another. For example, at a party on a college campus with psychology majors and English majors in attendance, the psychology student sees the larger group of students as being made up of two subgroups. That person will feel more attached to the other psychology students and also find the English majors as more similar to each other relative to how varied the group of psychology students.

One way to examine this process comes from self-attention theory. Other–total ratio characterizes what it is like for a person to be part of a group. Specifically, the ratio is the number of Other people divided by the Total number of people in the group. As this number increases, the Others outnumber the people in an individual's own group in relation to the Total number of people. Consequently, the individual focuses more attention on his or her own subgroup and then perceives that subgroup to have salient characteristics. Then, by comparison, the Other group seems to be more similar than the group that the person is in. Using the previous example, if there were 75 English majors out of 100 people at the party, there would be a ratio of .75. Such a high ratio would predict that the psychology major would pay more attention to the subgroup members than if the ratio were a lower number.

This conceptualization of groups has implications for understanding the individual experience of members

of minority groups who are part of a larger group. Comprehending how that individual is identifying with certain group members over others can perhaps be applied to how those groups can be brought into greater harmony with each other, perhaps by creating groups with a lower Other–total ratio.

Relatively little empirical work has fully explored this concept, which has been overwhelmed by other theories that address the basic fact that people see other people's groups as homogenous but their own groups as more varied. In a recent overview, the available evidence indicated that the impact of this type of perception is pretty small. It was more important that the other group truly be more variable and that existing groups were studied rather than groups created in the laboratory.

*Jennifer R. Daniels*

*See also* Optimal Distinctiveness Theory; Outgroup Homogeneity; Self-Awareness

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## OUTGROUP HOMOGENEITY

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### Definition

Outgroup homogeneity is the tendency for members of a group to see themselves as more diverse and heterogeneous than they are seen by an outgroup. Thus, for example, whereas Italians see themselves as quite diverse and different from one another, Americans view Italians as more similar to each other, or more alike. Democrats see themselves as more diverse than they are viewed by Republicans; Southerners see themselves as more heterogeneous than they are viewed by the rest of U.S. residents, and so on. In examining outgroup homogeneity, it is important to keep the target group constant (e.g., Southerners) and compare the perceptions of two different judge groups

(e.g., the judgments of Southerners themselves versus the rest of the country), rather than comparing a single judge group's perceptions of two different targets (e.g., Southerners' judgments of their own group variability relative to their judgments of how variable the rest of the country is). This is because there are differences in how variable groups are, and by holding the target group constant, researchers can control for these.

### History and Context

In some of the earliest research on this topic, Bernadette Park and Myron Rothbart explored a number of aspects of outgroup homogeneity. They asked men and women to estimate the percentage of each group that would agree with attitude statements that were chosen to be stereotypic or counterstereotypic of each group, such as, "What percentage of women would agree with the statement, I would rather drink wine than beer." Each group of judges said that a larger percentage of the outgroup would agree with stereotypic statements, and a smaller percentage would agree with counterstereotypic statements, than members of the group themselves said. In another study, young women who belonged to various sororities each said members of their own sorority were more diverse and heterogeneous than they were seen by women who belonged to other sororities. When rating males and females with various college majors, the ingroup ratings were more likely to take into account the college major, whereas ratings made by outgroup members relied simply on the gender category. Thus, a female dance major and a female physics major were seen as relatively more similar to one another by male judges ("they are both women") than by female judges. Finally, when reading about a specific individual, members of the ingroup were more likely to remember specific details about the person (specifically, the person's job category) than were members of the outgroup.

A conceptually similar effect known as *outgroup polarization* has been demonstrated by Patricia Linville and E. Edward Jones. Here, outgroup members are rated in a more extreme or polarized manner than ingroup members. For example, when judging the quality of a law school applicant, White participants rate a strong Black candidate as even better than a comparably strong White candidate, and they rate a weak Black candidate as even worse than a comparably weak White candidate. These researchers suggest

this is because people have a more simplified mental representation of outgroup members; that is, people have many more dimensions along which they think about and evaluate members of their own groups than members of the outgroups. This results in more extreme good-bad judgments of the outgroup. Thus, in outgroup homogeneity, outgroups are viewed in an all-or-none fashion, such that nearly all group members possess an attribute or almost none do. In outgroup polarization, individual outgroup members are similarly judged in an all-or-none fashion.

One possible explanation for this effect is that people are more familiar with members of their own groups than with outgroups, and this causes them to see and appreciate the diversity within their ingroups. Although undoubtedly differences in familiarity do exist, this does not appear to be the whole story. Outgroup homogeneity has been demonstrated even with *minimal groups*. These are artificial groups created in a laboratory setting using some arbitrary means for categorization, such as whether a subject tends to overestimate or underestimate the number of dots in a scatter image of dots. Here, subjects don't know anyone, either ingroup or outgroup members, and yet still they evidence outgroup homogeneity in their judgments. Others have suggested that special knowledge about oneself, who by definition is always a member of the ingroup, leads to perceptions of greater diversity and heterogeneity. Again, although people have more detailed and intricate knowledge of themselves, empirically how one perceives oneself does not account for differences in perceived variability of ingroups and outgroups. A final suggested mechanism is that information about ingroups tends to be organized in a more complex and articulated manner than for outgroups. Specifically, people tend to think about ingroups not as an undifferentiated mass but, rather, as a collection of meaningful subgroups. Thus, women might bring to mind subgroups that are part of the larger group, such as mothers, professional women, college girls, female athletes, and so on. Research has shown that people are able to generate a larger number of such meaningful subgroups for ingroups than for outgroups. Importantly, when one statistically controls for differences in the number of subgroups that are generated, differences in perceived group variability (that is, outgroup homogeneity) go away. When subjects are asked to learn about a group by organizing members into meaningful subgroups, this results in the perception of greater diversity and

variability among group members, than when no such study instructions are given.

*Bernadette Park*

*See also* Ingroup–Outgroup Bias; Minimal Group Paradigm; Person Perception

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## OVERCONFIDENCE

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### Definition

Overconfidence refers to the phenomenon that people's confidence in their judgments and knowledge is higher than the accuracy of these judgments. To investigate this effect, the subjective judgment of confidence in the correctness of a set of answers is compared with the objective accuracy of these answers. In a typical study on overconfidence, participants solve a number of two-choice questions, such as "Which of these cities has more inhabitants: (a) Islamabad or (b) Hyderabad?" Participants answer each question and then indicate on a scale from 50% to 100% how confident they are that their answer is correct. The overconfidence effect occurs when the confidence ratings are larger than the percentage of correct responses. For example, typically only 75% of the answers, for which a participant indicates a level of confidence of 90%, are correct. Normatively, however, nine out of ten answers should be correct. Thus, the judge is overly confident because the subjective confidence exceeds the actual accuracy.

### Theoretical Explanations

The overconfidence effect has been explained by two classes of explanations: biases in information processing and effects of judgmental error. The first class of explanations considers the overconfidence effect as a result of biases in information processing. According to this line of research, a judgmental process starts

with a tentative answer to a given question. Then, when estimating the confidence range, test persons selectively search for evidence that the chosen answer is correct but neglect to search for disconfirming pieces of information. Moreover, because of the associative network structure of the brain, confirming pieces of information come to mind more easily than do disconfirming pieces of information. In addition, people often have reasons why they want a particular answer to be true. For example, if they want to appear knowledgeable, this can also contribute to their biased search for confirming information. All these processes combined often lead to an overrepresentation of confirming information. The judges are not aware that the search for information was biased, so they regard the result of this information search process as support for their initial answer and thus express a high level of confidence.

The second class of explanations purports that judgmental errors can occur even if information processing is unbiased. According to this line of research, overconfidence may, for example, be the result of selected item sampling. When confronted with questions such as "Which city is larger, A or B?" participants in an experiment look for a cue that distinguishes these two cities (e.g., "Only city A has an airport. Normally, only large cities have airports."), and decide accordingly ("City A is larger."). When asked for the level of confidence, they estimate the validity of the cue ("In 90% of the cases, the city with an airport is larger than the city without an airport.") and report this value as confidence judgment. If the questions are harder than normal, the cue leads in the wrong direction more frequently than it normally does (e.g., in an experimental sample of questions, only 60% of the cities with an airport are actually larger). This means that for the sample at hand, the validity of the cue is lower than normal. However, the participants have no reason to assume that the sample is not representative (i.e., that the set of questions is harder than normal), and are therefore entitled to report their initial estimation of cue validity as confidence judgment. They thus appear to be overconfident but the apparent overconfidence is the result of selected item sampling on behalf of the experimenter.

### Boundary Conditions

Research has shown that the overconfidence effect does not always occur but is subject to boundary conditions.

First, the size of the overconfidence effect depends on the type of question that has been asked. For two-choice questions, the effect is weaker than for confidence range questions, where participants are asked to estimate a number (e.g., the number of inhabitants of Hyderabad). Instead of estimating the exact number, they have to give a range such that there is a 90% chance that the correct number lies somewhere in the range. Confidence range questions are more prone to effects of biased information processing because there are no explicit alternatives as in the case of two-choice questions. Participants start with guessing a number (e.g., “50,000 inhabitants”) that might be far from right and then search for confirming pieces of information.

Second, the degree of overconfidence depends on the domain of questions. For some domains, the effect is stronger than for others. This effect can be attributed to the difficulty of the set of questions. For hard sets of questions, most answers are wrong, whereas for easy sets, most answers are correct. The overconfidence effect is stronger for harder sets of questions, whereas easy sets tend to produce an underconfidence effect.

Third, individual differences contribute to differences in the degree of overconfidence. Some people express more confidence than others do regardless of the domain of questions. Overconfidence is correlated positively with confidence, but negatively with accuracy of judgment. This means that people who are most overconfident are more confident and less accurate in their judgment than are other people.

Fourth, the degree of overconfidence depends on the level of expertise. People who frequently give judgments of the same type display little or no overconfidence effect. They are well calibrated. This effect is restricted to the area of expertise: When confronted with questions from other domains, their calibration is the same as everybody else’s.

### Implications

The overconfidence effect is not limited to laboratory situations but has been demonstrated in many areas of professional life such as investment banking, clinical psychology, medicine, and others. Unwarranted confidence in one’s own knowledge and competence can yield reckless behavior and lack of openness for disconfirming information, and thus lead to poor performance and severe mistakes. On the other hand, displaying high levels of confidence can also be

beneficial for two reasons. First, competence cannot always be measured. Therefore, others might not find out that a confident person is actually overconfident. Second, overconfidence in one’s competence encourages actions that one wouldn’t undertake if one were less confident, but which may nevertheless be successful.

Svenja K. Schattka

Patrick A. Müller

*See also* Confirmation Bias; Positive Illusions; Self-Serving Bias

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## OVERJUSTIFICATION EFFECT

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### Definition

Overjustification occurs when play becomes work as a result of payment or other reward. More formally, it is the process by which intrinsic interest in some activity or behavior is supplanted through the presentation of an extrinsic reward. An activity that was once interesting in and of itself becomes less interesting and less attractive after a person is rewarded for completing the activity. This leads to the ironic and surprising result that rewarding a behavior can inhibit future repetitions of that behavior.

The overjustification effect occurs when internalized motives are supplanted by external motives. It occurs because people do not have perfect access to the preferences and motives that guide their decision-making processes. These preferences are often inferred from observation of their own behavior, and sometimes people get it wrong. When two motives exist for a given behavior—both internal and external—people often assume that the more obvious external justification is the cause of their behavior. This observation leads to a permanent change in how people think about the given activity, and it can lead to a loss of the internalized motives for the behavior. Thus, large rewards

can extinguish the inherent joy of some positive activity, and large punishments can extinguish the moral inhibitions against some negative activity.

### **Intrinsic and Extrinsic Reward**

Some activities, such as eating, drinking, learning, and socializing, are intrinsically interesting, and people pursue them with little encouragement. Other activities are usually performed only to gain an external reward. For instance, people typically go to work only because they are paid, and children make their beds or take out the trash for praise or an allowance. These behaviors are rewarded by extrinsic sources, and when the rewards stop, so too do the behaviors. Thus, some behaviors are intrinsically rewarding, and some are extrinsically rewarding. In all cases, the rewards lead to an increased likelihood of repeating the given behavior.

However, something strange occurs when extrinsic rewards are given for activities that are already intrinsically interesting. At first, as long as both rewards are present, the person continues the activity. But when the extrinsic rewards are removed, the person stops performing the activity, as if his or her intrinsic interest had been wiped away.

Consider the classic experiment among nursery school students conducted by Mark Lepper and his colleagues. These students were given the opportunity to draw pictures with an attractive set of Magic Markers during their free play time. Hidden observers recorded their behavior and learned, not surprisingly, that children needed little encouragement to play with the markers. Several weeks later, these same students were given another opportunity to play with the markers. But this time some of the students learned that they would receive a very special “good player” award with a ribbon and gold star if they were willing to draw some pictures; others were simply invited to draw for fun. Thus, the experiment had two groups of students involved in an activity with high intrinsic interest: one that received a reward for playing, and one that did not. Several weeks later, the students were again monitored when the markers were brought out during playtime. The results were very clear: Children who had been given an extrinsic reward showed far less interest in playing with the markers than did the children who were not offered the reward. Something about the reward had reduced the children’s desire to play with the markers.

These findings are best explained through self-perception theory, which states that people learn about their likes and dislikes by observing their own behavior, and then making inferences from those observations. In this example, the children in the reward condition observed that they had chosen to play with the markers, but they also observed that they were rewarded for that behavior. They concluded, in retrospect, that the reward was the primary reason they had played with the markers. Because no reward was offered for drawing during the subsequent free play period, they chose not to play with the markers. The other students, however, who had not received a reward, saw the scene differently. They observed their previous decision to play with the markers but lacked any obvious explanation for that behavior. In the absence of any other reason, they concluded (correctly) that they must have played with the markers because they enjoyed playing with markers.

This experiment, and the hundreds like it, indicate that human preferences are somewhat more fragile than people expect. When people are given two good explanations for their own behavior (e.g., an external reward and intrinsic interest), they tend to assume that the more obvious and salient explanation is correct. The external reward is generally more obvious and salient than the intrinsic interest is.

### **Applications**

The importance of the overjustification effect lies in its broad application to everyday life. Most people’s intuition follows the logic that if one wants to encourage a person to perform an activity, one should offer rewards for doing so. This logic is correct when the activity is inherently unpleasant or unattractive, but not when the activity possesses intrinsic interest. For example, children naturally require little encouragement to learn about their environment and how their world works. This natural curiosity fades in school, and the typical student finds classes and schoolwork downright onerous. There are, no doubt, many reasons for this change, but the fundamental structure of the American educational system and reliance on grading is responsible for a significant part of the decline. Although learning about history or mathematics can be inherently interesting, most students quickly come to believe that their only motivation for learning the material stems from the promise of a reward (an A), or the threat of a punishment (an F). Educational

programs that have successfully removed or reduced the importance of grading have shown subsequent increases in intrinsic interest in the topics.

A similar dynamic has been observed when students are rewarded for reading books, completing assignments, or achieving good grades. Parents and teachers with good intentions unwittingly damage the very motivation they are trying to nurture. Beyond school, the effects of overjustification can be equally powerful. Many people choose a career based on their love of the activity, whether as a teacher, a lawyer, a wilderness guide, or a doctor. When the profession pays poorly and there is no overjustification, the original reason for joining the profession (intrinsic interest) remains salient. As a consequence, the person continues to love his or her work. But when the salary increases and provides its own justification, it tends to crowd out the original internal reason, and in so doing, permanently changes the nature of the job for that individual. The person comes to love the paycheck, not the work. Financially, it is always a boon to receive a raise; psychologically, there may be a cost associated with such good fortune.

## Punishment

Thus far, the examples have revolved around the effect of external rewards. However, the same conceptual process also applies to punishments and the inhibition of behavior. Imagine, for example, that you are taking an important test and are quite concerned about your performance. You have the opportunity to cheat and thus assure yourself of an excellent score, but choose not to do so. When you later ask yourself “Why didn’t I cheat?” your conclusion will likely be “it’s wrong to cheat.” In fact, the easier it was to cheat, the more strongly you would conclude that you believe cheating

is wrong. Now imagine that there were several proctors closely watching the exam, and that you had been warned of severe consequences for any signs of cheating. When you ask yourself why you refrained from cheating, the salient explanation is “because I would have been caught.” As a result, you fail to internalize the belief that cheating is wrong, and you are less likely to conclude that you behaved in line with your moral beliefs. Thus, as the threat of punishment increases, the likelihood that a person will internalize the proscription against the behavior decreases.

This is not to say that punishment doesn’t work. It works extremely well, but only when the punishment is certain and swift. If you want to permanently inhibit a person’s negative behaviors without providing constant supervision (a goal of all parents and all societies), then it is necessary for that person to internalize the justification for his or her behavior (or, in the present case, the lack of behavior). Thus, the proper amount of punishment should be just sufficient to inhibit the targeted behavior, but not so severe as to provide an overwhelming external justification to the individual.

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*See also* Attribution Theory; Cognitive Dissonance Theory; Self-Perception Theory

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## PATH ANALYSIS

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### Definition

Path analysis is a statistical technique that is used to examine and test purported causal relationships among a set of variables. A causal relationship is directional in character, and occurs when one variable (e.g., amount of exercise) causes changes in another variable (e.g., physical fitness). The researcher specifies these relationships according to a theoretical model that is of interest to the researcher. The resulting path model and the results of the path analysis are usually then presented together in the form of a path diagram.

Although a path analysis makes causal inferences about how variables are related, correlational data are actually used to conduct the path analysis. In many instances, the results of the analysis provide information about the plausibility of the researcher's hypothesized model. But even if this information is not available, the path analysis provides estimates of the relative strengths of the causal effects and other associations among the variables in the model. These estimates are more useful to the extent that the researcher's specified model actually represents how the variables are truly related in the population of interest.

### Variables in Path Analysis

Path analysis is a member of a more general type of statistical analysis known as structural equation modeling. The feature of path analysis that separates it from general structural equation modeling is that path

analysis is limited to variables that are measured or observed, rather than latent. This means that each variable in a path analysis consists of a single set of numbers in a straightforward way. For example, *extraversion* would be considered a measured or observed variable if each person's level of extraversion was represented by a single number for that person, perhaps that person's score on an extraversion questionnaire. So the variable of *extraversion* as a whole would consist of one number for each person in the sample. Through certain statistical techniques, extraversion could be treated as a latent variable in a structural equation model by using several different measures simultaneously to represent each person's level of extraversion. But by definition, path analysis does not use latent variables.

### Model Specification

The researcher must begin a path analysis by specifying the ways in which the variables of interest are thought to relate to one another. This is done based on theory and reasoning, and it is critical that the researcher specify the model thoughtfully. A key aspect of this process is deciding which particular variables causally affect other particular variables. A model in which exercise causes good health has a very different meaning than a model in which good health causes exercise. But in many instances, the numeric results of such alternative path analyses will reveal little or nothing about which model is closer to the truth. Because of this, there is no substitute for the researcher having a sound rationale for the form of the path model.

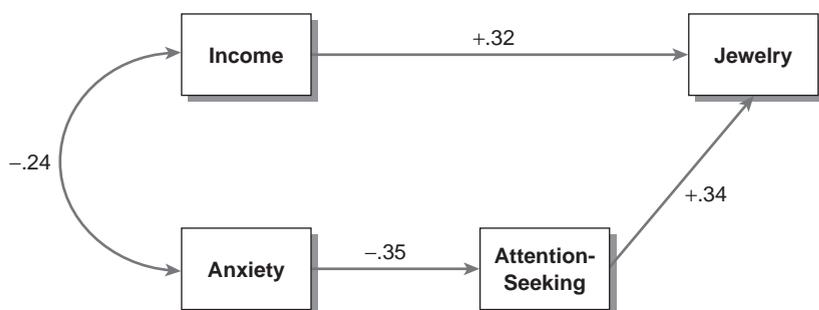
## Path Diagrams

The path diagram is a visual display of the path model and the results of the path analysis. In path diagrams, measured variables are usually represented as squares or rectangles. A single-headed arrow (also known as a *path* or *direct effect*) drawn from one variable to another (say, from *anxiety* to *attention seeking*; see the standardized path diagram shown in Figure 1) means that a change in the value of *anxiety* is thought to tend to cause a change in the value of *attention seeking* (rather than vice versa). It is not necessary for the researcher to specify in advance whether increases in the first variable are thought to cause increases or decreases in the second variable. Mathematical algorithms will estimate both the magnitude of the effect and its positivity or negativity.

A double-headed arrow (sometimes known as a *correlation* in standardized path diagrams, or a *covariance* in unstandardized diagrams) means that the two connected variables are assumed to be associated with one another (again, either positively or negatively), but with no particular cause assumed (as with *income* and *anxiety*). This type of relationship is sometimes referred to as an *unanalyzed association* because the path model does not address why these two variables are associated. They are simply allowed to associate freely.

## Data

Once the researcher has specified the path model, it is necessary to have data available to perform the analysis. The variables in the entirely fictional example of Figure 1 are *income* (annual income in dollars), *anxiety* (a score from a psychometric anxiety questionnaire), *attention seeking* (also a questionnaire score), and *impressiveness of jewelry* (say, a rating of each



**Figure 1** Example Path Analysis Based on Entirely Fictional Data

person's jewelry done by a trained coder). What is required is a sample of data in which each of these variables has been measured for each case in the sample. So the researcher would need a sufficiently large group of people for whom values of each of these four variables are available.

The primary inputs to path analysis software are numbers that indicate the strength and the sign (either positive or negative) of the association between each pair of variables. There is one such number for every unique pair of variables. Depending on the form of the analysis, these associations may be referred to as either *correlations* or *covariances*. Regardless, a defining feature of this input information is that no causality among the variables is actually implied in these data themselves. They simply index the strength of the association for each pair of variables in the model, and whether it is positive or negative.

## Model Fit

The number of variables used in the path analysis imposes a limit on the complexity of the path model. In most instances, a model is as complex as possible if it has as many paths and correlations as there are unique pairs of variables. Models such as these are known as *just-identified* models. This is not, however, to imply that more complex models are necessarily more desirable; more complex models are less parsimonious.

In Figure 1, there are four variables and thus  $4(4-1)/2 = 6$  unique pairs of variables. Because there are fewer paths and correlations in Figure 1 than unique pairs of variables, this model is not just-identified. Models such as this are known as *overidentified* models. A desirable property of overidentified models is that the path analysis can typically provide information about model fit. The most basic piece of this information is known as the *chi-square statistic*. To the extent that the probability value associated with this statistic is relatively low, it is improbable that the researcher has specified a path model that is correct in the population from which the sample data came. In other words, the researcher is confronted with evidence that the specified model is untenable as a representation of what is really happening in the population.

Indices of model appropriateness besides the chi-square statistic are

available and are commonly used. This is partly because many researchers regard the chi-square statistic as too stringent a test for structural equation models in general. Use of these alternative fit indices is associated with a lower likelihood of rejecting a researcher-specified model. The extent to which fit information from the chi-square statistic should counterbalance the generally more lenient criteria of other indices is a controversial issue. Regardless of how a researcher chooses to emphasize each type of fit information, it is important to know that they are only available for overidentified models. Furthermore, it is important to understand that even though poor model fit means that the model specified by the researcher is likely inaccurate, good fit in no way guarantees the correctness of the model. For example, the researcher could have omitted important variables or misspecified the direction of one or more causal arrows, yet still possibly have good fit.

### Path Coefficients

All path analyses provide estimates of the values of the paths and correlations that connect the observed variables. Though the researcher specifies the presence or absence of particular paths and correlations, the specific values of these coefficients are entirely calculated by the mathematical algorithms of path analysis acting on the sample data. They are mathematical *best available estimates* of what the coefficients would be if the entire population were available for analysis. These values are typically displayed in the diagram next to the appropriate path (see Figure 1).

Standardized (as opposed to unstandardized) coefficients are typically presented in path diagrams. The use of standardized coefficients attempts to allow comparisons of the relative strengths of the paths and correlations even though the variables involved may have very different scales of measurement. These standardized coefficients can range in value from  $-1.00$  to  $+1.00$ . Greater absolute values indicate stronger relationships, and the sign (+ or  $-$ ) indicates whether an increase in a causal variable results in a predicted increase (+) or decrease ( $-$ ) in a caused variable or whether a correlation is positive or negative.

Changing the direction of an arrow, eliminating it, replacing it with a correlation, or changing the variables included in the model can result in different values for the strength of that path and can affect other paths in the model in unpredictable ways. Relatedly,

in a path analysis with three or more variables, a path from variable  $X$  to variable  $Y$  might have a very different strength or even a different sign (+ versus  $-$ ) than what might be expected from looking at the simple association between  $X$  and  $Y$  alone. For these reasons, path analysis can be a very informative technique. But whether it is informative or misleading depends on the soundness of the researcher's model and the representativeness of the sample data.

In Figure 1, the correlation of *income* and *anxiety* is  $-.24$ , meaning that higher incomes are associated with lower levels of anxiety in these sample data. The value of  $+.32$  for the path from *income* to *jewelry* means that increasing income is predicted to directly cause increases in the impressiveness of people's jewelry. Importantly, this model asserts that *income* can be thought to relate to the impressiveness of people's jewelry in two separate ways. Although *income* exerts a direct effect ( $+.32$ ) on *jewelry*, it is also spuriously associated with *jewelry* via its correlation with *anxiety* because *anxiety* causes changes in *attention seeking*, which in turn causes changes in *jewelry*. The path analysis has decomposed the original, singular sample association between *income* and *jewelry* into these two conceptually distinct parts based on the researcher's theoretical model and the sample data. Theory-based decompositional inferences such as this are the essence of path analysis.

Note also that *anxiety* is not directly linked to *jewelry* in this model. Thus, this model asserts that the association between these variables in the population can be entirely accounted for via *income* and *attention seeking*. To the extent that this theoretical assertion had been wrong, indices of model fit would tend to be worse.

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*See also* LISREL; Nonexperimental Designs; Operationalization; Research Methods; Structural Equation Modeling

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## PEACE PSYCHOLOGY

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Peace psychology seeks to develop theory and practices that prevent and mitigate both direct violence and structural violence. Direct violence injures or kills people quickly and dramatically, whereas structural violence is much more widespread and kills far more people, by depriving them of basic need satisfaction. When people starve, for example, even though there's enough food for everyone, the distribution system is creating structural violence.

### Roots of Peace Psychology

The roots of peace psychology are often traced to William James and a speech he gave at Stanford University in 1906. With World War I on the horizon, James talked about his belief that war satisfied a deeply felt human need for virtues such as loyalty, discipline, conformity, group cohesiveness, and duty. He also observed that individuals who belong to a group, whether military or otherwise, experience a boost in self-pride when they are proud of their group. Most importantly, he argued that war was not likely to be eliminated until humans created a moral equivalent of war, such as public service that allowed people to experience the virtues that were connected with war making.

Many other psychologists and philosophers wrote about the psychology of peace. A partial list includes Alfred Adler, Gordon Allport, Jeremy Bentham, James McKeen Cattell, Mary Whiton Calkins, Sigmund Freud, William McDougall, Charles Osgood, Ivan Pavlov, and Edward Tolman. Even Pythagoras would qualify, because of his writings on nonviolence and appreciation for the more insidious form of violence called structural violence, which kills people slowly by depriving them of basic need satisfaction (e.g., poverty).

Throughout the 20th century, a recurrent theme among peace psychologists has been that war is built, not born, and the related idea that war is biologically possible but not inevitable. These ideas are captured in a number of manifestos issued by psychologists.

One statement was signed by almost 4,000 psychologists after World War II. More recently, the Seville Statement was issued in 1986 by 20 highly respected scientists during the United Nations International Year of Peace.

Because war is built or constructed, a great deal of research in peace psychology has sought to identify environmental conditions that are linked to violence and peaceful behavior. For instance, during the civil rights era in the United States, Floyd Allport's landmark study on the nature of prejudice proposed that contact between conflicted groups (i.e., Blacks and Whites) could improve relations if certain conditions were met, such as cooperative interdependence, equal status, support from authorities. Although integrated schools have not exactly delivered on the promises of the contact hypothesis, numerous studies continue to demonstrate that intergroup contact does improve intergroup attitudes, but only if implemented in accordance with the conditions Allport specified.

### Peace Psychology and the Cold War

Peace psychology was given a significant boost during the Cold War when the conflict between the United States and Soviet Union heated up and the threat of nuclear annihilation seemed imminent. At times, the threat of nuclear war was the top fear, even among children in the Soviet Union and United States. These fears were normal responses to the threatening situation.

Why were the superpowers at the brink of nuclear war? Human psychology, and the critical role of emotions and perceptions, provided some insights into the nuclear arms race and the enemy images that dominated U.S.–Soviet relations. Fear was thought to be a key motive: Each side developed and deployed more and more nuclear missiles in an effort to reduce fear and build security, but paradoxically created a security dilemma in which each side responded to the threat of the other side by building more weapons and ultimately becoming even more insecure. Misperception was also a problem. One side would see its actions as defensive (e.g., building more weapons), but the other side would see the same actions as offensive. Mirror images occurred with both sides seeing each other as expansionistic and aggressive. Mutually distorted perceptions, destructive communication patterns, and

competition for allies fuelled mistrust. The malignant relationship was reflected in rhetoric, such as President Ronald Reagan's reference to the Soviet Union as "the focus of evil in the modern world."

Some psychologists argued that the policy of deterrence was the main problem. Deterrence is based on the premise that one country, say country A, can deter an attack by country B, if country A has enough retaliatory force. Therefore, decision makers in country B would decide not to attack because the losses for initiating war would outweigh the gains. Psychologists noted that deterrence often breaks down, as it did in 1982, when Argentina launched an offense on Great Britain (over the Falkland Islands) that was quickly put down. Besides, the policy of deterrence culminated in mutually assured destruction whereby both superpowers had so many weapons that both would be destroyed if a nuclear war were started by either side. Some psychologists even wrote about the madness of mutually assured destruction because both sides were behaving irrationally.

Some peace psychologists argued that the only way to improve the relationship was to realize there could be no security for either side unless there was mutual security. Another prescription was for each side to rely less on deterring and more on reassuring each other. A peace-promoting proposal that was widely endorsed was the GRIT Tension Reduction Strategy. To begin GRIT, one of the parties in the conflict unilaterally initiates a cooperative move; the move is announced and reciprocity is invited. If the other side reciprocates, then the cycle would be started and both sides would take turns with tiny steps that deescalate the tension in the relationship.

GRIT was used by President John F. Kennedy in 1963 when he gave a speech at American University and asked all Americans to reexamine their attitudes toward the Soviet Union. He also announced an end to U.S. nuclear tests in the atmosphere as long as the Soviets stopped testing. His speech was followed by a reciprocal initiative by the Soviets—they stopped testing, and soon thereafter, both sides took several more reciprocal steps that led to the Limited Test Ban Treaty, which allowed testing only underground.

### Post-Cold War Peace Psychology

The Cold War ended with dramatic events in 1989, most notably the fall of the Berlin Wall that separated the Soviet and U.S. spheres of influence. But the Cold War had given peace psychology a major boost as

psychologists created concepts to better understand intergroup conflict and its resolution. Also important was the establishment of the 48th division of the American Psychological Association, called Peace Psychology. Shortly thereafter, a journal was established, *Peace and Conflict: Journal of Peace Psychology*, and even more recently, doctoral-level training programs in peace psychology have begun to spring up around the world.

Peace psychology is now global in scope. It recognizes that violence can be cultural, which occurs when beliefs are used to justify either direct or structural violence. For example, when a person justifies the deaths of starving people by blaming them for their situation (called *blaming the victim*), that person is engaging in cultural violence. Direct violence is supported by the culturally violent notion of just war theory, which argues that under certain conditions, it's acceptable to kill others (e.g., defense of the homeland, using war as a last resort). From the perspective of the United States, one of the main challenges for peace psychology is to deepen understanding of the structural and cultural roots of violence, a problem that is particularly important when security concerns revolve around the prevention of terrorism.

Basically, today, the peace tools of peace psychologists fall into six categories: (1) strengthening relationships that are cooperative already; (2) detecting and responding to early warning signs of cultural violence (e.g., one group beginning to dehumanize another group) before the conflict escalates; (3) using conflict resolution to resolve conflicts and disagreements before they turn violent; (4) organizing antiviolence movements when violence breaks out; (5) mopping up after large-scale violence has occurred, by treating victims and perpetrators of violence and assisting in community development; and (6) building socially just societies and cultures of peace through nonviolent means (e.g., dissent, protest, nonviolent resistance).

Daniel J. Christie  
Thomas E. Cooper

*See also* Contact Hypothesis; GRIT Tension Reduction Strategy; Terrorism, Psychology of

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## PERSONALITIES AND BEHAVIOR PATTERNS, TYPE A AND TYPE B

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### Definition

The type A personality is a collection of behaviors that include impatience and a sense of urgency about accomplishing most tasks; aggressiveness and sometimes hostility toward others, especially those who “get in the way”; and a desire for achievement that leads to exaggerated competitiveness and striving for success. Type A personalities lead fast-paced lives; they speak quickly, walk quickly, eat quickly—all in an attempt to accomplish as much as possible in as little time as possible. By comparison, type B personalities are relaxed and easygoing, less concerned with the pressures of success (but are not lazy), and generally lead less hectic lives.

### History and Importance

Interest in type A behavior first arose in the 1950s when two cardiologists, Meyer Friedman and Ray Rosenman, noticed that patients with coronary problems seemed to behave differently from noncoronary patients. Careful observation led Friedman and Rosenman to describe the type A behavior pattern as “an action-emotion complex that can be observed in any person who is aggressively involved in a chronic, incessant struggle to achieve more and more in less and less time, and if required to do so, against the opposing efforts of other things and other persons.” Subsequent research sought to validate speculation

that the type A pattern made a person prone to coronary disease. In one of the most famous early studies, the Western Collaborative Group Study (WCGS), more than 3,000 middle-aged men were followed for 8½ years beginning in 1960–1961. All the men were free from coronary disease at the beginning of the study. When data collection was terminated in 1969, nearly twice as many type A personalities as type B personalities had developed coronary heart disease. At the time, type A behavior appeared to be a personality or lifestyle predictor of coronary disease on par with traditional and well-known risk factors such as smoking, high cholesterol, and hypertension.

Other medical research soon followed and with it came mixed results and controversy. Some studies replicated the WCGS, but others (including longer-term follow-ups of the WCGS sample) did not, and the results for women and various ethnic groups were not always consistent. Much of the confusion could be traced to the way type A behavior was measured in research. The original method for identifying type A behavior is called the structured interview (SI). It is time-consuming and requires special training to administer. Alternative questionnaire measures, the most well-known being the Jenkins Activity Survey, were developed to allow faster and more efficient assessment. Unfortunately, the questionnaires mimic the content of the SI but do not include the challenges that are part of the interview nor do they capture the speech style and nonverbal cues that are crucial to identifying type A behavior during the SI. Not surprisingly, research conducted with the two forms of assessment does not always arrive at similar conclusions because different features of type A behavior are being emphasized. In some ways, this problem was a blessing in disguise because it prompted researchers to explore how particular facets of type A behavior are related to coronary risk.

The key problem with questionnaire measures of type A behavior is that they do not provide direct *behavioral* evidence for impatience, anger, and hostility. This proved to be crucial because later research found anger and hostility to be more strongly related to coronary heart disease risk than are the other parts of the type A pattern. Questionnaires such as the Jenkins Activity Survey are perhaps best thought of as measures of self-reported job involvement, competitive achievement striving, and time urgency. These are important parts of the type A pattern and can have health-related consequences, but hostility appears to

be especially important in the development of coronary disease.

### Underlying Motive

Later research, primarily by psychologists, extended the early work by searching for the motives that give rise to type A behavior. This research showed that type A personalities differ from type B personalities in having a higher need to control their lives and desiring a clear appraisal of their skills. According to this perspective, type A behavior can best be thought of as a tactic for demonstrating control and talent. Situations that are uncontrollable, unpredictable, or create uncertainty about ability are stressful for those with type A personality. Ironically, through their exaggerated attempts to maintain control and achieve success, type A personalities probably create much of the stress that they experience.

### Current Status

Other research has shown that type A personalities' fast-paced, stress-filled lives make them susceptible to other health problems. Type A personalities tend to focus their attention on their work to ensure success, but in doing so they ignore other potentially important cues such as physical symptoms that can signal a health problem needing attention. The type A pattern has been of particular interest to organizational psychologists. The behaviors of people with type A personality have obvious and important implications in the work world (e.g., they do not delegate responsibility easily), and their work habits have important implications for their relations with others.

### Behavioral Changes

If the type A pattern is related to health problems, it might seem sensible that type A personalities would want to change their ways. Type A personalities are not always aware of their behavioral excesses, however, and even when they are aware, they probably do not see much reason to alter their behaviors. After all, their lifestyle is consistent with American values that emphasize hard work, striving for lofty goals, and competition. Indeed, type A behavior, except for the hostility component, is a recipe for success in Western culture. Yet the health problems do lead some people

with type A personality to seek help, and their behavior can be modified to lessen the problematic features while maintaining the aspects that have made them successful.

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*See also* Personality and Social Behavior; Stress and Coping; Traits

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## PERSONALITY AND SOCIAL BEHAVIOR

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### Definitions

*Personality* is an individual's typical way of feeling, thinking, and acting. Given that personality is typical, it is fairly stable over time. *Social behavior* refers to a person's feelings, thoughts, or actions as he or she relates to other people. These two definitions have a very close relationship. Knowing something about an individual's personality should allow psychologists to predict his or her social behavior. Similarly, knowing about a person's social behavior should give clues to aspects of his or her personality. In other words, an individual's personality and social behavior influence each other, and knowledge of one allows the inference of information about the other.

### History and Background

People tend to describe others in terms of personality characteristics. Almost 20,000 English words can be used to describe a person. For example, people can be described as outgoing or shy, dominant or submissive, conscientious or careless, and so forth. People possess

different personality characteristics; therefore, it is possible to group people based on these characteristics. The history of psychologists' study of personality has involved several attempts at developing systems that would be helpful in classifying people by their personalities. The ancient Greeks first attempted to broadly describe personality with types. There were four types of personalities (based on which of their body fluids was predominant): cheerful, irritable, depressed, and unemotional. In the past century, personality has also been classified based on three different body types: The endomorph was plump, jolly, and relaxed; the ectomorph was thin, anxious, and unsocial; and the mesomorph was muscular, confident, and active.

More recently, Raymond Cattell's 16 Personality Factors (16 PF) offered a way to classify people based on 16 personality dimensions. The 16 PF includes measures of warmth, reasoning (intelligence), emotional stability, dominance, liveliness, rule-consciousness, social boldness, sensitivity, vigilance (suspiciousness), abstractedness (imaginativeness), privateness, apprehension, openness to change, self-reliance, perfectionism, and tension. To fully describe an individual's personality, the person would be given a rating on how much of each personality factor he or she possesses. However, the most common way of thinking about personality is in terms of the Big Five personality traits. These personality traits are similar to the 16 PF, but they are combined into fewer categories. These traits include Extraversion, Neuroticism (emotional instability), Conscientiousness, Agreeableness, and Openness to Experience (open-mindedness). Describing a person on each of these five dimensions is thought to be enough to give another person a good understanding about what type of person he or she is. Personality traits influence people's behavior. Therefore, if people are described as extraverted, they would be expected to be sociable in groups. If people are conscientious, they would be expected to be hard workers. If people are neurotic, they have the tendency to be anxious.

### Identifying Personality Variables

Contemporary personality classification systems (e.g., Big Five, 16 PF) were created by first identifying all the words that people use to describe each other. Next, the researchers created categories by sorting the

individual words based on common characteristics. The categories that resulted from this process were called personality traits or factors. For example, the category of Extraversion would have related words like *outgoing, sociable, loud, confident, talkative, friendly*, and so forth. The category of Neuroticism would contain words like *anxious, tense, insecure, paranoid, unstable*, and so on. The Extraversion category would also contain words such as *quiet, shy, unconfident*, and so on because someone can be low on Extraversion. Similarly, the Neuroticism category would also contain descriptive words like *stable, calm, and secure* because people can also rate low on Neuroticism.

The categories can further be grouped with the use of a statistical technique called *factor analysis*. Basically, this analysis looks for similarities among categories, and combines multiple categories into a single category if they appear to be describing the same personality dimension. This technique has been used on the 16 PF. For example, the 16 PF categories of liveliness, social boldness, and privateness may be combined to form the Big Five category of Extraversion, and the 16 PF categories of tension, apprehension, and (low) emotional stability may be combined to form the Big Five category of Neuroticism. This process of grouping the personality descriptors is useful because it gives a more simplistic way of describing people. Instead of describing people in terms of 20,000 words, people can be described on the basis of 16, or just 5.

### Measuring Personality

To assess personality, people are asked to answer questions about themselves relating to the personality traits of interest. Personality questionnaires or inventories include questions about the person's feelings, preferences, and behaviors. Usually, individuals are asked to respond to questions about themselves and their personality characteristics. However, sometimes people who know the individual, such as work supervisors, friends, or family members, are asked to respond to questions about that individual's personality.

These questionnaires are created by first identifying two groups that are known to differ on the personality trait of interest, administering questions to them regarding their feelings, preferences, and behaviors, and observing which questions the two groups respond differently to. Whichever questions are found to discriminate between those two groups are included

in the personality inventory. For example, if the personality inventory is supposed to measure a person's enjoyment of thinking, the researchers may give the questionnaire to university professors and high-school dropouts. It is expected that these two groups would differ on the personality characteristic of interest (enjoyment of thinking), so researchers would identify which questions the two groups respond to differently and include these questions on the personality inventory. Personality inventories can measure any number of personality traits, and they contain a separate scale for each personality trait they are meant to measure. Accurate personality measurement is important, in part, because it is necessary for accurate behavioral prediction. Without quality measures of personality, the influence of personality on social behavior will tend to be underestimated.

### **Influence of Personality on Important Social Behaviors**

Assessing an individual's personality traits is thought to be helpful in predicting his or her future behavior. To assess whether personality influences social behavior, the person's responses on the personality inventory are compared with that person's observed social behavior. If the personality responses on the questionnaire and the social behavior are related, the person's score on the personality inventory should be able to predict the individual's future behavior. Personality variables have been found to influence various social behaviors like helping, conformity, obedience, aggression, and prejudice. In fact, there are personality scales that measure people's tendencies toward aggressiveness, conformity, altruism (an indication of helping behavior), and authoritarianism (an indication of a prejudiced personality), to name a few.

For example, in looking at the 16 PF categories mentioned earlier, the category of apprehension could be used as an indication of a person's tendency toward conformity. People are more likely to conform to others' decisions if they are insecure in their own decision-making abilities. The 16 PF categories of openness to change and dominance may be used as an indication of a tendency toward prejudiced personality. People who want to dominate others and are not open to breaking with traditional ideas are more likely to exhibit prejudice. The 16 PF categories of warmth and sensitivity may be used to indicate tendency toward

helping behavior. Helping others is most likely to come from people who are attentive to others and are sensitive. Many different measures of personality variables can be used to predict social behavior (to some extent).

### **Importance of the Situation Versus Personality**

Although personality is supposed to allow the prediction of a person's behavior, it does not allow perfect prediction in every situation. Unfortunately, research shows that people's behavior is frequently inconsistent. The situation the person is in can also influence behavior. A two-decade-long debate called the *person-situation controversy* involved discussion of when personality or the situation can better predict behavior. Basically, as will be discussed, personality is likely to influence behavior when the situation does not create strong pressures for the person to behave a certain way, when the person is exhibiting dominant personality characteristics, when that person does not care about fitting his or her behavior to situational requirements, and when the person's behavior is observed across a variety of situations over time.

### **Types of Situations**

Not surprisingly, when people are in unfamiliar situations or situations that require more formal behavior (at church or on a job interview), their personalities influence their behavior less than do the situational requirements. On the other hand, when people are in familiar, comfortable situations (with friends or family) their personalities are more likely to influence behavior. For example, if an individual reports having a shy personality, that information may be able to be used to accurately predict behavior in classroom settings or around new, unfamiliar people. However, the information that the person has a shy personality might not be able to be used to accurately predict that his or her behavior will be shy when with close friends. Perhaps the person is a friendly, outgoing person after becoming comfortable with people. Similarly, although some people tend to be helpful, obedient, aggressive, or conformist just because they have that type of personality tendency, the situation can also influence people's behavior, making that personality tendency more or less pronounced. For

example, even a very passive person may become aggressive if sufficiently provoked.

The importance of the situation in predicting behavior is determined by carefully controlled experimental research. The researcher creates two or more different situations, exposes each participant to one of the situations, and then measures each participant's reaction or behavior. The difference in participants' behaviors in the two situations is an indication of how much the situation influences behavior. In other words, if the researcher observes the participants (as a group) in one situation behave in a different way from that of participants exposed to a different situation, it is assumed that this difference in behavior is due to the situation rather than the participants' personalities. In addition, the researcher could both measure personality using an inventory and manipulate the situation to see whether the individual's personality or the situation better predicts behavior.

### **Types of People and Personality Characteristics**

Just as some (strong) situations influence people's behavior more than do others, some people are more influenced by situations in general than are others. Some people consistently monitor and adjust their own behavior to ensure that it fits with the situation (high self-monitors). These people are more likely, for example, to behave differently around different groups of friends. On the other hand, people who do not care about monitoring their behavior to fit in with the social situation (low self-monitors) are more likely to behave consistently with their personalities across situations. They will act the same way, for example, around different groups of friends.

Some personality characteristics are also more dominant for a given person than are other characteristics, and these characteristics are more likely to influence the person's behavior across situations. A person may be extremely neurotic and mildly outgoing. One might expect such a person to be anxious much of the time, regardless of the situation, but only friendly some of the time. Similarly, some personality traits tend to be strong across individuals. For example, expressive traits come out in a person's speech, gestures, and mannerisms. Individuals who have very animated personalities, no matter where they are, will speak loudly with exaggerated hand gestures. Weak personality traits depend on the situation. For example, some people are more concerned about creating a

positive impression than are others. These people might behave differently around people they want to impress (like on a first date) than around people they do not care about impressing.

### **Types of Behaviors**

Furthermore, personality may be a better predictor of how people will usually act (across situations) than in a particular situation. So, instead of looking at a person's behavior in one situation, one should measure the person's behavior averaged across many situations to examine the relationship between personality and behavior. For example, a person who is dishonest may not cheat on a particular exam at school, but that person will tend to engage in more dishonest behaviors across situations (cheating at school, cheating on taxes, lying, etc.) than will someone who is honest. In general, it is important to have good measures of behavior. Such measures of behavior should be obtained through ratings by multiple raters who know the individual well, should be directly observable and related to the personality characteristic of interest, and should be obtained for several situations across time.

### **Implications**

It turns out that the relationship between personality and behavior is very similar in strength to the relationship between the situation and behavior. The relationship between personality and behavior (or between the situation and behavior) allows researchers to predict a person's behavior correctly about 70% of the time. Therefore, personality and situations are both important for predicting behavior.

It is more appropriate to use personality to predict how an individual will *usually* act in most situations, rather than how individuals will act in specific situations. This is because the situation itself often varies and will influence how the individual acts. Sometimes behavior can be predicted mostly from personality. Personality is likely to influence behavior more in situations when the person is exhibiting dominant personality characteristics, when that person does not care about fitting his or her behavior to the situational requirements, or when the situation is weak (no set social rules). On the other hand, the situation will play a bigger role in behavior if the situation is strong (clear social requirements) or if the person cares about keeping his or her behavior consistent with the situational requirements.

Finally, although situations often influence people's behavior, people also choose and influence the situations in which they find themselves. People's personalities influence the types of situations they enter. This increases the likelihood that they will exhibit certain behaviors. For example, people who are outgoing are likely to attend more parties than shy people. This party attendance gives them more opportunities to exhibit outgoing behavior and may actually increase this behavior over time. In turn, the person's behavior may influence the atmosphere of the party itself (the situation).

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*See also* Big Five Personality Traits; Genetic Influences on Social Behavior; Individual Differences; Personality Judgments, Accuracy of; Traits

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## PERSONALITY JUDGMENTS, ACCURACY OF

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### Definition

The accuracy of personality judgments refers to an area of research in which people evaluate the thoughts, feelings, and behavior of themselves or others and the correctness of their evaluations are determined. The determination of accuracy, or correctness, is a constant challenge for researchers because it is often unclear what to use as the standard for truth. It is straightforward to verify people's estimates of height and weight

by using a tape measure and scale, but accuracy researchers must determine, for example, if a person's friendliness rating of a coworker is accurate. The absence of a friendliness "tape measure" requires researchers to use a variety of measurement techniques that together provide a close approximation of the personality characteristic under investigation. Accuracy researchers typically compare a person's friendliness rating to the coworker's observed behavior or to personality ratings of the coworker by close acquaintances. If the person's friendliness ratings predict the coworker's behavior and agree with the close acquaintances' ratings, the friendliness rating is likely to be accurate.

### Context and Importance

People make judgments about personality every day and in numerous settings. Clinical psychologists diagnose their clients, human resource managers evaluate prospective employees, and teachers assess the capabilities of their students. In these settings, the judgments that professionals make can either help or harm an individual's life. The judgments that lay people make are equally life affecting, such as the decision to approach or to avoid a stranger. A faulty decision to trust a stranger may lead to physical harm. The misjudgment of a close friend may lead to unpleasant conflict or dissolution of the friendship. The personality judgments that people make of themselves and others can affect their own psychological and physical well-being.

### Evidence

Research on the accuracy of personality judgments began by trying to identify the good judge of personality. This research focus represented a mix of theoretical interest and pragmatic concern. Researchers were curious why some people might be better than others at judging personality. From a pragmatic perspective, it was believed that being a good judge of personality was a prerequisite to being a successful clinical psychologist, personnel interviewer, or school counselor. The research evidence is inconsistent regarding the good judge of personality with one exception. Women tend to outperform men when judging the personality characteristics of others.

Despite these inconsistent findings, accuracy researchers continue to search for the good judge of personality and have broadened their research interests to include five additional factors that influence

the accuracy and inaccuracy of personality judgments. Each factor will be discussed in turn.

First, *judgability* refers to how accurately people's personalities can be judged by others. Individuals who are high on judgability are like open books, their personalities are easy to read, and they are accurately judged. Those who are low on judgability are closed and enigmatic, and are inaccurately judged by others. Research demonstrates that judgable people tend to score higher on measures of psychological adjustment than do less judgable people.

Second, increased acquaintance produces greater accuracy. Although this might seem fairly intuitive, only recently have researchers provided evidence to support this factor. Considerable evidence now indicates that longer acquaintance leads to greater accuracy because acquainted individuals share more plentiful and intimate information than do people less acquainted.

Third, some personality traits are more accurately judged than other traits. In terms of the Five Factor model of personality (i.e., Neuroticism, Extraversion, Openness to Experience, Agreeableness, Conscientiousness), research consistently points to Extraversion as the most accurately judged trait. Neuroticism is often the most difficult trait to judge. The difference in trait accuracy is due to observability indicating that traits that are easy to see tend to be most accurately judged. Extraverted behaviors such as talking and socializing are easy to see by observers whereas neurotic behaviors such as worrying and feeling anxious are much less observable and more difficult to judge.

Fourth, self-enhancement refers to the tendency for some individuals to hold unrealistically positive self-views. There is currently considerable debate about the topic of self-enhancement. One group of researchers believes that possessing an unrealistically positive self-view is unhealthy. These researchers argue that people should be realistic about their strengths and weaknesses, and only by acknowledging weaknesses can individuals correct them. The other group believes that holding unrealistically positive self-views is mentally healthy. This group argues that these positive beliefs, albeit unrealistic, protect the self-esteem of individuals when negative events occur and motivate individuals to be highly productive. The debate is forcing researchers to carefully consider the nature of mental health and psychopathology.

Fifth, accurate self-knowledge refers to the accuracy of people's beliefs about their own personality and behavior. Despite the belief by many that they

possess keen self-insight, Sigmund Freud demonstrated long ago that people do not always know the truth about themselves. Research on accurate self-knowledge indicates that individuals who know themselves well possess positive self-esteem, social skill, and good coping skills. These results are similar to those found for judgability and suggest that to be known by others, a person must also be known to himself or herself.

## Implications

Researchers have considerable knowledge about whom and what will be accurately judged, when it will occur, and who will make accurate personality judgments. This information has real-world implications for professionals and lay people alike. A goal of future accuracy research will be to put this knowledge to use. Research-based training may help clinicians better diagnose their patients, teach married couples to communicate more effectively, and help single people to select compatible dating partners.

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*See also* Big Five Personality Traits; Close Relationships; Individual Differences; Personality and Social Behavior; Person Perception; Self-Enhancement

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## PERSONAL SPACE

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### Definition

Personal space refers to the physical area surrounding an individual that is considered personal or private. Typically, when another person intrudes in this area, the individual experiences discomfort. A related concept, interpersonal distance, refers to the area that people

keep between themselves and the interaction partner. As an individual's personal space increases, interpersonal distances will increase as well. The size of personal space largely depends on individual and situational differences. The shape of personal space does not completely follow the lines of a circle or bubble, as the preferred distances at the front of a person are generally found to be larger compared with the rear.

Physical interpersonal spacing behavior serves important functions. Distancing oneself from others promotes control and maintains autonomy. In this case, the influence of others is reduced. Conversely, proximity fosters interpersonal communication and cooperative behavior, smoothes interactions, and increases interpersonal liking.

### **Determinants of Interpersonal Distance**

Personal space should not be considered a static construct because it varies across individuals and situations. Predominantly, interpersonal distance is influenced by the nature of the relationship between the two interacting individuals. Edward Hall distinguished four typical types of interaction distances observed in Western societies: intimate distance (0–18 inches, e.g., two individuals making love); personal distance (18–48 inches, e.g., distance between close friends), social distance (4–12 feet, e.g., personal business); and public distance meetings (12–25 or more feet, e.g., formal interactions like teaching).

Interpersonal distance may also be influenced by a person's mind-set or goals. If an individual adopts the goal to affiliate with another person, he or she may be more likely to sit close to that person. Likewise, a strong need to belong to others also results in a tendency to sit closer to other people. On the other hand, when people focus on personal goals, uniqueness, and autonomy, they are likely to need more distance from others.

Furthermore, individual differences have been linked with proximity behavior. Various studies have provided evidence for personal space to be influenced by sex, showing that two interacting men require more personal space than do two interacting females. Also, personal space seems to increase from childhood to adolescence.

Interpersonal distance also varies across cultures. Members of collectivistic countries prefer stronger interpersonal proximity compared with members of individualistic countries. Interestingly, several studies

have shown that members of collectivistic cultures are characterized with a relatively high need to harmonize with others and to have a sense of belonging, whereas members of individualistic cultures have a relatively strong need to distinguish themselves from others and strive for personal achievement. Therefore, these cultural differences in interpersonal distance may be partly explained by cultural differences in goals.

Finally, some aspects of the environment have been shown to influence personal distance. For example, people prefer greater distances when they are in stressful situations, in rooms with low ceilings, or in crowded places.

### **Compensation for Closeness**

Several authors have argued that people strive for balance between several approach/avoidance forces during interaction. Therefore, when the situation forces people to intrude each other's personal space (e.g., standing in a crowded elevator), the decreased interpersonal distance may be compensated for by other psychological mechanisms that are related to intimacy, such as eye contact and topic intimacy. For example, people standing in a crowded elevator avoid making eye contact, look at the elevator doors, and discuss the weather.

### **Measuring Interpersonal Distance**

Interpersonal spacing behavior has been studied using two different kinds of distance measures. Some researchers used projective measures in which individuals are asked to indicate the preferred distance to an imagined other (using miniature figures, dolls, or paper and pencil drawings). These projective measures may be contrasted with real-life measures, including unobtrusive observations of actual spacing and placements or selections of chairs. A popular and efficient measure is to ask a person to take a chair and place it in the vicinity of another person. The distance between the chairs is indicated as the interpersonal distance. As interpersonal spacing behavior is mostly regulated in an automatic fashion, individuals are generally unaware of the distance that they keep from others. As a result, people may find it difficult to explicitly indicate their preferred interpersonal distances. Indeed, projective measures show low correspondence with actual interpersonal behavioral measures and are considered to be less useful in studying personal space.

Benefiting from technical progress, several researchers have recently studied interpersonal spacing behavior using immersive virtual environment technology (virtual reality) in which participants approach virtual other people. People seem to keep distance from these virtual persons quite naturally, as if they approach real individuals. Virtual reality is a potentially useful tool to enlarge researchers' understanding of personal space.

### Implications

The implications of personal space can be far-reaching because it can have a strong impact on the quality of the interactions and therefore on the quality of interpersonal relations. The interaction of two persons with different sizes of personal space may result in misunderstanding and become problematic. For example, if a member of an individualistic country (a U.S. citizen) who has large preferred interpersonal distances interacts with a member of a collectivistic country (an India citizen), the latter may stand too close for the American, whereas the Indian person may become irritated because the American stands too far away for conversation. From an applied perspective, the growing body of knowledge in the area of personal space and proximity behavior provides opportunities to adjust spacing behavior and train people to stand closer to or further away from others in specific situations. This may help smooth interactions and reduce psychological discomfort.

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*See also* Close Relationships; Collectivistic Cultures; Cultural Differences; Gender Differences; Need to Belong; Nonconscious Processes; Nonverbal Cues and Communication; Proximity

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## PERSON PERCEPTION

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### Definition

Person perception refers to a general tendency to form impressions of other people. Some forms of person perception occur indirectly and require inferring information about a person based on observations of behaviors or based on second-hand information. Other forms of person perception occur more directly and require little more than seeing another person. Both of these types of person perception provide a foundation from which subsequent judgments are formed and subsequent interactions are shaped.

### History and Background

In social psychology, the phrase *person perception* has historically referred to the perception of others that leads to judgments of traits and dispositions. Given that Bill kicked a dog, what kind of impression is an observer likely to form? Much of the early research investigating such impressions had roots in attribution theory. Fritz Heider proposed that people can attribute the behaviors of others to factors that are internal (personality, dispositions, etc.) or external (situational constraints), but that people are prone to make internal attributions. These basic observations affected decades of research and provided an important foundation for two related theories, in particular. Harold Kelley's covariation model, for example, described how people discern the attitudes of others based on simple factors surrounding observed behaviors. Similarly, Edward E. Jones and Keith Davis's theory of correspondent inferences described why people infer that behaviors reveal personality. Thus, the early research in this area investigated when and how people infer traits from behaviors.

### Indirect Person Perception

Many of the personal attributes that observers may want to know about another person (e.g., whether the person is loyal, honest, or contemptible) are not directly observable. Instead, these attributes or traits must be discerned—either from observing the person's actions (actually watching the person behave in a loyal or honest manner) or from interpreting information provided by a third party (e.g., what a roommate conveys

about Jill or what the experimenter reveals). In each case, the general perception of a person is the product of inference, and the attribution theories that were proposed a half a century ago remain valid in understanding how such perceptions occur.

Observers watch what people do, and they make judgments about others based on those observations. When a psychology professor is seen responding to an upset student in a dismissive way, for example, one may infer that this occurred because of some aspect of the professor's disposition or because of unfortunate circumstances of the interaction. Classic studies in social psychology attempted to bring similar scenarios into the laboratory. Participants in these studies judged the attitude of a hypothetical person who was described in a vignette as advocating an unpopular political position. Sometimes this action was described to have been voluntary; other times, this action was described to have been compelled (e.g., an experimenter asked the person to advocate a specific position). Across all such studies, participants reported that the target's behavior revealed his or her true attitude, even when that behavior had been coerced by the situation. Thus, observers tend to assume that behaviors convey attitudes and dispositions, and this occurs even when compelling situational grounds for that behavior are present. When perceiving the dismissive professor, therefore, observers are apt to conclude that the professor is callous, and not that the response was compelled by the situation (e.g., the next class that was already streaming into the classroom). These perceptions are called *correspondent inferences*, and the tendency to attribute actions to dispositional factors has been called the *correspondence bias* and the *fundamental attribution error*.

Following the initial insights, many researchers tried to understand precisely what leads to such inferences, and three factors emerged. Harold Kelley, for example, documented that dispositional inferences are especially likely when a particular behavior is (a) distinctive (most professors don't actually respond in a dismissive manner); (b) consistent (this particular professor responds this way in and out of class); and (c) consensual (others have also observed this behavior). Jones and Davis stressed that such inferences are particularly likely when a particular behavior is unexpected (e.g., a known conservative endorsing a liberal position).

More recently, researchers have examined the psychological processes that permit these inferences. Two processes appear to be involved. The initial process is

relatively reflexive and leads to dispositional inferences under most circumstances. The second process is considerably more reflective and tends to correct for the constraints imposed by a situation.

Other recent research has explored the extent to which dispositional inferences are ubiquitous. The tendency is so strong that it occurs even when people have no intention to form an impression of others and in the absence of observing actual behaviors. Indeed, much of the research in social psychology has exploited this by presenting research participants with sentences that describe a behavior. Reading about an individual who purportedly solved a mystery novel halfway through a book, for example, might lead an observer to infer that the individual is clever. These rapid judgments that imply enduring traits are typically called *spontaneous trait inferences*.

The attribution approach to the study of person perception revealed much about how impressions of others may emerge from observations. Yet person perception also refers to judgments that occur more directly.

## Direct Person Perception

Many of the personal attributes that observers notice about another person need not be inferred because they are directly observable and are therefore noted immediately. Some of these attributes include categorical judgments about other people such as their sex, race, and age. Some researchers have argued that noticing certain personal characteristics is unavoidable, and that observers automatically categorize people according to their group membership. What sex? What race? and How old? are likely to be among the first impressions that observers form of others. Because these particular categorical judgments are made so readily and rapidly, they have been described as obligatory. Two of these obligatory categorical judgments, sex and race, have received considerable attention in social psychology.

### Perceiving Sex

In general, observers have little difficulty categorizing others to be men or women. This basic categorization occurs effortlessly, partly because so many individual features differ reliably between men and women. Even apart from primary and secondary sexual characteristics, which are generally not readily

visible to observers, men's and women's faces and bodies differ in both absolute and relative measures and in personal grooming, both of which are easily seen. Thus, categorizing individuals by their sex occurs with great facility, and such perceptions are informed by many physical cues.

Perceiving the sex of an individual affects a broad range of other social perceptions and judgments, as well. Many evaluative social judgments, for example, rely heavily on the content of gender stereotypes and role expectations. Exhibiting gender-typical traits and behaviors leads to favorable evaluations; exhibiting gender atypical traits and behaviors, in contrast, leads to unfavorable evaluations. This can pose challenges for certain individuals. Professional women, for example, frequently hold positions that demand characteristics that are stereotypically associated with men. By exhibiting such characteristics, these women are perceived to be competent, but they are not liked.

### Perceiving Race

Observers also have little difficulty categorizing the race of others. Much of the research in this area has focused on how race affects observers' recognition or memory of others. Although people are generally quite adept at recognizing the faces of others who they have seen previously, doing so is considerably more difficult for faces of other-race individuals. This tendency has been called the *own-race bias*.

Regardless of whether a particular individual is recognized or not, perceiving a target's race permits racial stereotypes to affect a broad range of social perceptions and judgments, even in the absence of explicit prejudice. In some laboratory studies, for example, participants have been asked to make simple judgments—such as whether a target is holding a gun or a tool—that are objectively unrelated to the target's race. In other studies, participants have been charged with deciding whether or not to “pull the trigger” on a target who is holding either a weapon or another object. In both cases, the race of the target affects the speed and accuracy of judgments.

The facility to perceive others accurately from visual cues alone extends beyond the perception of sex and race. Based on only brief exposures to degraded video images of an individual, observers can accurately judge a range of personal characteristics. These include social categories such as sex, race, and sexual orientation and dispositional characteristics such as teaching

effectiveness. Thus, even from these thin slices, person perception can be remarkably accurate.

Whether person perception occurs by inferring traits from behaviors or by merely perceiving the physical appearance of another, this is the foundation for how people respond to and evaluate others. Given this far-reaching impact, research investigating various aspects of person perception will continue to be an important area in social psychology for years to come.

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*See also* Correspondence Bias; Fundamental Attribution Error; Personality Judgments, Accuracy of; Spontaneous Trait Inferences; Thin Slices of Behavior

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## PERSON-POSITIVITY HEURISTIC

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### Definition

The person-positivity heuristic is a tendency to evaluate individual people more positively than the groups to which they belong. Psychologist David Sears coined the phrase in 1983 because he noticed that results of political polls typically show that although respondents hold political institutions such as the U.S. Congress in low regard, they often have positive impressions of the individuals (senators and representatives) who make up those institutions. The person-positivity heuristic also occurs in evaluations of other types of political figures (governors, mayors), in college students' evaluations of their professors, and even

in people's evaluations of small groups of physically attractive and unattractive women.

### Application

One explanation of the person-positivity heuristic is that people are predisposed to perceive themselves as similar to other people, and consequently, the closer something is to being a "person," the more positively it will be evaluated. For example, student course evaluations show that courses generally are not liked as well as the professors who teach them. Courses do not exemplify the concept of personhood as well as professors do, and thus students perceive more in common between themselves and professors than between themselves and courses. Groups of individuals or an institution are less like a person than an individual person is. However, because groups and institutions are composed of individual people, they have more personhood than do objects (for example, a car), abstractions (for example, gravity), or an individual person's possessions (for example, a professor's office) or products (for example, the course a professor teaches). Consequently, groups and institutions are liked less than the individuals who compose them, but are liked more than inanimate objects, abstractions, or possessions. For example, Sandra Day O'Connor, who was an individual member of the U.S. Supreme Court, is higher on personhood than her decisions are, and the Court itself falls between Justice O'Connor and her decisions in personhood. The Court as an institution should therefore be liked less than Justice O'Connor, but liked more than her decisions are.

### Exceptions and Importance of the Person-Positivity Heuristic

Person-positivity effects are not likely to occur when people evaluate individuals who are members of highly regarded groups. In these cases, the positivity bonus that otherwise accrues to individuals disappears. For example, the U.S. presidency is held in high regard but the U.S. Congress is not. Surveys show that individual presidents of the United States are not evaluated more positively than the office they hold, whereas individual members of Congress are evaluated more positively than Congress itself is. Physically attractive individuals also do not seem to benefit from the person-positivity heuristic as much as their less attractive counterparts do.

The person-positivity heuristic has been important in understanding political attitudes and voting behavior. People hate politicians, but have such high regard for individual politicians that it is usually difficult to unseat an incumbent office-holder. This heuristic also sheds light on how people can have negative stereotypes about a group, but at the same time have positive impressions, and sometimes even close ties with, individual members of the disliked group.

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*See also* Heuristic Processing; Positive–Negative Asymmetry; Similarity-Attraction Effect; Stereotypes and Stereotyping

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## PERSUASION

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### Definition

Persuasion is a method of changing a person's cognitions, feelings, behaviors, or general evaluations (attitudes) toward some object, issue, or person. Although any change technique is sometimes referred to as persuasion regardless of the target of influence, the term more commonly refers to a method of change in which a person is deliberately presented with a message containing information intended to alter some general evaluative judgment (e.g., capital punishment is bad). Self-persuasion can occur when people generate their own messages in favor of or against something. Persuasive communication is readily used by advertisers, salespeople, politicians, ministers, attorneys, and people in everyday situations to produce change in others. In democratic societies, persuasion has replaced coercion as the primary means of influence.

## History and Background

The power and prevalence of persuasion have led to a great deal of scientific research investigating the factors that make a persuasive appeal effective. In the 1950s, Carl Hovland and his colleagues at Yale University conducted the first systematic analysis of persuasion in what was known as the Yale Communication Project. The Yale group determined that four elements are present in all persuasion settings: (1) a source who delivers the persuasive message, (2) the message itself, (3) a target person or audience who receives the message (recipient), and (4) some context in which the message is received. Adopting an information-processing approach to persuasion, the researchers proposed that for a persuasive appeal to work, the message recipient must pay attention to, comprehend, learn, accept, and retain the message and its conclusion in memory. People's degree of engagement in these steps was thought to be determined by various characteristics of the source, message, recipient, and persuasive context. For example, a highly complex message might be too difficult to comprehend and therefore, unable to be learned, accepted, or retained.

Later research showed, however, that persuasion often does not depend on the specific arguments in a message that people learn and remember but, rather, on what unique cognitive (mental) reactions they have in response to those arguments. That is, what matters most when people are actively processing the message is not learning what is in the message but what people think about the message. According to this cognitive response approach, persuasion is more likely when the recipient has favorable thoughts toward the message and less likely when the recipient's thoughts about the message are unfavorable. For example, two individuals may both learn the same details of a proposal to increase the interstate speed limit and yet have wildly different thoughts (e.g., "I'll be able to get to work faster" versus "It will make driving more dangerous").

## Current Theories

The learning and cognitive response approaches to persuasion focused on attitude change through active, effortful thinking. However, research has also shown that sometimes people are persuaded to change their attitudes when they are not thinking much about the

information in the message. Instead, they base their attitudes on simple associative or heuristic processes that require less cognitive effort. Incorporating these different ideas, Richard Petty and John Cacioppo's elaboration likelihood model (ELM) and Shelly Chaiken's heuristic-systematic model (HSM) are two similar theories introduced in the 1980s that propose that both effortful and non-effortful processes can produce attitude change in different situations.

According to these models, when people are motivated and able to evaluate all the information relevant to the message's position (high elaboration), they will follow the central or systematic route to persuasion. This corresponds to the cognitive response approach, whereby people's favorable or unfavorable thoughts about the message and their confidence in them determine the degree of attitude change. In contrast, when people are not thinking carefully about the merits of the message (low elaboration), they can still be influenced by processes requiring less cognitive effort. For example, people can rely on mental shortcuts (e.g., "The package is impressive—it must be a good toothpaste.") to decide if they agree with or like something. In these cases, people are said to be taking the peripheral or heuristic route to persuasion. In this case, the models claim that individuals will use the central (systematic) route when they are both motivated and able to consider the contents of the message thoughtfully. If for any reason, they are unwilling or unable to engage in effortful thinking, they will follow the peripheral (heuristic) route to persuasion.

Research using the information-processing and cognitive response approaches identified a number of source, message, recipient, and contextual variables that affect persuasion. Nevertheless, it was not clear from those studies exactly when and how each variable would affect attitude change. For example, in some studies a highly credible source enhanced persuasion, but in others the source inhibited persuasion. However, the two different routes to persuasion outlined in the ELM and HSM provide a valuable framework for determining when and how these variables will lead to attitude change. In particular, the ELM holds that any variable within the persuasion setting may play one of several roles. First, when people are not thinking carefully about the message, the variable is processed as a simple cue that influences attitudes by rudimentary association or heuristic processes. Second, when people are thoroughly considering the merits of the message, the variable will be scrutinized

as an argument, bias ongoing processing of the message, or affect confidence in the thoughts generated. Finally, when thinking is not constrained to be high or low by other factors, the variable may affect how much processing occurs by acting as an indicator of whether or not it is worth putting effort into evaluating the message. The multiple roles for variables as explained by the ELM provide the basis for how different source, message, recipient, and context factors affect persuasion.

### Source Variables

The source is the person or entity who delivers the persuasive appeal, and a number of source characteristics have been shown to influence attitude change. Two of the most commonly studied source variables are credibility and attractiveness. Credibility refers to the source's (a) expertise and (b) trustworthiness. An expert source is one who has relevant knowledge or experience regarding the topic of the persuasive message. A trustworthy source is one who lacks ulterior motives and expresses honest opinions based on the information as he or she sees it. You may consider a physician (expert) and your best friend (trustworthy) to be credible sources. Attractiveness refers to how physically or socially appealing and likable the source is. For example, television commercials often use fashion models and charismatic celebrities to get people to like their products. In general (but not always), credible and attractive sources are more persuasive than are noncredible and unattractive sources.

Consistent with the ELM's multiple roles hypothesis, source variables have been shown to influence persuasion in several different ways in different situations. Consider, for example, an advertisement for a brand of shampoo that features an attractive person using the product. People often associate attractiveness with positive feelings, and under low elaboration conditions, when there is little effortful thinking about the message, they may decide that they like the shampoo simply because the source makes them feel good. Under high elaboration conditions, when thinking is extensive, people may use the attractiveness of the source as evidence that the product gives them beautiful hair. Or, the source might bias their thinking so that positive thoughts selectively come to mind. Or, they might have more confidence in the thoughts they have if they think that attractive sources know what they are talking about. And if people are not sure how

much to think about the message, the beauty of the source may induce them to pay more attention to the advertisement and its message. This would increase persuasion if what the source says is compelling, but if the message is not very compelling, thinking more about it could lead to less persuasion. Other source variables affect persuasion by the same mechanisms.

Researchers have also documented a delayed persuasion phenomenon that frequently involves source variables. Generally, the effect of an initially compelling persuasive appeal decreases over time as information about the message decays in memory. However, it has been shown that messages associated with a cue that discounts or weakens the initial impact of a message containing strong arguments, such as a noncredible or untrustworthy source, may not change attitudes initially but can lead to persuasion at later. This is called the *sleeper effect*. It happens because the discounting cue decays in memory faster than do thoughts about the message itself, which allows the message to affect attitudes free from the influence of the discounting cue.

### Message Variables

The message refers to all aspects of the persuasive appeal itself such as its length, complexity, language, and so forth. One of the central characteristics of the message is the quality of the arguments it contains. The effect of argument quality on persuasion depends on how much the recipient is thinking about the message. When people are unwilling or unable to effortfully process the message, they are influenced by peripheral cues or heuristics rather than by their analysis of the strength or weakness of the evidence presented. Thus, under low processing conditions, a weak message may be persuasive if it is paired with certain factors, such as a credible source. In contrast, when people are motivated and able to think carefully about the message, they will base their attitudes on the analysis of the merits of the evidence. Thus, under high processing conditions, a weak message will be low in persuasiveness even in the presence of a highly credible or likable source. Self-generated arguments (in role-playing, for example) are especially strong because individuals tend to be less resistant to their own thoughts and ideas.

When thinking is high, the message generally becomes more persuasive as argument strength increases. However, if people feel too pressured to

change their attitudes, they might respond unfavorably to the message despite the strength of the reasons for change. Also, fear appeals (such as those designed to curb unhealthy behaviors) that are too anxiety arousing can lead people to defensively avoid thinking about the message. In fact, research has shown that fear appeals are most successful when the message is personally relevant, the fear aroused is moderate, and a clear, attainable solution to the problem is presented.

As with source variables, the ELM's multiple roles hypothesis holds that message variables can influence persuasion in several different ways. For example, messages that have been tailored to match the basis of the recipient's attitude are generally more persuasive than messages that mismatch. For example, religious types are more persuaded by messages framed in a religious manner. Also, attitudes based on feelings or affect tend to be more influenced by affectively based messages, whereas attitudes based on thoughts and cognitions tend to be affected more by cognitively based messages. How does matching work? Under low processing conditions, matching may lead to persuasion through a heuristic that messages that match are good. Under high processing conditions, however, matching positively biases processing of the message. That is, strong arguments that match elicit more favorable thoughts than do arguments that mismatch. When the amount of thinking is not constrained to be either high or low, matching increases scrutiny of the message, which leads to persuasion if the arguments in the message are compelling. However, if a matched message is not strong enough to overcome the original attitude, a mismatched message that directs recipients to think about the attitude object in a new way may be more persuasive. Other message variables influence persuasion in a similar manner.

### Recipient Variables

The recipient is the target person or audience who receives the persuasive message. As with the source and message, a number of recipient characteristics have been found to influence attitude change. Many of these recipient factors have been shown to follow the multiple roles hypothesis of the ELM and can affect persuasion in several different ways. For example, when effortful thinking is low, a person's mood serves as a simple peripheral cue ("I feel good, so I must agree with the message"). When effortful thinking is

high, however, mood has been shown to serve in other roles. For example, under high thinking conditions, mood has biased the recipient's thoughts. That is, positive mood facilitates the retrieval of other positive thoughts or inhibits the retrieval of negative thoughts. Thinking more positive thoughts will then lead to more favorable attitudes. Under high thinking conditions, a person's mood has also been analyzed as an argument and affected the confidence in people's thoughts. When the amount of thinking was not constrained to be high or low, mood influenced the amount of processing. Specifically, people in positive moods tend not to engage in effortful thinking, presumably because they want to maintain their good moods. However, those in positive moods will think carefully about a message if it is expected to advocate something pleasant. People in negative moods have been shown to engage in effortful processing of the message, regardless of whether it is expected to be pleasant or unpleasant. One explanation for this is that people in bad moods are in a problem-solving frame of mind, and thinking is associated with problem solving.

Some recipient variables influence persuasion by affecting people's motivation to process the message thoughtfully. Need for cognition is an individual difference that refers to how much people engage in and enjoy thinking. Those high in need for cognition tend to like thinking and seek out tasks and activities that are cognitively engaging. In general, these individuals are more likely to carefully consider the merits of the message even when it is not personally relevant. As such, they will base their attitudes on the strength of the evidence. Those low in need for cognition, however, do not enjoy thinking as much and tend to avoid tasks that require extensive thinking. Consequently, they are more likely to form their attitudes based on simple associations and heuristics rather than on effortful assessments of the evidence. Those low in need for cognition can be motivated to process the message carefully, but they require greater incentive to do so.

### Context Variables

Contextual factors such as the manner and circumstances in which the message is given can also influence persuasion. That is, *how* the message is presented can be as important as *what* is presented. For example, a persuasive appeal that is introduced in

a written format (e.g., in a newspaper) is generally easier to process than is one in an audio format (e.g., on radio) because people can slow the pace of their reading or reread to make sure they understand the arguments. If people are distracted by some variable (e.g., loud noise in the room), they may be unable to think critically about the message and will instead follow the peripheral route to persuasion. In addition, merely associating the message with something positive (e.g., a nice meal) or simply repeating it several times can be used to make the attitude object seem more positive with little or no effortful thinking.

### Attitude Strength and Persuasion

As just described, there are a number of ways that source, message, recipient, and context variables can lead to persuasion. Although there are many avenues to attitude change, not all produce equally impactful attitudes. Regardless of the influencing variable, persuasion through effortful (central route) processing generally results in stronger, more durable, and longer-lasting attitudes than does persuasion through less effortful (peripheral route) processing.

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*See also* Attitude Change; Attitudes; Elaboration Likelihood Model; Influence; Metacognition; Need for Cognition; Reactance

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## PHENOMENAL SELF

### Definition

The phenomenal self reflects information about one-self that is in a person's awareness at the present time. This salient self-knowledge influences people's thoughts, emotions, and behaviors. The phenomenal self at any given moment is only a portion of all of the self-relevant information an individual has stored in memory. The reason for this is the amount of knowledge that people have about themselves is so vast that it is impossible and impractical for everything that one knows about himself or herself to be in awareness at one time. Thus, the phenomenal self represents that subset of self-knowledge—including beliefs, values, attitudes, self-ascribed traits, feelings of self-worth, autobiographical memories, interpersonal relationship knowledge, and goals and plans—that is currently in consciousness. The concept also recognizes the possibility that on occasion the phenomenal self is not part of one's immediate experience, that is to say, sometimes people are not self-aware. Related constructs in social psychology include terms such as *working self-concept*, *spontaneous self-concept*, *relational self*, and *possible selves*, which are similar to the phenomenal self in that they imply that the content of self-awareness is limited and changes across situation and time.

### Background

The self is one of the central constructs in personality and social psychology and has generated a great amount of research. The widely accepted view of the self is that it is a set of linked memories that include people's knowledge about who they are, their values, preferences, goals, past experiences, and self-ascribed dispositions and traits. When in awareness, these memories serve as guides for behavior. For example, a person who is made self-aware by being placed before a mirror is more likely to behave in ways that are consistent with his or her traits than if he or she were not self-aware.

A survey of the vast amount of research on the self provides two contradictory pictures. One view is that the self is stable and consistent across time and situations. This view is supported by research that demonstrates that the self is a complex but highly integrated

mental representation or set of memories. Moreover, people are motivated to maintain stable, consistent knowledge of who they are through their interactions with others as well as their tendencies to filter and distort information that would challenge their self-conceptions. The second view is that the self is somewhat in flux and changes subtly across time and situations. This view is supported by research that finds even minor changes in context can have pronounced effects on how people think about themselves. For example, asking people to present themselves to another individual as competent or extraverted versus incompetent or introverted, leads to changes in how people think about themselves and behave toward others in terms of competence or introversion–extraversion. This finding has been termed the *carryover* effect in that it reflects the carryover or influence of public, social behavior on people’s private views of self.

The phenomenal self implies a view of self that allows the self to be stable in general while fluctuating in response to changes in social context, behavior, motivations, and moods. If available self-knowledge is too vast to fit into consciousness at one time, then the phenomenal self represents a summary statement of self-knowledge that is currently accessible from the potentially vast array of available self-knowledge stored in memory. Social context and current moods and motivations are like a spotlight on the self that illuminates certain pieces of information and makes them more accessible and in awareness than are other pieces of information. As contexts, moods, and motivations change, the spotlight shifts and different information is illuminated and attended to. In technical terms, context, mood, and motivation can lead the individual to a biased scanning of self-knowledge so that relevant information is in awareness while less pertinent information remains outside of awareness. Thus, contexts, moods, and motivations produce moment-to-moment shifts in the phenomenal self, but the underlying available self-knowledge is believed to be relatively stable.

### Implications

The demonstration of contextual and motivational influences on shifts in the phenomenal self has relevance to issues such as self-concept change. On the surface, these momentary changes in the phenomenal self seem to be just that, momentary, with no long-term significance for the self. A shift in one direction—for

example, spending the day alone at the beach and thinking of oneself as somewhat introverted—will be replaced by new self-views of extraversion after attending a party that evening. Exceptions may lead to more permanent changes in the self. For example, one study reported that actors’ self-concepts took the qualities of the characters they portrayed and that these changes persisted 1 month after the close of the play. This finding suggests that repeated exposure to a situation that focuses one on specific aspects of the self will cause those aspects of the self to be more chronically prominent or salient in the phenomenal self. Other findings indicate that momentary shifts in the phenomenal self can influence the impressions that others have of the individual and can lead them to interact with the person based on these impressions. Thus, if because of a momentary shift in the phenomenal self others come to view you as more extraverted than you normally view yourself, they will treat you as if you are an extraverted person and repeated interaction with these people can change the self. Finally, sometimes the context or social pressure induces people to behave in ways that are inconsistent with the self. If people believe that they freely choose to act in this self-contradictory way, they will be motivated to change their self-concept to reduce the inconsistency. In this way, new information about the self becomes available for inclusion in the phenomenal self.

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*See also* Self; Self-Awareness; Self-Concept

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## PLACEBO EFFECT

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### Definition

A *placebo* is a medical term for a drug that has no active ingredient. Biologically, it doesn’t do anything, but the patient might mistakenly believe it is a powerful medicine. In fact, in bygone eras, some people who

took snake oil and other medically useless substances did get better, partly because they believed that these substances would cure them. The phrase *placebo effect* refers to a person's response to a substance only as the result of the expectation of such a response. The response is called a placebo effect when the substance is known not to induce any response, but a consistent response is found. Because of the placebo effect, people may experience or perceive the effects of medication, such as pain relief or psychotropic effects, even when the "medication" given to them is merely an inert dose that the patient believes to be medicinal (i.e., a pill or serum with no reagent). Placebo effects are one category of expectation effects, though not all expectancy effects are placebo effects because people may expect any outcome for any reason, whether or not they have been given a placebo.

### History and Modern Usage

The word *placebo*, in Vulgate Latin, referred to pleasing or satisfying some need or desire. Adopted by the medical community, the term referred to a "drug" given to satisfy a patient's desire for a drug, without giving the patient the actual drug. Because many medications may have negative side effects, doctors began prescribing pills with no medicinal content, informing patients that the pills were indeed the drug they sought. In this manner, patients were satisfied without being exposed to unnecessary, potentially dangerous drugs. These pills were often made out of sugar, and for this reason placebos are often referred to as sugar pills.

Doctors found, however, that some patients who were given these inert pills responded to the treatments, reporting that their symptoms had improved or ceased! Because the "medications" prescribed could not be lauded for the improvements, psychological expectations were used to explain the patients' responses, and still are. People have shown placebo effects for medications expected to relieve pain, prevent heart attacks, heal injuries, and reduce symptoms for depression. Though placebo effects are rarely as effective as actual medication, it is nonetheless impressive that people feel and exhibit responses to nothing more than their expectations.

Today, medical researchers take special care to test for placebo effects by using "double blind" experiments: giving all subjects pills that appear identical, but ensuring that some subjects receive the real drug

while others receive a placebo. When neither the subject nor the provider knows whether the subject is getting a real pill or a placebo, all subjects have the same expectations. As such, differences in outcome between subjects who receive real medication and subjects who do not cannot be caused by differences in expectation. Comparing these two groups to subjects in a third "control" condition, in which subjects have been given no treatment (not even a sugar pill) nor told to expect any results, allows researchers to test whether there is a placebo effect present.

Some theorists suggest that placebo effects are physiological responses induced by the placebo. Others hypothesize that motivations (e.g., to please a doctor), or simply expectations alone may cause placebo effects.

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*See also* Demand Characteristics; Expectancy Effects; Expectations

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## PLANNED BEHAVIOR THEORY

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*See* THEORY OF PLANNED BEHAVIOR

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## PLANNING FALLACY

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### Definition

The planning fallacy refers to a specific form of optimistic bias wherein people underestimate the time that it will take to complete an upcoming task even though they are fully aware that similar tasks have taken longer in the past. An intriguing aspect of this phenomenon is that people simultaneously hold both optimistic beliefs (concerning the specific future task) as well as more realistic beliefs (concerning relevant past experiences). When it comes to planning the future, people can know the past and yet be doomed to repeat it.

The tendency to underestimate task completion times has important practical implications. Governments, businesses, and individuals all spend a considerable amount of time, money, and effort trying to forecast how long projects will take to complete. In daily life, accurate predictions allow individuals to plan effectively and coordinate their schedules with those of friends, family members, and coworkers. Unrealistic completion estimates can have serious economic, personal, and social costs and thus merit research attention.

### Evidence and Causes

The most direct evidence for the planning fallacy comes from studies in which people predict how long an upcoming project will take to complete, report completion times for similar projects in the past, and subsequently carry out the project. For example, university students reported that they typically completed their writing assignments about a day before the due date, but predicted that they would complete their current summer essay more than a week before it was due. They tended to finish the essay, as usual, about a day before the deadline. The tendency to underestimate completion times has been observed for a wide variety of activities ranging from daily household chores to large-scale industrial projects.

Why would people repeatedly underestimate how long their tasks will take to complete? According to cognitive explanations, the bias results from the kinds of information that people consider. When generating a task-completion prediction, people's natural inclination is to plan out the specific steps that they will take to successfully complete the project. The problem with this approach is that events don't usually unfold exactly as planned. Given the vast number of potential impediments, there is a great likelihood that people will encounter unexpected problems, delays, and interruptions. When people focus narrowly on a plan for successful task completion, they neglect other sources of information—such as past completion times, competing priorities, and factors that may delay their progress—that could lead to more realistic predictions.

This cognitive explanation has been supported by studies in which individuals describe their thoughts while predicting when they will finish an upcoming project. Most descriptions focus on specific future plans whereas very few descriptions mention relevant past experiences or potential problems. In addition,

experimental studies have shown that people who are instructed to develop a detailed future plan for a task make more optimistic predictions than those who are not. These findings imply that people's unrealistic predictions are caused, at least in part, by their tendency to focus narrowly on a plan for successful task completion.

Motivation can also play a role, by guiding the cognitive approach that people take. For example, strong desires to finish tasks early may increase people's focus on future plans and decrease their focus on past experiences, resulting in highly optimistic predictions. The interplay between motivation and cognition was illustrated in a field study. Taxpayers who expected an income tax refund, and were thus strongly motivated to file their tax return early, estimated they would file their return about 10 days earlier on average than did taxpayers who did not expect a refund. In fact, the two groups did not differ in when they filed their returns, which was much later than either group had predicted. Incentives for early task completion appear to increase people's attention to future plans and reduce attention to relevant past experiences—the very pattern of cognitive processes that fuels the planning fallacy.

### Moderating Factors and Strategies

Given the potential costs of unrealistic predictions, researchers have attempted to identify factors that may limit their occurrence. The findings suggest that the bias is remarkably robust. It appears for a wide range of tasks and activities, it generalizes across individual differences in personality and culture, and it appears for group predictions as well as individual predictions. One factor that does appear to have a great influence, however, is whether people's predictions involve their own tasks or those of others. When people make predictions about others' tasks, rather than their own, they are less prone to underestimate completion times. This actor–observer difference makes sense given the cognitive and motivational causes of the planning fallacy. Observers typically do not have access to the wealth of information that actors possess about their future plans and circumstances, making it difficult for observers to generate a detailed future plan. Also, neutral observers do not generally share the same motivations as actors (e.g., to complete the task promptly), and thus may be less inclined to focus selectively on information that

supports an optimistic forecast. Whenever it is important to avoid unrealistic predictions, then, individuals may be well advised to consult with neutral observers.

Researchers have also examined strategies that individual forecasters can use to avoid underestimating their own completion times. One strategy involves linking past experiences with specific plans for an upcoming task. Specifically, before generating a task-completion prediction, forecasters are asked to recall when they typically finish projects, and then to describe a plausible scenario that would result in the upcoming project being done at the usual time. This procedure should prevent people from either ignoring past experiences or denying the relevance of those experiences, and it has been shown to eliminate the usual optimistic bias. Another strategy that can be effective is to break down a multifaceted task into its smaller subcomponents, and consider how long each of the subcomponents will take.

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*See also* Decision Making; Heuristic Processing; Overconfidence

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## PLURALISTIC IGNORANCE

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Pluralistic ignorance occurs when people erroneously infer that they feel differently from their peers, even though they are behaving similarly. As one example, imagine the following scenario: You are sitting in a

large lecture hall listening to an especially complicated lecture. After many minutes of incomprehensible material, the lecturer pauses and asks if there are any questions. No hands go up. You look around the room. Could these people really understand what the lecturer is talking about? You yourself are completely lost. Your fear of looking stupid keeps you from raising your hand, but as you look around the room at your impassive classmates, you interpret their similar behavior differently: You take their failure to raise their hands as a sign that they understand the lecture, that they genuinely have no questions. These different assumptions you make about the causes of your own behavior and the causes of your classmates’ behavior constitute pluralistic ignorance.

Another case of pluralistic ignorance that is familiar to many college students concerns drinking on campus. Alcohol use is prevalent at most colleges and universities. Students drink at weekend parties and sometimes at evening study breaks. Many drink to excess, some on a routine basis. The high visibility of heavy drinking on campus, combined with reluctance by students to show any public signs of concern or disapproval, gives rise to pluralistic ignorance: Students believe that their peers are much more comfortable with this behavior than they themselves feel.

### Social Dynamics

Pluralistic ignorance plays a role in many other dysfunctional social dynamics. In addition to the cases already mentioned, researchers have linked pluralistic ignorance to the failure of bystanders to intervene in emergency situations. Bystanders recognize that their own inaction is driven by uncertainty and fear of doing the wrong thing; however, they think other bystanders are not intervening because these others have concluded that the situation is not an emergency and there is no need to intervene. Pluralistic ignorance also acts as an impediment to the formation of new relationships. Consider the case of Jack and Jill, who secretly harbor romantic interest in each other. Jack does not approach Jill because he fears that she will reject him, and Jill does not approach Jack for the same reason. However, Jack assumes that Jill is not approaching him because she is not interested in him, and Jill makes the same assumption about Jack’s failure to approach her. In this case, pluralistic ignorance, rather than a lack of interest, is keeping Jack and Jill apart. Finally, pluralistic ignorance keeps nurses from

acknowledging the stresses of their jobs, prison guards from showing sympathy for their prisoners, corporate board members from acknowledging their concerns about their firm's corporate strategy, and ordinary citizens from acknowledging concerns about their government's foreign policy. Pluralistic ignorance is a very common dynamic in social life.

### Social Norms

Pluralistic ignorance begins with widespread conformity to social norms—norms that govern appropriate behavior in the classroom, at a party, in a boardroom, or in a hospital; norms that regulate behavior with friends, strangers, or colleagues. Indeed, most social contexts and relationships are characterized by normative expectations for behavior, whether people realize it or not. These norms dictate, for example, that one should show unwavering public support for friends and colleagues, should not challenge people's personal choices, and should appear calm, collected, and in control at all times. Of course, often these behaviors do not reflect how people truly feel. Often people have misgivings about their peers' behavior; often they do not agree with their colleagues' proposals; often they feel uncertain, anxious, and fearful. When discrepancies between norm-driven behavior and private feelings arise, pluralistic ignorance is the result. People know that their own behavior does not reflect their true sentiments, but they assume that other people are acting on what they genuinely feel.

### Consequences

Pluralistic ignorance has been linked to a wide range of deleterious consequences. For example, victims of pluralistic ignorance see themselves as deviant members of their peer group: less knowledgeable than their classmates, more uptight than their peers, less committed than their fellow board members, less competent than their fellow nurses. This can leave them feeling bad about themselves and alienated from the group or institution of which they are a part. In addition, pluralistic ignorance can lead groups to persist in policies and practices that have lost widespread support: This can lead college students to persist in heavy drinking, corporations to persist in failing strategies, and governments to persist in unpopular foreign policies. At the same time, it can prevent groups from taking actions that would be beneficial in the long

run: actions to intervene in an emergency, for example, or to initiate a personal relationship.

Fortunately, pluralistic ignorance can be dispelled, and its negative consequences alleviated, through education. For example, students who learn that support for heavy drinking practices is not as widespread as they thought drink less themselves and feel more comfortable with the decision not to drink. Alcohol intervention programs now routinely employ this strategy to combat problem drinking on campus.

*Deborah A. Prentice*

*See also* Bystander Effect; Conformity; Deviance; Norms, Prescriptive and Descriptive

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## POLARIZATION PROCESSES

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### Definition

Like the North Pole and the South Pole or the opposite ends of a magnet, poles represent extreme end-points, and polarization indicates movement toward those extremes. In psychological terms, polarization processes describe movement in individuals' views toward opposite extremes. For example, imagine a group of individuals that includes both moderate supporters and moderate opponents of abortion, and

imagine they engage in a discussion of the issue. Imagine further that each side then becomes more extreme in its respective support of, or opposition to, abortion. That movement to more extreme positions is said to reflect polarization because each side has moved to a more extreme pole or endpoint on the relevant continuum. In social psychology, polarization processes have been studied in three domains: group decision making, attitudes, and intergroup perception.

### Group Decision Making

Beginning in the 1960s, researchers became interested in how individual judgments could be affected by group discussion. A typical study would present individuals with a number of problems, known as *choice dilemmas*, in which the task was to indicate a preference for one of two possible solutions to each problem. For example, participants would be asked to indicate the minimum probability that a new company will survive before a prospective employee should accept a position with the company rather than retain an existing job. In the typical design, participants would indicate their responses individually and then engage in a conversation about the problem with other members of a group. The group would be asked to render its unanimous joint decision, and then each member would be asked to indicate, once again, his or her personal response.

The standard finding from such research was that a group would reach a joint decision favoring more risk than the average response of its constituent members. For example, imagine that a group included three members, and one of those members indicated initially that there had to be a 5 in 10 chance that the hypothetical company would succeed before the employee should accept the new position. Imagine another group member indicated a response of 3 in 10, whereas the final member responded with 1 in 10. The average response of the three members would then be 3 in 10. However, after discussion, the group might come to a joint decision of 2 in 10, and individual members' personal responses might also gravitate toward the riskier end of the probability continuum. This finding was labeled the "risky shift" because group discussion tended to push individuals to adopt, on average, riskier solutions to choice dilemmas than they initially favored.

Later research, however, suggested that the nature of the particular dilemma determined whether groups

would end up favoring more risk than their average member or, alternatively, would favor more caution. For some choice dilemma items, for example, after group discussion, individuals who had previously expressed mild endorsement of the safe option would end up endorsing an even safer option. Accordingly, instead of the risky shift, the phenomenon became known as *group polarization*, because groups tended to move individual members to adopt positions that were somewhat more extreme than their initial stances. If those initial positions favored risk, then groups would prompt greater endorsement of risk; if instead, a safe option was preferred, then after group discussion, it would be more preferred.

Two primary factors have been cited as responsible for group polarization effects. The first involves the presence of persuasive arguments. Being a member of a group means that there is an opportunity to be exposed to novel arguments regarding an issue—arguments that can help reinforce and strengthen an individual's initial position, producing movement toward the extremes. In addition, social comparison processes can operate in a group, with each member making an effort to demonstrate that he or she endorses the apparent group norm. Such processes can produce a situation in which individuals move to more extreme positions in an attempt to position themselves squarely on the appropriate side of the safe-risk continuum.

### Attitudes

A second domain in which polarization processes have been studied is that of attitudes. Beginning in the 1970s, research on attitude polarization demonstrated that people who were asked to think carefully about a particular attitude that they held ended up endorsing a more extreme version of that attitude.

Related research has suggested that attitudes can become more polarized as a result of a biased search for evidence in support of the initial attitude. For example, in one study, capital punishment opponents and proponents were exposed to written arguments that both supported and refuted some traditional justifications for the death penalty. After being exposed to such mixed evidence, these partisan subjects became more persuaded of the correctness of their initial attitude. This polarization of initial positions appeared to occur because participants engaged in biased interpretation of the relevant evidence, uncritically accepting information that supported their initial positions while

subjecting to harsh scrutiny information that contradicted their initial stances, a phenomenon that has been labeled “biased assimilation.”

### Intergroup Perception

A final domain in which polarization processes have been studied involves intergroup perception, in which, typically, members of opposing groups are asked to make judgments concerning the views of both members of their side and members of the opposite side of some contentious issue. In one study, for example, supporters and opponents of abortion were asked to predict the view that would be espoused by the average pro-choice and the average pro-life member of their respective groups. Members of both groups overestimated the extremity of the average view held by each side, believing that the two groups were farther apart in their views than they actually were, a phenomenon labeled “false polarization.” The implication of these inaccurate perceptions is that disputants who overestimate the degree of difference between the views of each side may consequently miss opportunities to resolve intergroup conflict.

Andrew Ward

*See also* Attitudes; Group Polarization; Outgroup Homogeneity; Risky Shift; Social Comparison

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## POLITICAL PSYCHOLOGY

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### Definition

Political psychology is an interdisciplinary field of study that lies at the crossroads of many fields of research, including psychology, political science, communication, economics, and sociology. Although the field is very broad, much of its research deals with

using principles and theories from both psychology and political science to understand and predict people’s political opinions, thoughts, feelings, and behaviors.

Political thought and behavior play an important role in determining leaders and how leaders will think and behave. Political psychology attempts to apply scientific principles to better understand these processes. Although this entry presents only the smallest of glimpses into a very limited sample of what political psychology has to offer, it is hoped that the reader will gain an insight into the topics that political psychologists explore and the tools with which they conduct their research.

### Areas of Research

As suggested by the definition, political psychology is a vast area of study, encompassing research and theory from a wide variety of other academic disciplines. As such, space limitations make it impossible to discuss all or even most of the areas of study. However, much of the field can be distilled into several important subareas.

### Individuals

One area of interest to political psychologists is the prediction and understanding of the political thoughts and behaviors of typical citizens. Much research, for example, has investigated what factors contribute to the choices that people make they vote. Some of the most basic research has investigated the relation between demographics and vote choice, focusing on how, for example, age, race, gender, and household income predict vote choice. Other research has focused on how membership in groups such as political parties, trade unions, and religious organizations can be used to predict vote choice. Still other studies have investigated how a person’s stances on political issues such as abortion, taxes, and welfare can predict the candidates for whom he or she will vote.

But voting is only one example of political behavior. Consider the fact that some citizens immerse themselves in the political world, learning a great deal about candidates for political races, donating time and money to their preferred candidates, and never missing an election. Others, however, seem not to care, remaining ignorant of the political world in which they live, unaware of the candidates running for election

and rarely if ever taking part in the political process. The study of why people do or do not participate in the political process is another individual-level phenomenon that has garnered much research. For example, some research has investigated how a person's demographics predict political participation, learning that, for example, older people, people of higher income, and people of higher education are more likely to participate. Other research has shown that psychological phenomena such as emotions, feelings of threat, or a perception of a personal stake in an issue can lead a person to participate.

Still other research has explored how political campaigns can influence individuals' political thoughts and behaviors. Stephen Ansolabehere and Shanto Iyengar, for example, have studied the effects of attack advertisements on individuals. They argue that such negative messages can make individuals become more extreme in their political ideologies and, at the same time, make them less likely to vote. Other research has investigated how campaigns are influenced by, for example, media coverage of candidates and issues relevant to the campaign, the amount of money spent on the campaigns, and the state of the economy during the campaign.

## Leaders

Whereas some political-psychological research focuses on the typical citizen, other research instead attempts to understand the political leader. Margaret Hermann has argued that to gain insight into what makes a good leader requires understanding several important aspects of the leader and his or her surroundings. The first of these aspects is the context around the leader. For example, one type of leader might be best for a country during years of peace, whereas another type of leader might be best for the same country during wartime. The second aspect is to understand the characteristics and behavioral traits of the leader. For example, Alexander George proposed that some U.S. presidents have shown a formalistic style of leadership in which decisions are made in a highly organized structure, other presidents have shown a competitive style in which power is distributed through conflict and bargaining, and still other presidents have shown a collegial style in which teamwork and interaction are valued. The third of Hermann's aspects is to understand the leaders' constituencies and the relations between

the leader and the constituents. Simply stated, certain groups of people may be best led by certain leaders. Thus, by understanding the context, the leader, and the constituents, one may be able to predict the success or failure of a given leader.

## Intragroup Processes

Many political psychologists focus on groups and, in particular, how groups come to make decisions. Although it seems logical that groups of people would come to make more accurate decisions than they might otherwise make individually, this is often not the case. For example, Irving Janis found evidence that, in certain circumstances, groups can be driven more to come to a consensus that keeps members of the group satisfied than to come to an accurate decision that may offend or anger members of the group. Janis termed this phenomenon *groupthink*, suggesting that many of history's worst decisions can be explained in part by its processes, such as the decision to carry out the Bay of Pigs invasion. In a similar vein, David Myers and Helmut Lamm found evidence that members of groups tend to hold more extreme opinions and make more extreme choices when thinking about and discussing options than when formulating such opinions and choices alone. This phenomenon, called *group polarization*, has also garnered much attention by political psychologists.

## International Relations

Another area of political psychology deals with understanding nations and countries. One area of study on international relations examines what makes international conflict possible. For example, Jim Sidanius and his colleagues have argued that part of the reason that nations go to war is because of social dominance: that those societies who have disproportionately high resources and power want to maintain this social inequality and will go to great lengths—including waging war—to do so. Others, like Urie Bronfenbrenner, have suggested that enemy nations have negatively distorted images of each other and that these false images can lead to mutual aggression and mistrust. Still other research has investigated other aspects of international relations, such as prejudice, treaties, conflict resolution, alliances, and terrorism.

## Methodologies

Because political psychologists attempt to understand myriad political processes at many different levels of analysis, they use a wide range of research techniques to do so.

### Surveys

Often, research devoted to understanding individual-level phenomena is conducted using surveys, a technique in which participants provide their opinions, thoughts, and beliefs about various issues, people, and objects. Some surveys are conducted in a respondent's home in a face-to-face format. Others are conducted by telephone, using random-digit-dialing techniques to ensure proper sampling. Other techniques include mail surveys and surveys conducted online. Political psychologists have made especially extensive use of data from the National Election Study surveys, which have been conducted every 2 years since 1948. Participants in these surveys provide a wealth of data about themselves, including their demographics, their political ideologies, and their thoughts and feelings about various candidates, political issues, political parties, public officials, and more.

### The Experimental Method

To determine causal relations between variables, political psychologists conduct research using the experimental method. Randomly assigning respondents to conditions and manipulating variables allows such hypotheses of causality to be tested. Although surveys are often conducted using the experimental method, political psychologists often conduct elaborate experimental research that collects data in a way that surveys cannot.

### Case Studies

Rather than examining data collected from groups of people like surveys and experiments do, case studies examine one single data point in its naturalistic setting. Thus, instead of learning what a relatively large sample of people think or feel about a particular issue, a case study might examine how decisions made by a person or a group of people during a particular crisis either alleviated or worsened the situation.

## Content Analysis

When conducting content analyses, political psychologists examine archived writings and speeches to understand a political phenomenon. Such content analyses can be useful in, for example, distilling a former president's personality from his state of the union addresses, or understanding the main differences between two political parties on an issue by examining transcripts from relevant debates.

*George Y. Bizer*

*See also* Group Polarization; Groupthink; Leadership; Social Dominance Orientation

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## PORNOGRAPHY

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### Definition

The term *pornography* refers to sexually explicit media that are primarily intended to sexually arouse the consumer. Such media include magazines, the Internet, and films. They have become very common in many societies and are reported to regularly provide huge profits for the producers and distributors of such media.

### Gender Differences

Some of the social scientific research in this area has focused on who are most likely to be the consumers of these media. The findings reveal considerable gender differences in consumption and use of pornography,

although within each gender there are also large differences in consumption. Generally, research has found that males are more likely to be consumers of various types of pornography, although some women also do use and enjoy pornography. Men have been found to be much more likely to use pornography on their own, often as a stimulant to masturbation. A considerable number of men and women report using pornography in the context of a relationship where such media are used together by a couple.

Men generally are more likely to be attracted to pornography and to use it more regularly, and they generally have more favorable attitudes, and react with less negative affect, to it. This is particularly true for portrayals featuring nudity of the opposite sex, often in various sexual poses, and portrayals of sexual acts devoid of relationship context. In contrast, men are less likely than women to consume sexually explicit media that emphasize sexual communion and romance.

### Effects

The question of what impact exposure to such pornographic materials has on consumers has been debated and researched from many vantage points. Although social psychological research has been designed to be objective, it appears that the types of hypotheses tested have often been guided by ideological/political perspectives on this topic. For example, some researchers, guided by assertions made by conservative thinkers, have tested whether exposure to pornography can affect attitudes about family life and commitment to long-term relationships. Other researchers, guided by concerns of feminists, have tested whether pornography exposure affects attitudes and behaviors toward women, particularly in areas such as violence against women.

Social scientific research on pornography's effects includes primarily three types of studies using differing methodologies. Each type of method has certain advantages and disadvantages. First are studies that seek to find out if there may be causal effects of exposure to different types of pornography. Typically, such studies have randomly assigned participants to different conditions. The researchers then manipulated how much pornography, if any, the participants in the various conditions were exposed to. These studies have usually been conducted in laboratory environments, although some relevant experiments have also been

successfully completed in less artificial environments. The value of such research is that it can determine cause and effect with confidence because participants in the various conditions may be considered equal before their pornography exposure because of random assignment to conditions. Any differences found after different pornography exposure may be attributed to the differences in exposure content and amounts. The second type of research has not involved any manipulation by the researchers of amount of pornography consumption. Instead, people have been surveyed regarding how much and what type of pornography they have been exposed to in their daily lives, and such differences have been correlated with differences in their attitudes and behaviors. Although it is more difficult to identify causal connections in this type of research, there is the advantage of studying what people actually are like in their usual environments. The third type of research has examined in various cultures how much pornography is being consumed in the society at large and changes in such consumption over time. Such changes have then been correlated with other changes in the society, such as changes in sexual crimes. Although such research has provided an interesting window regarding varied cultures, one problem is that it is difficult to relate changes at the larger societal level to individual behavior. Also, there are typically many other changes that have occurred in a society at the same time as changes in pornography consumption have been happening.

### Implications

Most of the research using these three types of methodologies has involved male participants, who, as noted earlier, are more frequent consumers of pornography than females are. Although differences have emerged from the various types of studies, some general conclusions seem justified. Overall, it seems that no simple generalizations are justified but that the effects depend largely on the type of person who consumes pornography as well as the content of the material the person uses. In the area of aggression against women, the research suggests that if a man already has relatively strong tendencies to be aggressive toward women, then heavy pornography consumption may increase his aggressive tendencies. This seems to be particularly likely if the type of pornography he is sexually aroused by includes violent content. Conversely,

if a man has little risk for being aggressive toward women, then whether or not he consumes pornography does not appear to significantly affect his risk for being aggressive toward women. Moreover, the research suggests that many individuals in some cultures use pornography on a fairly regular basis and, at least in their own self-perceptions, report generally positive and little negative effects. Therefore, the overall findings suggest that there may be considerable variations among individuals within a culture in how pornography affects them. Similarly, differing environments in various cultures, such as the degree of hostility versus trust between males and female and the availability of sex education, may create major individual differences in the role and impact of pornographic stimuli on members of differing societies.

*Neil Malamuth*

*See also* Aggression; Gender Differences; Intimate Partner Violence; Media Violence and Aggression; Sex Drive; Sexual Desire

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## POSITIVE AFFECT

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### Definition

Positive affect is the pleasant state that can be induced by small things that happen in everyday life. It is one of the most exciting topics currently under investigation in the psychological research literature. The findings suggest that there is the potential for a large impact of positive affect on social behavior and interpersonal processes, as well as on thinking, problem

solving, and decision making. In addition, the topic has been studied in naturalistic ways and in a diverse range of realistic settings, and results of these studies suggest that positive affect may be important in many contexts of everyday life, from classrooms to boardrooms to physicians' offices. The field itself is still young enough that there remain some controversies about how to understand what the processes are that are fostered by positive affect, which should be inviting to researchers not already in the field.

The noun *affect*, as used in psychology, refers to feelings or emotions, and differs from the noun *effect*, which refers to the result of some action or circumstance. Positive affect, then, refers to pleasant feelings or emotions. From one perspective, *positive affect* is the most general term for pleasant feeling states, encompassing all the different types of positive feelings and all of their effects—neurophysiological, cognitive, motivational, behavioral, and interpersonal (however, in medical and related fields, the term is reserved for only the conscious feeling state). It can include good moods, pleasant emotions (e.g., joy, calmness, love), mild happy feelings, and their consequences.

### Further Distinctions

As affect is studied in the psychology research literature, however, some finer distinctions are often made. Thus, *positive affect* usually refers to a mild happy or pleasant general feeling state, induced in some simple way that people may readily experience in daily life. Sometimes specific positive emotions, such as elation, joy, or love, are included under the general heading, “positive affect,” but some researchers make a distinction between positive emotions such as love, on the one hand, and positive affect, a more general state, on the other. Some people working on the topic use the term *mood* to refer to this general state. However, some researchers avoid using the term *mood* because that term can carry unwanted connotations such as moodiness, which are not what the researchers in this field study.

Some researchers who study positive affect intend to distinguish between positive affect or mood and positive emotions. A distinction has been proposed between these terms, just for convenience, that suggests that *affect* or *mood* refers to a general state, perhaps a background feeling state, whereas specific emotions refer to more focused feelings. In addition, emotions also seem to be feelings that are targeted at a particular referent person, group, or thing, perhaps

the source of the emotion, and they may have specific behaviors associated with them. For example, if someone makes you angry, you become angry *at that person* and you may interrupt what you are doing to say something to that person (or worse). Or if something like a big, barking dog frightens you, you feel afraid *of the dog* and run away from *it*, interrupting your walk down the lane. Notice that these examples are easier to find in the negative domain than in the positive, but perhaps there are focused positive emotions as well, such as love. Affect, in contrast, has been proposed to be less focused and a more generalized feeling state that can occur as a background state even while the person experiencing it can continue to work on some task or play some game or interact with other people. Affect may influence the way the task is done, but the task can be completed.

However, this distinction between affect and emotions is difficult to maintain, and may just come down to degree, or context, because one can think of emotions that are mild and do not interrupt ongoing behavior, or instances where one suppresses the impetus to react to the emotion and goes on with the task one is doing. One can work on a problem while loving someone (positive emotion) or while angry at someone (negative emotion). The usefulness of the distinction is only a practical one, in that it defines not a fundamental difference between affect and emotion, but a situation in which the influence of feeling states on other tasks or processes can be observed.

Positive affect has been defined in this entry as the pleasant state that can be induced by small things that happen in everyday life, so it may be helpful to mention some of the ways in which it can be induced, to understand the state more fully. In research studies, positive affect has been induced by events such as having research participants receive a useful, inexpensive free sample (worth under \$1.00), find a dime or quarter in the coin-return of a public telephone that they happened to use in a shopping mall, be offered a cookie while studying in a library, be told that they succeeded (outperformed the average) on a simple, perceptual-motor task, view 5 minutes of a non-aggressive, nonsexual comedy film, or view a few pleasant slides, to mention only a few of the techniques that have been used successfully.

With regard to defining and understanding positive affect, it is important to note that measures of stable personality characteristics thought to reflect people's capacity for happiness or general, underlying tendency to be happy are not mentioned, nor are people's

reports of overall well-being, in response to direct questions about it. Positive affect refers to ongoing feelings rather than stable underlying positive dispositions or traits; sometimes, as one might expect, some stable dispositions may also reflect or produce ongoing positive feelings, but in actuality they may not relate to current feelings at any given time. Although it is possible that affective dispositions to be happy or optimistic, for example, may play a role similar to that of induced positive affect, it is important to remember that most of the research on positive affect involves induction of affect among individuals who are randomly assigned to the affect conditions. This means that, without considering the person's underlying affective disposition (or their underlying tendencies to behave in a given way or engage in certain thought processes), the mild interventions such as those described previously have been found to produce the effects described next.

## Effects

The focus in the research on positive affect has been on the effects of current feelings on other processes such as brain activity, problem solving, social interaction, and so forth.

A large body of evidence indicates that positive affect fosters mental flexibility, such as the ability to switch among ideas and include a broader range of ideas in mind at any given time. Often, positive affect helps people see how distinct lines of thought can relate to one another or be brought to bear upon one another. This has been found to result in improved creative problem solving, the ability to come up with innovative solutions to difficult problems, and openness to new information, even information that doesn't fit with one's preconceptions or favorite, old ways of thinking about a given situation or problem. This particular finding—improved creative problem solving and innovation—is one that has also been obtained by researchers studying the effects of the relatively stable dispositions of optimism, and of positive affectivity (a tendency to be positive or upbeat). Induced positive affect has also been shown to result in improved judgment and decision making in some circumstances, especially dangerous or genuinely risky situations, and increased social responsibility, helpfulness to others, and concern with the welfare of others as well as oneself. Also observed to result from positive affect have been an increased tendency to see connections between one's behavior, effort, and performance, on

the one hand, and one's outcomes, on the other, where those connections actually exist (but not where they do not exist, such as in chance situations). These effects produce increased motivation in achievement or work situations as well as an increased ability to show self-control in situations where self-control would be in the person's long-term best interest. These findings have occurred in several applied contexts, including managerial situations, physicians' diagnostic processes, and consumer decision situations. Many researchers have found these effects exciting, because they open a window to understanding ways of increasing problem-solving effectiveness and creativity and improving thought processes and social interaction, responsibility, and self-control (and a pleasant way, at that!).

However, some researchers believe that positive affect takes cognitive capacity and therefore leads people to be impaired in problem solving and to think sloppily rather than carefully and systematically. Others also see positive affect as interfering with careful thought, but because of an absence of motivation to think carefully, rather than because of capacity deficit. A recent view that is related to these has suggested, likewise, that people who are feeling happy are not careful thinkers, but for the reason that they tend to rely on stored information, schemata, and scripts, rather than taking in new knowledge. There are also a few other variants on these themes, but they are all related in that they result in the idea that positive affect leads to superficial and overly hasty, careless, thought processes, compared with those demonstrated by people in whom affect has not been induced. These researchers argue that the creative problem solving and innovation observed in the studies referred to earlier only results because the problem-solving task can be solved without systematic thought. This latter point, however, has never been demonstrated (and without positive affect or a give-away hint about the solution to the problem, the rate of solution to these problems that require innovative thought is very low—about 15%, for example—whereas it is quite substantial in the positive affect conditions—about 65%, for example).

Finally, this research literature indicates that positive and negative affect are neither the same, nor symmetrical opposites, in their effects on thought processes and behavior. One cannot generalize from what one learns about positive affect to assume that the opposite is true of negative affect, or that the two kinds of feeling states produce the same effects—assuming, for example, that all emotion generally

produces the same effect on thinking and behavior. The reasons for this are beyond the scope of this entry, but it is a point worth noting.

## Future Research

The research field on the topic of positive affect is currently a very active one, with scientists working to expand understanding of the range of problems and activities and contexts in which positive affect will have effects, and also working to understand exactly what the processes are that have given rise to the opposing views of its overall impact that still exist in the field. The topic is truly an exciting area for continued research, with many avenues for additional research still to be explored.

Alice Isen

*See also* Affect; Broaden-and-Build Theory of Positive Emotions; Emotion; Happiness

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## POSITIVE ILLUSIONS

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### Definition

Positive illusions refers to a set of three related beliefs that characterize the way people think about (1) themselves, (2) their ability to control environmental events, and (3) their future. Instead of being evenhanded or balanced between the good and the bad, people are unrealistically positive: They believe they have many more positive than negative personal qualities, they exaggerate their abilities to bring about desired outcomes, and they are overly optimistic about their futures.

If not too extreme, these positive illusions promote psychological well-being and psychological functioning.

## History and Background

Accurate self-views were once thought to be an essential feature of psychological well-being. It is easy to see why. People who harbor delusions of grandeur or believe they control the moon and stars are not paragons of mental health. Whether accuracy is best, however, is another matter. It is entirely possible that excessively positive self-views are detrimental, but mildly positive ones are beneficial.

One way to address this issue is to ask, “Do most people know what they are really like?” For example, suppose we randomly sample a group of people and ask them, “Compared with most other people, how intelligent are you?” Logically, most of the people in our sample should say they are as intelligent as most other people, with the rest equally split between saying they are less intelligent and more intelligent than most other people. This does not occur. Instead, most people say they are more intelligent than most other people. Furthermore, this effect occurs for a wide variety of personality traits and abilities. People believe they are more competent, flexible, and intelligent than others; drive better than others; are more caring, adaptive, and fairer than others; are happier and have better interpersonal relationships than others; and are more deserving of good fortune and good health. They also believe their judgments are less distorted by greed, self-aggrandizement, or personal gain than are other people’s judgments and that their opinions are grounded in facts, but other people’s opinions are driven by ideology. The bias even extends to friends, family, loved ones, and fellow group members, and is characteristic of people from a variety of cultures.

People also exaggerate their abilities to bring about desired outcomes. They readily credit themselves when things go well, but deny responsibility when things go awry. Together, these beliefs give rise to unrealistic optimism. Believing they are “good” and “powerful,” leads people to believe their futures will be brighter than base rate data justify. For example, even though the current divorce rate in industrialized countries is approximately 50%, roughly three-quarters of newlyweds believe they will never divorce.

The prevalence of illusions does not mean that people are wildly inaccurate. In most cases, the degree of distortion is modest, resulting in a self-portrait that is just a bit too good to be true. Moreover, positive

illusions do take reality into account. For example, although smokers think they are less likely to get cancer than are most other smokers, they readily acknowledge they are at greater risk than are nonsmokers.

## Benefits

If not too excessive, positive illusions can be beneficial. These benefits fall into four areas. First, positive illusions are linked with subjective well-being. People who hold positive self-views are happier and more content than are those who are more realistic. Second, under some circumstances, positive self-views can also beget success. People who are confident in their abilities often perform better at achievement-related activities (e.g., exams, sporting contests) than do those who are more modest, even when their confidence is not entirely warranted. These effects are most apparent at tasks of moderate difficulty. Third, positive illusions promote interpersonal relationships. People who view their romantic partners through rose-colored glasses are more satisfied with their relationship and more committed to it than are those who have a more realistic view of their partners’ actual strengths and weaknesses. Finally, positive illusions help people cope with life’s challenges. For example, cancer patients who believe they can prevent the recurrence of cancer enjoy greater health than do those who are realistic, and preoperative patients who are unduly optimistic about their operation’s success fare better than those who more accurately perceive the procedure’s dangers and risks.

These benefits are achieved through a variety of means, but the most important is that positive illusions promote a problem-focused approach to coping. Rather than assuming that all is lost or blithely adopting a “What, me worry?” attitude, people who exhibit positive illusions roll up their sleeves and actively strive to build brighter lives for themselves. In this sense, positive illusions have motivational consequences. Believing that success is well within one’s reach motivates people to work hard to achieve positive outcomes.

## Costs

The many benefits of positive illusions should not blind us to their potential costs. First, positive illusions can lead people to undertake activities for which they are ill-suited. For example, an aspiring dancer may invest years pursuing a career in the arts

without having the requisite talent. Positive illusions can also lead people to make poor economic decisions or engage in behaviors that are detrimental to their well-being. Gamblers, for example, often exaggerate their ability to control events that are heavily influenced by chance, such as roulette. Finally, positive illusions can have interpersonal costs. Although people generally prefer the company of optimistic people, they are not drawn to people who are boastful or narcissistic.

### Importance

Research on positive illusions is important for two reasons. First, it has theoretical implications. Theories of mental health are largely based on what most people do (i.e., what's normative is normal). Evidence that most people possess inaccurate self-knowledge indicates that accuracy is not an essential component of normal psychological functioning. Second, positive illusions have practical implications. The capacity to adapt to life's challenges is one of the most important skills a person can possess. Positive illusions have consistently been shown to play a key role in helping people cope with, and even benefit from, life-threatening illnesses and life-altering tragedies.

*Jonathon D. Brown*

*See also* Coping; Illusion of Control; Marital Satisfaction; Narcissism; Self-Concept; Self-Deception; Self-Enhancement; Self-Serving Bias

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## POSITIVE–NEGATIVE ASYMMETRY

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### Definition

The positive–negative asymmetry refers to two complementary tendencies regarding how people respond to positive and negative events or information. On one hand, there is a tendency for bad events (such as failing a class, being criticized, or experiencing the

loss of a close friend) to have more impact on a person than good events (winning a prize, receiving a compliment, or making a new friend). The greater strength of negative information is most obvious in the area of impression formation, where it is called the negativity effect. Accordingly, when people form an impression of another person, they put greater weight on the person's bad behaviors (such as hitting a child for no reason) than on the person's good behavior (such as rescuing a family from a burning house). On the other hand, most of the experiences people have in everyday life are pleasant. As a result, there is a tendency for people to expect positive outcomes and good experiences from other people. In part, this very expectation may lead people to be surprised by and strongly affected by the bad things that occur in life.

### Social Domains Where Bad Is Stronger Than Good

Bad events seem to carry more power than do good ones in a variety of domains. To appreciate the negativity effect in impression formation, try this thought experiment. Imagine a person who is very immoral, someone who has done horrendous things. Would you be surprised to learn that this villain did something very positive such as talked a friend out of suicide? Most people would find this mildly surprising. Now imagine a very moral person. Would you be surprised to learn that this person sold narcotics to neighborhood children? Most people would be quite surprised to hear that a very moral person did something so harmful. This thought experiment demonstrates the power of negative information in the impression. A bad act is capable of greatly altering one's impression of a person, whereas a person's good acts seem to count for less in the impression.

The greater weight of negative or immoral behavior also affects the attribution process. Attribution research examines how one's impressions of a person are influenced by both the person's behavior and the situational forces that surround the behavior. For example, if a coworker makes a donation to a charity when asked by the boss, you may discount the possibility that the coworker has a helpful trait. But a person's immoral behavior carries greater weight and may override this discounting tendency. For example, if a coworker is paid handsomely by the boss to swindle poor people, you are likely to see the coworker as

immoral. Notice that the presence of the (situational) reward in this situation has little effect on your impression. In summary, when people hear about moral behavior, they take the situation into account when judging the person, but when they hear about a person's immoral behavior, they are likely to judge the person to be immoral, regardless of the situation. People's inferences about a person's underlying motives may help explain this asymmetry. For example, a person who commits a harmful act (such as swindling poor people) for money is probably motivated by selfishness, a motive that is entirely consistent with an immoral trait.

Research on impression formation and attribution focuses on people's reaction to strangers. What about close relationships? Are people more affected by the irritating behaviors of a romantic partner or spouse than by a partner's positive behaviors? Research by John Gottman suggests that negative events count more in this domain as well. The researcher videotaped couples as they discussed conflicts in their relationships. Although couples demonstrated a variety of styles of conflict resolution, negative behaviors by the partners were more strongly related to the couple's relationship satisfaction than were positive behaviors. Positive behaviors such as politeness, compliments, and gifts did help the relationship in minor ways. But negative behaviors such as insults and criticism were more decisive in determining whether the couple stayed together. In fact, Gottman reached the startling conclusion that a healthy relationship requires five times more good interactions than bad interactions.

### **Why Do Bad Things Have Greater Impact?**

The broadest explanation for the negativity effect is that it has survival value. To appreciate this idea, think of the world as if it is a field filled with mushrooms and poisonous toadstools. A mushroom lover must be exceedingly careful when picking fungi for Sunday's dinner. The tastiest mushroom brings only a moment of pleasure. In contrast, eating the wrong toadstool can lead to an untimely and painful death. More generally, people's experiences with positive events (e.g., winning the lottery, sexual orgasm) may have less impact on their survival than their experiences with negative events (particularly those that risk bodily harm). As a result, it is adaptive for people to place greater weight on bad events than on good events.

A variety of specific psychological mechanisms may be involved in producing this negativity effect, including perceptual, cognitive, and affective factors. Bad events tend to receive more attention and more thorough processing than good events do. For example, when people are shown an array of human faces with different expressions, threatening faces are detected more quickly and accurately. This tendency to focus first on the negative may be relatively automatic. In a series of studies based on the Stroop paradigm, participants were shown personality trait adjectives and asked to name the color of ink in which the word was printed. Participants were slower to name the color when the word concerned a negative trait (e.g., sadistic) than a positive trait (e.g., honest). It appears that traits with negative meaning are distracting and slow down the color-naming process. Moreover, the participants in these studies were not deliberately focusing on the trait adjectives and, consequently, were probably unaware of the biasing impact of the negative words.

Perhaps the most elaborate theoretical explanations for the negativity effect involve cognitive mechanisms. For example, in seeking to explain the negativity effect in impressions and attributions, Glenn D. Reeder and Marilyn Brewer described the kinds of behavior that people typically expect from people with different types of traits. These trait-behavior relations often take an asymmetrical form. Specifically, people typically expect a person with a moral trait to emit moral behavior (e.g., helping people in need and giving generously to charity), but not immoral behavior (e.g., hurting other people). In contrast, people expect that a person with an immoral trait will emit both immoral behavior and moral behavior. It follows from these trait-behavior expectations, therefore, that immoral behavior will be more informative (or diagnostic) in the impression process because it must have been performed by an immoral person. Yet moral behavior is less informative because it could have been performed by either a moral person or an immoral person.

Finally, some research suggests that people's evaluation of positive and negative events are governed by separate affective (or feeling) systems. For example, a person may feel ambivalent toward a romantic partner or family member, such that he or she feels both strong positive feelings and strong negative feelings at the same time. In general, however, it appears that the negative system evokes stronger and more rapid responses.

## Exceptions to the Rule That Bad Is Stronger Than Good

Although bad seems to outweigh good when the two are juxtaposed, people are generally optimistic about the future, expect the best from other people, and hold pleasant memories of the past. For most people, life is generally a positive experience. Indeed, the preponderance of positive events in everyday life may contribute to the fact that negative events stand out (or are “figural” to the “ground” of positive events). Given the novelty of negative events, it stands to reason that people would pay more attention to them. Thus, people’s tendency to expect the best in life is not contradicted by their tendency to react more strongly to the worst in life.

Shelley Taylor described two complementary psychological processes that can account both for people’s optimism and their tendency toward the negativity effect. Bad or threatening events create a problem that requires a quick response. In contrast, good or desirable events can be ignored with little penalty. Consequently, negative events cause a quick and intense mobilization to meet the threat. Once the threat is over, a second psychological process of minimization begins to take effect. This second process helps people repair the trauma of the earlier process by directing their attention toward the positive aspects of experience.

*Glenn D. Reeder*

*See also* Bad Is Stronger Than Good; Discounting, in Attribution; Person Perception

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## POSITIVE PSYCHOLOGY

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### Definition

Positive psychology is the study of the processes and conditions that contribute to optimal functioning and flourishing in human beings. It is the study of positive experiences, positive traits, and positive communities. Examples of topics in positive psychology include the study of positive emotions, such as hope, curiosity, and love; the study of individual strengths, such as wisdom and courage; and the study of positive practices in institutions, such as school policies that foster students’ intrinsic motivation to learn. Although interest in such topics has been around since the beginning days of psychology, the term *positive psychology* is quite recent and was coined as part of a concentrated effort by psychologists who saw a need to highlight these relatively neglected areas of research.

### History and Background

When *positive psychology* is defined as the study of the ways people flourish and the conditions that contribute to their optimal functioning, it is clear that the concept of positive psychology (if not the term) has existed since the early 1900s and the days of Williams James, who was interested in what he called *healthy mindedness*. Other well-known psychologists interested in topics now classified under the heading of positive psychology included Gordon Allport, who wrote about positive human characteristics, and Abraham Maslow, who asserted that health was not merely the absence of disease. Despite these early seeds of interests in positive topics, in the latter half of the 20th century, psychological research largely focused on disorder, dysfunction, and damage, while the study of the psychological aspects of what makes life worth living receded into the background.

The recent surge in interest in positive psychology was initially a response to clinical psychology’s focus on mental illness and the lack of work on healthy mental processes. However, the field of social psychology also showed the same imbalance—focusing the lion’s share of effort on human failures, biases,

and other ways situations and people can deter or damage themselves and those around them. For example, there is an abundance of studies on emotions such as fear, shame, guilt, anger, disgust, and anxiety, but only few on emotions such as joy, gratitude, and contentment. In the rapidly growing field of close relationships, a disproportionate number of studies have examined how couples weather, or fail to weather, bad relationship behavior such as criticisms and infidelities. But psychologists know little about the how good relationship behaviors such as compliments and displays of affection affect both the individual and the relationship itself. Similarly, there have been hundreds of studies on how couples, families, and friends engage in and manage conflict, but only a few on how they have fun and laugh with one another. In the areas of social cognition and intergroup behavior, social psychologists have focused much of their attention on topics such as biases and prejudice, and much less of their attention on accuracy and tolerance. Several notable exceptions to the bias in social psychology have included work on altruism, passionate love, and optimism.

There are likely several reasons that many psychologists, including social psychologists, focus on the more negative or neutral aspects of human existence. First, there is an urgency to try to relieve suffering. Compassion steers psychologists toward helping those who are the worse off before improving the lives of those who are already doing fairly well. The history of research funding in the United States reflects this sentiment. After World War II, most funding agency priorities focused on the description, diagnosis, and treatment of mental illness and disorders. Moreover, some may assume that studying the psychological contributions to flourishing and optimal health cannot and will not help those who are distressed. To the contrary, research suggests just the opposite. For example, Shelley Taylor and her colleagues have demonstrated that optimistic beliefs and a sense of personal control serve as a buffer against both mental and physical disease. That is, people who harbor some degree of positive illusions about their own fate and abilities are less likely to actually become ill or distressed. And, if they do become sick or upset, their prognosis is better than is that of those who do not have these positive beliefs.

A second reason for psychology's overemphasis on human foibles and shortcomings lies in the fact that psychologists are people too. And because they are human, negative stimuli are often more salient, powerful, and memorable than positive stimuli. For

example, social psychologists have shown that people often see negative behavior as more diagnostic of a person's character than positive behavior is. People tend to automatically pay more attention to negative cues in their surroundings than to positive cues. And, negative information is often more surprising and memorable than positive information is. In a review of the research bearing on this question, Roy Baumeister and his colleagues concluded that because the evidence so strongly suggests that bad is stronger than good, it should be considered a universal principle in psychology. It is not difficult to imagine how evolutionary pressures would have favored human ancestors who were somewhat more biased toward noticing and reacting to negative and potentially dangerous cues in their surroundings. Likewise, the pressure to document results in researchers' scientific laboratories likely led social psychologists to focus first on the most salient, powerful, and immediate stimuli. However, one explanation for the fact negative stimuli are so strong is because they are far less frequent than positive stimuli. They violate expectations because one's default experience is positive or neutral. The obvious implication is that, over time, positive processes may exert more of an influence on human psychological and physical functioning than negative processes do. Recent evidence suggests that displaying and writing about positive emotions early in life (e.g., young adulthood) has a long-term effect on mental and physical health such that those who seem to experience more positive emotions live longer and more satisfying lives.

### The Positive Psychology Movement

The recent movement in positive psychology began in the last few years of the 1990s, during Martin Seligman's tenure as president of the American Psychological Association. The architects of this movement were prominent psychologists who saw a need to highlight the neglected areas of research on optimal human functioning. And the time was right. Many new and established researchers had begun to focus their scientific attention on topics such as positive emotions, morality, optimism, happiness, and well-being. In January 2000, when Martin Seligman and Mihaly Csikszentmihalyi edited a special issue of the journal *American Psychologist* entirely devoted to positive psychology, the positive psychology movement was solidified. In their introductory piece for this issue, they claimed that psychology was not producing enough

insights into the conditions and processes that make life worth living. In one metaphor often used by positive psychology's advocates, psychology was said to have already learned how people get from negative eight to zero but learned much less about how people get from zero to positive eight. But was a movement in positive psychology really needed? The answer is straightforward. The science of psychology has made great progress in understanding what goes wrong in individuals, families, groups, and institutions, but these advances have come at the expense of understanding what is right with people.

In the short time since the phrase *positive psychology* came into being, quite a lot has happened. Dozens of conferences, summits, and workshops, both in the United States and abroad, have brought together researchers with diverse backgrounds and skills. Several books, edited volumes, and handbooks have been published. Numerous grants have facilitated the research of young investigators, and courses in positive psychology have appeared in the catalogues of many universities and high schools. Research on positive psychological topics has flourished, and many groundbreaking empirical and theoretical strides have been made. For example, in the field of emotion research, positive emotions had been largely ignored in favor of the study of negative emotions. In 1998, however, Barbara Fredrickson published her broaden-and-build theory of positive emotion in which she hypothesized that the function of positive emotions was to widen the array of thoughts of actions accessible to the individual such that they approach their environment more readily and openly, leading to increased resources. Since then, several empirical studies have provided empirical support for this theory and interest in positive emotions more generally has grown.

### Challenges to Positive Psychology

The positive psychology movement has had challenges and criticisms. First, researchers who actually had been studying optimal functioning and flourishing all along may have wondered why a movement was even launched. Second, others have made the assumption that if there is a positive psychology, then the rest of psychology must be negative psychology. Moreover, if a positive psychology movement was needed, then it was because what had been learned in the field thus far was not useful. Actually, most of the work in psychology is neutral, but there is certainly

much more known about negative than positive topics. Moreover, because this previous work has been so extraordinarily successful, the lack of attention to positive topics has become glaring, despite the excellent progress made by the handful of researchers who have been doing positive psychology all along. Another criticism of people involved in positive psychology is that they fail to recognize the indisputable negative sides of life, seeing the world instead through rose-colored glasses. However, the goal of the positive psychology movement was never to erase or supplant work on pathology, suffering, and dysfunction. Rather, the aim is to increase what we know about human resilience, strength, and growth to complement and integrate into the existing knowledge base.

Where does the relatively new field of positive psychology go from here? Interestingly the aim of the positive psychology movement is to make itself obsolete. That is, the goal is to restore the empirical and theoretical effort in psychology to a more balanced profile. To achieve this goal, positive psychology must understand what contributes to individuals' strengths, the factors that lead to resilience, the function of rewarding relationships with others, and the role positive experiences play in human life. Positive psychology needs to understand how all these factors contribute to physical health, psychological well-being, effective groups, and successful institutions. Finally, positive psychology needs to develop effective interventions to increase and sustain these processes.

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*See also* Bad Is Stronger Than Good; Broaden-and-Build Theory of Positive Emotions; Happiness; Helping Behavior; History of Social Psychology; Positive Affect

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## POWER

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Power affects almost all facets of social life, from the food people eat to how long they live. Power concerns are evident in most kinds of relationships, including intimate bonds, parent–child relationships, sibling relations, and relations between group members. This brief entry examines what social psychology has learned with respect to three questions concerning power: What is power? Where does it come from? And how does power influence behavior?

### What Is Power?

Power is typically defined according to two attributes: (1) the ability to control one's own outcomes and those of others and (2) the freedom to act. Power is related to but not synonymous with status, authority, and dominance. Status is the outcome of a social evaluation that produces differences in respect and prominence, which contribute to an individual's power within a group. It is possible to have power without status (e.g., the corrupt politician) and status without relative power (e.g., a religious leader in line at the Department of Motor Vehicles). Authority is power that derives from institutionalized roles or arrangements. Nonetheless, power can exist in the absence of formal roles (e.g., within informal groups). Dominance is behavior that has the acquisition or demonstration of power as its goal. Yet, power can be attained without performing acts of dominance, as when leaders attain power through a cooperative and fair-minded style.

### Where Does Power Come From?

Starting as early as age 2, people arrange themselves into social hierarchies. Within a day or so, young adults within groups agree with one another about who is powerful and who is not. Where does an individual's power come from? In part, individual differences matter. Thus, extraverted people—that is, those who are gregarious, energetic, and likely to express

enthusiasm—often attain elevated power within natural social groups. People with superb social skills are more likely to rise in social hierarchies. And even appearance matters. People who are physically attractive, males who are taller and have large muscle mass, and even males with large, square jaws, often attain higher positions in social hierarchies.

Power also derives from facets of the interpersonal context. Authority-based roles within groups endow some individuals with power. This is true in formal hierarchies, such as the workplace, as well as in informal hierarchies, such as family structures in cultures that have historically given older siblings elevated power vis-à-vis younger siblings. Power can derive from knowledge-based expertise. Medical doctors wield power over their patients because of their specialized knowledge. Power can derive from coercion based on the ability to use force and aggression. Power can stem from the ability to provide rewards to others. This helps explain why members of elevated socioeconomic status and majority group status tend to experience greater levels of power than do people of lower socioeconomic status and minority group status. Finally, power derives from the ability to serve as a role model, which is known as *reference power*.

### How Does Power Influence Behavior?

The English language is rich with aphorisms that concern the effects of power: “Power corrupts.” “Money [a source of power] is the root of all evil.” A recent theoretical formulation known as the approach-inhibition theory of power has offered two broad hypotheses concerning the effects of power.

Elevated power is defined by control, freedom, and the lack of social constraint. As a consequence, elevated power tends to make people less concerned with the evaluations of others, more automatic in social thought, and more disinhibited in action. In general, power predisposes individuals to approach-related behavior, moving toward satisfying goals. In contrast, reduced power is associated with increased threat, punishment, and social constraint. As a result, being in low-power positions tends to make people more vigilant and careful in social judgment and more inhibited in social behavior.

A first hypothesis that derives from this approach/inhibition theory of power is that high-power individuals should be less systematic and careful in how they

judge the social world. One result is that high-power individuals should be more likely to thoughtlessly stereotype others, rather than carefully relying on individuating information. Several experimental studies support this hypothesis: Participants given power in experiments are indeed less likely to attend to individuating information and more likely to rely on stereotypes in judging others. Individuals who desire to see their own group dominate other groups, known as the *social dominance orientation*, are also more likely to stereotype.

Predisposed to stereotype, high-power individuals should tend to judge others' attitudes, interests, and needs in a less accurate fashion—a hypothesis that has received support from numerous studies. A survey study found that high-power professors were less accurate in their judgments of the attitudes of low-power professors than were low-power professors in judging the attitudes of their high-power colleagues. In a similar vein, power differences may account for the tendency of males to be slightly less accurate than females in judging expressive behavior. Power may even be at work in the striking finding that younger siblings, who experience reduced power vis-à-vis older siblings, outperform their older siblings on theory-of-mind tasks, which assess the ability to construe correctly the intentions and beliefs of others.

Power even seems to prompt less careful thought in individuals who experience a tremendous incentive to demonstrate sophisticated reasoning—Supreme Court justices. A study compared the decisions of U.S. Supreme Court justices when they wrote opinions endorsing the positions of coalitions of different sizes. In some cases, justices wrote on behalf of a minority, typically equated with low power; in other cases, justices wrote on behalf of the victorious majority. Justices writing from positions of power crafted less complex arguments in their opinions than did those writing from low-power positions.

The theory's second hypothesis is that power should make disinhibited (less constrained) social behavior more likely. Support for this hypothesis is found in numerous studies. Individuals given power experimentally are more likely to touch others and to approach them closely physically, to feel attraction to a random stranger, to turn off an annoying fan in the room where the experiment is being conducted, and to flirt in overly direct ways. In contrast, low-power individuals show inhibition of a wide variety of behaviors.

Individuals with little power often constrict their posture, inhibit their speech and facial expressions, and clam up and withdraw in group interactions.

Perhaps more unsettling is the wealth of evidence showing that elevated power makes antisocial communication more likely. For example, high-power individuals are more likely to violate politeness-related communication norms: They are more likely to talk more, to interrupt more, and to speak out of turn more. They are also more likely to behave rudely at work. They are more likely to tease friends and colleagues in hostile, humiliating fashion. Low-power individuals, in contrast, generally speak politely, making requests indirectly or by asking vague questions, whereas high-power individuals speak forcefully and directly, asking pointed questions and making commands. Power even influences patterns of gaze. A clear indicator of power is the following pattern of gaze: High-power individuals look at listeners when speaking and are looked at when speaking, whereas low-power individuals look away when speaking but look at others when listening.

Power disinhibits more harmful forms of aggression as well, leading to violent behavior against low-power individuals. For example, power asymmetries predict the increased likelihood of sexual harassment. Across cultures and historical periods, the prevalence of rape rises with the cultural acceptance of male dominance and the subordination of females. Furthermore, the incidence of hate crimes against disliked minority groups (that is, non-Whites) was highest when the proportion of demographic majority members (that is, Whites) in a particular neighborhood was largest relative to the proportion of minority members.

Research suggests that we should be careful about who gains power, for power seems to allow individuals to express their true inclinations, both good and bad. If the person is inclined toward malevolent or competitive behavior, power will only make him or her more so. If, on the other hand, the person is more benevolent or good natured, power will amplify the expression of those tendencies. In a study that nicely illustrates this claim, Serena Chen and colleagues identified and selected participants who were either more self-interested and exchange-oriented, or more compassionate and communal-oriented. Each participant was then randomly assigned to a high-power or low-power position in a clever, subtle manner: High-power

individuals were seated in a snazzy leather professorial chair during the experiment; low-power individuals were seated in a plain chair typical of psychology experiments. Participants were then asked to volunteer to complete a packet of questionnaires with the help of another participant, who was late. Consistent with the idea that power amplifies the expression of preexisting tendencies, the communal-oriented participants with high power took on the lion's share of filling out the questionnaires. In contrast, the exchange-oriented participants with high power acted in more self-serving fashion, leaving more of the task for the other participant. The effects of power, then, depend quite dramatically on who is in power.

*Dacher Keltner  
Carrie Langner*

*See also* Approach–Avoidance Conflict; Authoritarian Personality; Extraversion; Group Dynamics; Leadership; Nonverbal Cues and Communication; Power Motive; Roles and Role Theory; Self-Regulation; Social Dominance Orientation; Social Relations Model

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## POWER MOTIVE

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The key defining element of the power motive is one person having an impact on the behavior or emotions of another, or being concerned about prestige and reputation. This basic imagery is often elaborated with anticipations, actions designed to have impact, prestige, pleasure at reaching the goal, and so forth. The measure is implicit, tapping a motivation system based on emotional experience rather than conscious verbal processing, which is affected by language, defenses, and rationalizations. Thus, the content analysis measure of the power motive is usually uncorrelated with direct questionnaire measures—that is, what people believe or consciously report about their need for power.

A power motive should be distinguished from other power-related psychological concepts. For example, power motive is not related to power styles or traits

(such as dominance or surgency), beliefs about power (such as authoritarianism or Machiavellianism), the sense of having power (internal control of reinforcements), occupying power positions, or having the skills to get or use power.

### History

Power is a concept fundamental to human social life. Hence, the idea that people have a power drive or power motive has a long history in philosophy and psychology. The ancient Greek philosopher Empedocles wrote of “strife” as a master motive opposed to “love.” The 19th-century German philosopher Friedrich Nietzsche introduced the term *will to power*, which psychologist Alfred Adler later adapted as the *striving for superiority*. In his later work, Sigmund Freud postulated an aggressive or destructive instinct, whereas Henry Murray included a need for dominance in his catalog of human motives.

### Measurement

In modern psychology, the power motive (also labeled “*n* Power”) is measured through content analysis of imaginative verbal material—typically, stories that people tell or write in response to vague or ambiguous pictures on the Thematic Apperception Test. The power motive scoring system was developed experimentally, by comparing the stories of people whose power concerns had been aroused with the stories of a control group that had no arousal experience. It was later adapted to score any kind of imaginative verbal or written material, such as fiction, political speeches, and interviews.

### Characteristics

People express their need for power in a variety of different ways, often depending on other moderating variables such as social class, responsibility, or extraversion. They are drawn to careers involving direct and legitimate interpersonal power, where they can direct other people's behavior through positive and negative sanctions, within a legitimate institutional structure: for example, business executive, teacher, psychologist or mental health worker, journalist, and the clergy. They also are active members and officers in organizations.

Power-motivated people try to become visible and well-known. They take extreme risks and use prestige (or self-display). They are good at building alliances, especially with lower-status people who aren't well-known, who have nothing to lose and so become a loyal base of support. In small groups, people high in power motivation tend to define the situation, encourage others to participate, and influence others; however, they are not especially well-liked, and they do not work particularly hard or offer the best ideas. As leaders, they are able to create high morale among subordinates. Political and organizational leaders high in *n* Power are often viewed by their associates as charismatic and judged by historians as great. In times of social stress, therefore, voters turn to them.

### Research

Several studies suggest a negative side to the power motive, supporting Lord Acton's famous comment, "Power tends to corrupt and absolute power corrupts absolutely." In experimental studies, small-group leader-managers high in power motivation are vulnerable to flattery and ingratiation. Although more cohesive and higher in morale, their groups are less effective in gathering and using information, and pay less attention to moral concerns. In negotiation or bargaining, power-motivated people tend to break agreements to demand better terms. If they lack a sense of responsibility, they engage in a variety of "profligate impulsive" behaviors: verbal and physical aggression, excessive drinking and multiple drug use, gambling, and exploitative sex. Finally, they are vulnerable to boredom, sometimes finding it difficult to take pleasure in their lives.

Most of these actions associated with power motivation are true for women as well as for men. However, power-motivated men may be more likely to be abusive and oppressive to their partners.

Recent research suggests that the need for power is related to certain physiological processes, mechanisms, and hormones. Power-motivated people show greater sympathetic nervous system arousal in response to stress and threat. This leads, in turn, to lower immune system efficiency and more infectious diseases. Power motivation is also related to higher blood pressure and cardiovascular problems.

High levels of power motivation are associated with aggression, both among individuals and among political leaders, governing elites, and societies, especially in times of crisis. International crises in which

both sides express high levels of power motivation are likely to escalate to war, whereas crises with lower levels are more likely to be resolved peacefully.

Not much research has been done on the developmental origins of the power motive. Many theorists (for example, Adler and political scientists Harold Lasswell and Alexander George) believe that power strivings originate from an early sense of weakness or lacking power. Some longitudinal research suggests, however, that *n* Power is fostered by early parental permissiveness rather than restriction, especially permissiveness about the expression of sex and aggression.

Are there good and bad kinds of the need for power? Can power motivation be tamed or tempered by some other psychological variables into prosocial rather than antisocial behavior? Different research studies have suggested that affiliation motivation, maturity, sense of responsibility, self-control, and inhibition can—sometimes but not always—play such a role.

*David G. Winter*

*See also* Aggression; Power; Thematic Apperception Test

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## PREFERENCE REVERSALS

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### Definition

Preference reversals refer to the observation that there are systematic changes in people's preference order between options. Preference order refers to an abstract

relation between two options. It is assumed that when an individual is presented with options A and B, he or she either prefers A to B or prefers B to A (or is indifferent between A and B). Systematic changes refer to the observation that people exhibit different or even *reverse* preferences for the same options in normatively equivalent evaluation conditions (i.e., conditions that differ at first sight but in which the options that people are presented with have essentially remained the same).

## History and Background

The preference reversal phenomenon was first observed in the late 1960s and the early 1970s by Sarah Lichtenstein and Paul Slovic in a gambling context. They observed that if people are asked to choose between a relatively safe bet with a low payoff and a relatively risky bet with a high payoff, and if they are asked to indicate their selling prices if they were to sell these very lotteries, people's choice ordering is systematically different from their price ordering. More specifically, people tend to state a preference for the safer bet but tend to state a higher selling price for the riskier one. Very soon, this finding was replicated several times.

Although the theoretical concept of preferences as an abstract relation between two options seems very clear and natural, this abstract relation is a psychological construct that must be operationalized or measured by some observable behavior. Researchers have introduced multiple elicitation methods or methods that enabled them to observe decision makers' preferences. Besides asking individuals to choose among different options or to indicate how much they are willing to accept to forego or sell an option (i.e., willingness to accept), people have been asked to indicate how much they are willing to pay to obtain an option (i.e., willingness to pay), to state a price that is considered to be equivalent to an option (i.e., a certainty equivalent), or to give the probability of winning an option that is considered equivalent to another option (i.e., a probability equivalent). Researchers then use this information to rank order people's preferences. Consistently, the rank order of preferences produced by one measurement method did not correspond with the rank order produced by a second measurement method. In other words, systematic preference reversals were found repeatedly.

In addition, the preference reversal phenomenon has not stopped at lotteries. Rather than being a peculiar

characteristic of a choice between bets, it has been found to be an example of a general pattern. Research has also shown preference reversals when options offering a certain but delayed outcome are used. When faced with a choice between delayed payments, decision makers often select the short-term option but assign a higher certainty equivalent to the long-term option. Different descriptions of the same problem also cause individuals to exhibit different preferences.

Nowadays, preference reversals are firmly established as robust phenomena. Contrary to what researchers assumed originally, preferences do depend on the method of elicitation (i.e., there is no procedure invariance) and they do depend on how the options are described (i.e., there is no description invariance). Rather than trying to eliminate the preference reversal phenomenon as they tend to have done in the past, researchers are now trying to explain it.

## Context and Importance

The study of preference reversals has led to a conception of preferences that differs from the classical assumption that decision makers have a stable preference order for all options under consideration and consistently select the option highest in that order. An ever-growing body of evidence suggests that the so-called assumption of context-free preferences is not tenable. Instead, preferences appear to be context-specific. The preference reversal phenomenon has contributed to knowledge that decision making is a constructive process. Preferences are often constructed in the elicitation process, rather than only being revealed. This new conception of preferences particularly applies to judgments and choices among options that are important, complex, and perhaps unfamiliar or novel, such as careers and cars for instance. It has been shown empirically that people display more preference reversals for options that they are unfamiliar with. Especially in these circumstances, preferences are not simply read off some master list but are constructed on the spot by an adaptive decision maker.

Different construction can easily lead to different choices. One important construction strategy that has received a lot of empirical attention is so-called anchoring and adjustment, meaning that when decision makers state a price for a given option, they "anchor" on the highest possible outcome. Subsequently, decision makers adjust downward from this anchor toward the true value. If these adjustments are insufficient,

then preference reversals can occur. Another important construction strategy is to focus on the most important attribute in the decision process and to select the alternative that is superior on it. This prominent attribute weighs more heavily in choice than in other elicitation procedures.

### Implications

One area of research in which the preference reversal phenomenon might be of particular importance is the study of consumer behavior, and, more specifically, consumer choice making. Consumers, like other decision makers, will have to construct product preferences right on the spot. This means that product preferences might reverse depending on numerous contextual factors such as product descriptions and time pressure.

*Sabrina Bruyneel*

*See also* Behavioral Economics; Consumer Behavior; Decision Making; Prospect Theory

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## PREJUDICE

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### Definition

Prejudice is defined as an attitude toward people based on their membership in a group (e.g., their racial group, gender, nationality, even the college they attend). Critical to prejudice is an inflexibility in the reaction to the target person whereby the responses to the target are not based on the target's behaviors or characteristics (good or bad) but instead are based on the target's membership in a group. Prejudice is most often negative, although it is also possible to be positively prejudiced. Prejudice involves three key components: an emotional response to members of the

group; beliefs about the abilities, behaviors, and characteristics of group members; and behaviors directed at group members. For example, imagine that a person was negatively prejudiced against people from country X. That person may feel angry, anxious, or disgusted when he or she interacts with people from X. In addition, the person may believe that people from country X are stupid, lazy, or untrustworthy. The person may also try to keep people from country X from visiting his or her own country. A person who is prejudiced toward a group may not engage in all three types of responses. For example, it is possible to have prejudiced thoughts and feelings but never engage in prejudiced behavior.

### Research Into Prejudice

Understanding prejudice and unraveling its causes, consequences, and potential cures has been of great interest to social psychologists for more than 50 years. There continues to be great debate among psychologists about the origin or cause of prejudice. Some believe that prejudice is the result of people's desire to feel better about the groups to which they belong (e.g., "We are better than they are!") and, thereby, better about themselves. Others believe prejudice comes from competition between groups for scarce resources (e.g., food, jobs). Still others argue that prejudice is an innate human response that developed to protect humans from dangerous strangers. The list of potential causes goes on, but like most social psychological phenomena, there is likely to be more than one correct answer and many factors likely contribute to prejudice.

Prejudiced responses toward others can range from making unfair judgments and harboring unkind feelings to brutal attacks and, at its most extreme, genocide. Prejudice can be overt and unmistakable, but it can also be subtle and difficult to detect. Prejudice takes many forms, and the nature of prejudice can change over time. For example, many social psychologists argue that in response to social and legal pressure, most White Americans have learned to conceal overt expressions of prejudice toward Black people and instead express prejudice in indirect and subtle ways. Thus, social psychologists argue that prejudice has gone underground and, therefore, may be particularly pernicious and difficult to eradicate.

The ultimate goal of those who study prejudice is to find ways to promote intergroup harmony and

encourage people to treat others based on individual characteristics and not group membership. Social psychologists have uncovered some potential routes to prejudice reduction. For example, forming friendships with people from another social group is strongly related to positive attitudes toward that group. Also, getting people to reframe their views of “us” and “them” into “we” can decrease prejudice. Although progress has been made, much remains to be understood about the elimination of prejudice.

*E. Ashby Plant*

*See also* Intergroup Emotions; Intergroup Relations; Racism; Sexism; Stereotypes and Stereotyping

### Further Readings

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## PREJUDICE REDUCTION

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### Definition

Prejudice reduction refers to a decrease in (most often) negative attitudes or evaluations that individuals hold in relation to other people. These negative attitudes are based on the groups to which people belong, such as a White person disliking someone because he or she is a Black person. Although social psychologists have linked the idea of prejudice reduction most directly with changing negative attitudes, this term is also used to refer to decreasing stereotypic beliefs (such as the belief that all gay men are promiscuous), outward expressions of bias, or negative behaviors.

### Background and History

Prejudice reduction was first studied only when prejudice was seen as a social problem in the United States. Until the 1920s, there was widespread belief among nonscientists and scientists alike in the racial superiority of Whites. Indeed, prejudice was considered perfectly defensible and rationale. Between the 1920s and 1940s, scientists increasingly viewed prejudice as problematic and certain aspects of World War II (e.g., anti-Semitism and genocide) underscored this.

Prejudice clearly was a social problem and strategies for curbing it needed to be understood.

In 1954, Gordon Allport published his book *The Nature of Prejudice*, which provided the first comprehensive analysis of prejudice and laid the foundation for decades of subsequent research. Allport’s writing provides many roots of modern work, three of which are especially important. First, Allport discussed the natural human tendency to categorize to simplify the world, noting that this includes categorizing people into groups. Many mental tricks allow people to place others into categories and, once categorization occurs, many other processes naturally occur to make categories resistant to change. For example, a boy who tugs on a girl’s pigtails may be viewed as an aggressive Black boy, whereas the same behavior by a White boy may be interpreted as playful. Therefore, reducing prejudice often involves getting people to alter the nature of the categories in their minds so they can perceive people differently.

A second root of modern work on prejudice reduction is Allport’s discussion of the inner conflict that people can experience in relation to their prejudices and the motivation that this conflict provides for prejudice reduction. Here Allport referred to Gunnar Myrdal, who in 1944 discussed the “American dilemma.” According to Myrdal, many Americans are prone to a moral conflict between the ideas of equality on which the nation was founded and the racist traditions of prejudice and discrimination. The idea that conflict between values and prejudiced tendencies can spur people to reduce their prejudice later became a cornerstone of various strategies for reducing prejudice.

A third root found in Allport’s work is his intergroup-contact hypothesis. The idea that contact between people of different backgrounds and races can help people realize that some of their beliefs are incorrect or that they do like people who are different from themselves is straightforward. However, making contact between groups work to reduce prejudice is more complicated. Allport correctly noted this and described some of the conditions that must be met for contact to reduce prejudice successfully.

At different points in time, different prejudice reduction strategies have become more or less important in the field of social psychology. These changes often can be traced to the combination of historical or societal changes and with popular methods within the field. For example, starting in the 1980s, blatant prejudice became less accepted and prevalent in the

United States while subtle biases and prejudices remained quite common. Also, social psychologists interested in prejudice were adopting many techniques from cognitive psychology to study the mind's use of social stereotypes. The result was the discovery that prejudiced responses sometimes occur not because people consciously hold prejudiced beliefs and attitudes but, rather, because learned prejudices and stereotypes can be activated and used without people even being aware that this is happening. Patricia Devine formally advanced and tested this argument. A new view of prejudice reduction emerged from this line of thinking that involved learning to control and change biases resulting from nonconscious processes.

### Norms

Society's norms or expectations of what is acceptable behavior greatly influence when people will try to reduce their prejudice and why they do so. Not all bias is looked upon in the same way. For instance, blatant racial prejudice is not considered politically correct nowadays; however, other prejudices are considered acceptable (such as not wanting a convicted sex offender to babysit a child). As such, the social norms of a particular time or geographic location in part dictate what people deem as important prejudices to curb. If a prejudice is recognized as problematic and labeled as inappropriate in society, people are likely to act accordingly and not express bias to avoid violating important social norms. For example, if an individual is surrounded by people who value equality among men and women, this person is likely to reduce his or her prejudice by also endorsing those values and acting in ways that are not biased.

### Values

Early research by Milton Rokeach highlighted that people can be motivated to reduce their prejudice when they are made aware of the conflict between the values they hold and their actions. In his classic research, he suggested that people were potentially more concerned about their own personal freedom than equality for others. Awareness of this conflict between people's values and actions prompted them to change their behavior and participate in activities promoting equality. For example, someone may embrace cultural

values like racial equality but still have a preference for hiring a White applicant over a Black applicant. When people become aware of this hypocrisy, it can make them feel dissatisfied with themselves and motivate them to act in line with their values and reduce their prejudice. Months after these types of experiences, people can continue to show positive changes consistent with equality.

### Contact

The idea that intergroup contact may reduce prejudice was a driving force behind the introduction of laws that required desegregation of, for example, schools. However, contact between members of different groups can increase tension and reinforce prejudice if certain conditions are not met. Decades of research have revealed that for contact to reduce prejudice, people in contact should have equal status (e.g., one is not designated as the person in charge), they should be working together on common goals (e.g., a school project) rather than competing, institutional support should be present (such as when school officials encourage the contact), and the contact should be intimate rather than casual so that friendships can develop. Although all of these conditions are not always necessary, the more that are met the greater the potential is for prejudice reduction. An excellent example of a strategy that meets these conditions is Elliot Aronson's jigsaw classroom technique, where each student working in a group is provided with a segment of important information from a lesson to teach the others.

Researchers have also studied how contact can lead people to view others who are different from themselves in new ways, such as leading people to view themselves as members of one large, superordinate group rather than as members of smaller separate groups. For example, people of different races in the United States could focus on their common American identity.

### Individual Efforts

Even if people do not hold prejudices of which they are consciously aware, they may be in the habit of responding in biased ways toward members of certain groups. These more automatic prejudices can be combated with individual efforts to change what feelings and thoughts immediately come to mind. One

approach involves spending time thinking about people who are very different than a stereotype of a group (such as imagining a strong and independent woman). Another approach involves intensive training to think “no” whenever members of stereotypes groups are paired with stereotypes, such as when a picture of a Black person is presented along with the word *lazy*. Finally, research shows that people who are aware of their automatic prejudices and who feel bad about them can learn to associate certain stimuli with prejudiced responses they have had in the past and their negative feelings about having had such responses. When these stimuli are present in a subsequent situation, they can trigger people to slow down and respond more carefully so that they can reduce their prejudiced responses. As these examples of individual effort strategies illustrate, people must be highly motivated and vigilant in their attempts to control and change engrained prejudices.

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Aimee Y. Mark

*See also* Ingroup–Outgroup Bias; Intergroup Relations; Jigsaw Classroom; Prejudice; Racism; Sexism; Stereotypes and Stereotyping

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*primacy* itself is generally defined in the dictionary as the state of being first in order or importance. In a similar manner, according to the primacy principle, when generating impressions of others, what we think and feel about a person is strongly influenced by our very first impressions of that person. Therefore, when one is making judgments of others, first impressions are more important than later impressions. It seems that first impressions tend to color or bias later judgments of a person. They do this in a way that is consistent with those initial assessments. Thus what someone first sees, hears, or reads about a person tends to serve as a primary reference point or anchor for later judgments, so that later judgments are overly influenced by a person’s initial judgment. In essence, first impressions count.

### Background and History

Since the early 20th century, psychologists have been concerned with how the impressions we make of others are formed. Early on, psychologists tried to see if there were any stable patterns regarding how people formed these impressions. However, the primacy principle was not established by scientific study until the 1940s. Solomon Asch is credited with discovering the primacy principle. His early experiments were quite simple: People were read a list of words that one might use to describe a person. Sometimes these lists were long, sometimes they were short, and most importantly, where each word appeared the list appeared was varied. Sometimes a certain word appeared in the beginning, sometimes in the middle, and sometimes at the end. After they heard a particular list, participants in the study were then asked to give their impressions of what a person who fit the description that they had just heard might be like. What Asch’s early studies found was that the order in which people heard the words mattered greatly. It seemed that people used these lists to form an overall unified impression of a person, and the words that people heard first set the tone for everything else a person heard. So, a list of words like intelligent, industrious, impulsive, and critical tended to result in positive ratings when compared with the same list in reverse order, that is, critical, impulsive, industrious, and intelligent. In effect, the early words dominated the impression that people formed.

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## PRIMACY EFFECT, ATTRIBUTION

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### Definition

The primacy effect concerns how one’s impressions of others are formed. Thus, it relates to the field of psychology known as person perception, which studies how people form impressions of others. The word

## Summary of Types, Amount, and Quality of Evidence

Asch's early work inspired a large number of studies that supported the primacy effect in person perception. In addition to overall impressions, it was also discovered that the primacy effect also affects specific judgments about others. These judgments include how generally intelligent and successful we perceive others to be and how well we expect them to perform in the future. Assuming that the number of successes and failures are equal, one might think that whether a person experiences success early or late shouldn't matter when we judge them, but it does. Perceptions of intelligence along with future expectations of success depend on the pattern of a person's successes and failures. When comparing people who have early success and then get worse to those who start poorly and then get better, or have a mixed pattern of success and failure, people rate those with the early success higher. Thus, it is better to start strong and finish weak, than to start weak and finish strong or have a random pattern of successes and failures. Everything else being equal, those who have early successes and then descend in performance are judged to be both smarter and more likely to perform better than others.

Physical attractiveness can be part of the primacy effect. When rating others, it has been shown that physically attractive people tend to receive generally high ratings regardless of how they perform on a series of tasks. Those who were physically unattractive, however, tended to be rated lower even when their performance was the same as that of the attractive people. Consistent with the primacy effect, this only occurred if people knew what the person looked like before they judged his or her performance. However, if a person's performance was judged without knowing how he or she looked, finding out how the person looked later didn't change the ratings. Being good looking is a generally positive attribute, but it only seems to affect judgments if people know about it before initial judgments are made. Like the word studies discussed earlier, if a judgment of attractiveness is the first thing in a chain of judgments, it tends to color subsequent judgments in a manner consistent with the general goodness that people associate with physical attractiveness.

### Importance of Topic

Besides beginning a whole new field of inquiry in psychology, the primacy effect has broader implications.

The effect is important because the first thing that we do when we are making a judgment of another person is to categorize him or her, and because of the primacy effect, the category that we first put people into tends to influence our subsequent judgments about that person. When we encounter people, the process of categorization starts with the most noticeable categories of that person such as sex, race, social class, or age. We then use this category to make initial assumptions about the person, and because these initial assumptions affect our later judgments, they are the most important assumptions one makes.

### Implications

Because of the primacy effect, the judgments others make about a person may not be accurate, and this inaccuracy is likely to persist over time. People may be judged by who they first appear to be, rather than by who they actually are. If first judgments are positive, this could give someone an undeserved advantage; if negative, it could put someone at an unfair disadvantage.

*Gregg Gold*

*See also* Attributions; Person Perception; Primacy Effect, Memory; Recency Effect

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## PRIMACY EFFECT, MEMORY

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### Definition

The primacy effect denotes the phenomenon that after encountering a long list of items, one will more likely be able to recall the first few items from that list than items than from later parts of the list. In a typical study investigating the primacy effect, participants are sequentially presented with a list of words, each being presented for a fixed amount of time. After the words have been presented, participants are asked to

write down all the words from the list that they recall. A primacy effect is found when participants correctly recall words from the first few positions in a list more often than they recall words from later list positions.

## History and Importance

The primacy effect and its counterpart, the recency effect, which describes a recall advantage for the last few items of a list compared with items in the middle, combine to form the U-shaped serial position curve of list recall. This phenomenon was interpreted as evidence for two different memory systems—a long-term store that is the basis for the primacy effect, and a short-term store that is responsible for the recency effect. This distinction has influenced many theories of human memory.

## Evidence

The primacy effect has been explained by a rehearsal advantage for words presented early in the list: They are rehearsed more often than subsequent words. This was found in an early study, in which participants were asked to overtly rehearse the words they were to memorize. Results showed that the first few words were rehearsed more often than were words presented later in the list. The more frequent rehearsal of an item leads to a stronger long-term memory for that item, and thus a better chance to recall that item, compared with less frequently rehearsed items.

Further evidence for the rehearsal-based explanation of the primacy effect comes from studies that modify participants' rehearsal. For example, one study presented words at a faster rate, thus reducing participants' opportunity to rehearse. Under those conditions, the magnitude of the primacy effect is reduced. Additional evidence showing that rehearsal is the basis for the primacy effect comes from studies that modified participants' rehearsal strategies. When participants were asked to rehearse only the item that is currently presented, no primacy effect was found.

The primacy effect is a general phenomenon that occurs beyond laboratory settings where participants are explicitly asked to memorize a list of items. A primacy effect has also been found in studies in which participants were unaware of a subsequent memory test. A primacy effect has also been shown in the domain of television commercials: Participants viewing a television program that was interrupted by blocks of commercials showed better memory for the first three

commercials than for commercials broadcast later in the block.

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*See also* Memory; Primacy Effect, Attribution; Recency Effect

## Further Readings

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# PRIMING

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## Definition

Priming is the process by which perception (or experience) of an item (or person or event) leads to an increase in its accessibility and the accessibility of related material and behaviors. Priming is a phenomenon that is enormously influential in people's everyday lives, yet people are typically unaware of its operation and impact. For example, if you pass a telephone and it reminds you to call your mother, priming is at work. If middle-aged women make you feel nervous after watching *Desperate Housewives*, once again priming can be blamed. Priming is particularly important in social psychology because of the inherent complexity of social information processing—when many interpretations and behavioral options are available, the accessibility determined by priming can constrain perception, cognition, and action.

## How Does Priming Work?

Psychologists' understanding of priming is based on the idea that information is stored in units (schemas) in long-term memory, whose activation levels can be increased or decreased. When the activation of a schema is increased, it becomes more accessible—that is, more likely to enter consciousness or direct behavior. Priming research has capitalized on the connectionist idea that when schemas are frequently activated together, connections form between them, thereby creating networks in the mind. Activation can spread through these networks such that following activation of one schema, the activation of associated schemas in the network is also increased. This is a

very useful tool because it helps prepare the mind for what it is likely to encounter next, or may have to think about very soon. When a cat is perceived, for instance, the “cat” schema will be activated, and activation will spread to cat-related concepts such as “cat’s meow” and “cat’s scratch.” This activation means that potentially important information is then more accessible, enabling people to behave toward the cat in an appropriate manner.

Empirically, this priming process would not be investigated by watching a perceiver’s behavior toward the cat, but by testing the accessibility of the relevant schema using techniques such as word recognition or lexical decision tasks. For example, research has shown that reading the word *bread* will prime associated items such as butter, but not unrelated items such as bikini. Experiments of this kind confirm that priming does indeed increase the activation of associated schemas.

## Types of Priming

### **Repetition Priming**

At its simplest level, priming can apply to a single word: Reading a word once will increase the speed at which that same word will subsequently be recognized. This effect is known as repetition priming and occurs because once a schema has been activated, it takes less energy to reactivate the construct on a subsequent occasion. Furthermore, if a schema is frequently activated, it can become hyperaccessible, and the rate at which it decreases its activation is reduced. This pattern is optimal because it keeps schemas that are encountered frequently activated for longer, so that they are more easily accessible if required again.

### **Associative Priming**

Priming is known as associative when it increases the activation of associated knowledge, such as “bacon” priming “eggs.” This effect can be subcategorized according to the type of association through which the activation has spread, such as through shared perceptual components, phonological features, or semantic relations. An example of perceptual priming would be a facilitated response to the word *lost* following presentation of the word *most*. These two words are orthographically similar, although they do not sound the same or have similar meanings. Phonological

priming might occur between the words *foul* and *trowel* because they rhyme even though they do not share perceptual or semantic qualities. Priming between words that belong to the same semantic category is semantic priming, such as between *baby* and *diaper* or *leaf* and *flower*.

Semantic priming is the type most often studied in social psychology because it allows researchers to investigate semantic links between schemas. For example, stereotyping research has shown that people respond more quickly to words such as *warm* and *caring* after being shown stereotypic pictures of women than men. This suggests that people have developed associations between women and these traits, associations that are stored in semantic memory.

An important subtype of semantic priming is affective priming—the increase in activation of words of the same valence (i.e., positive or negative) as the prime. This phenomenon is elicited primarily when priming stimuli are presented for very short periods, so for example, if a smiling man is presented for a short duration, positive traits will be primed more than with masculine traits. The existence of affective priming suggests that valence is elicited from stimuli before priming spreads through more complex semantic associations, indicating the fundamental importance of this quality.

### **Negative Priming**

The effects described earlier all concern facilitation effects: increased activation of concepts related to a prime. However, in some cases priming can actually *decrease* the activation of particular schema, spreading inhibition rather than activation. This effect may arise from the way the brain deals with schema that are competing for attention. For example, making coffee might prime the milk and sugar schemas, but it is not physically practical for both to appear simultaneously in behavior. The solution is for whichever concept is primary (most highly activated) to decrease or laterally inhibit the activation of the competing schema. Stereotyping research has provided examples of this effect, demonstrating negative priming when a target person belongs to two stereotypic categories containing competing information. For example, a person might belong to the category “mother,” priming traits such as caring and unselfish, but also be a member of the “lawyer” category, perhaps priming opposite traits. To interact effectively with this person, the perceiver has to make a judgment about which

traits to expect. If the “mother” stereotype is more highly activated (by contextual cues), then the lawyer stereotype will be inhibited. As with facilitation effects, therefore, negative priming can achieve useful and preparative ends.

### Consequences of Priming

As the stereotyping examples suggest, priming is not just a cognitive phenomenon; its importance stems from the consequences that it has for people’s thoughts, behaviors, and interactions with others.

Priming can influence the way in which people perceive others and interpret their behavior, even without awareness of the prime. For example, after subliminal priming with aggressive words like *hostile*, participants are more likely to rate ambiguous behaviors (such as a playful shove) as being aggressive. In this case, participants’ social perception has been altered by the increased accessibility of aggressive traits, without them being aware of the priming experience. Priming social categories has a similar effect as priming individual traits because it increases the activation of all the traits contained within the category network. For example, presenting either the stereotype label “vegetarian” or “murderer” before asking participants to form an impression of a target person is likely to produce different impressions—the former presumably less brutal than the latter.

The phenomenon of increased accessibility altering perception is well-established. However, more contentious research suggests that even complex social behaviors can be primed and produced in behavior without perceivers’ awareness, a phenomenon referred to as the *perception-behavior* link. For example, participants who sit near a gun while giving electric shocks in an experiment show more aggression than those who are not near a weapon—the so-called weapons effect. Participants who have been primed with behavioral characteristics like “polite” or “rude” are more likely to behave in line with these traits in subsequent tasks. Again, this priming can be category based, so for example, priming with the “accountant” stereotype can increase conformity because this trait is contained within the occupational stereotype. Importantly, behavioral consequences of priming are elicited in situations that offer a relevant context for the behavior to be produced. If participants have been primed with aggression, they are unlikely to randomly produce aggressive acts. Rather, if they are put in a situation in which they perceive a potentially

aggressive incident or are forced to choose to behave with high or low aggression, then the priming is likely to be influential. This may be why people are so often unaware of the influence of priming: It does not change the availability of thoughts or actions but, rather, alters the accessibility of the available options.

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*See also* Accessibility; Automatic Processes; Schemas; Social Cognition; Stereotypes and Stereotyping

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## PRISONER’S DILEMMA

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### Definition

Beyond any doubt, Prisoner’s Dilemma is the best-known situation in which self-interest and collective interest are at odds. The situation derives its name from the classic anecdote about two prisoners who were accused of robbing a bank. In this anecdote, the district attorney, unable to prove that the prisoners were guilty, created a dilemma in an attempt to motivate the prisoners to confess to the crime. The prisoners were put in separate rooms, where each prisoner was to make a choice: to confess or not to confess.

The attorney sought to make confessing tempting to the prisoners by creating a situation in which the sentence was determined not only by their own confessing or not but also by the fellow prisoner's confessing or not. Yet irrespective of the fellow prisoner's choice, the choice to confess yielded a better outcome (or less worse outcome) than did the choice not to confess. Specifically, when the other confessed, confessing yielded *only* an 8-year sentence, whereas not confessing yielded a 10-year sentence. And when the other did not confess, confessing yielded only a 3-month sentence, whereas not confessing yielded a 1-year sentence. So, from this perspective, it seems rational for each prisoner to confess to the crime. However, the crux of the dilemma is that the outcome following from both confessing (an 8-year sentence) is worse than the outcome following from both not confessing (a 1-year sentence). Thus, if both prisoners were completely trusting of each other, and strongly committed to supporting or helping each other, neither would confess, despite the attorney's attempt to make confessing attractive. (The four possible sentences following from both prisoners' choices are derived from R. Duncan Luce and Howard Raiffa; some other sources report slightly different sentences.)

### The Single-Trial Prisoner's Dilemma

This classic Prisoner's Dilemma describes a situation in which the prisoners were to make their choices simultaneously, irrevocably (i.e., they could not undo or take back their choices), and therefore independently of one another. The independence of their choices was also ensured by putting the prisoners in separate cells, thereby excluding any possibility for communication relevant to the choices that they were going to make. In doing so, the attorney created a rather uncommon situation because people are usually able to interact in ways that permit them to respond to each other's behavior or communicate about their choices.

Nevertheless, some situations that people encounter in real life resemble aspects of the classic Prisoner's Dilemma. For example, it occasionally may be tempting to prepare less than fully for a working meeting with a partner to save time and energy for another activity that is more pressing or interesting. Yet, the meeting would be more fruitful if both partners invest time and effort and prepare well for the meeting. More generally, the Prisoner's Dilemma represents exchange situations, which in the real world often occur under

more flexible conditions, where both partners make choices in turn and every now and then can undo their choices. An example is the exchange of baseball cards, or cards of well-known soccer players, where two children can, at a little cost, provide each other with the card the other desires very much (e.g., to own the last card that completes one's set of cards). In that sense, the Prisoner's Dilemma represents a situation in which people "do business," exchanging money, products, or services, that is more desirable to the other than to the self.

Researchers often use the single-trial Prisoner's Dilemma when they want to study how people approach one another in the absence of a history of interaction and in the absence of a future of interaction. Hence, these choices are not influenced by considerations regarding the past (e.g., retaliation) or the future (e.g., adopting a strategy so as to obtain mutual cooperation). In these situations, impressions of the other play a very important role. In particular, any information that is relevant to one's expectations regarding the other's probable choice is useful, at least when one's own choice depends on what the other is going to choose. For example, people expect much more cooperation from another perceived as honest than from another perceived as dishonest. Also, people may also derive expectations from stereotypical information. People expect more cooperation from a theology student than from student in economics or public administration.

More recently, it has been shown that choices can also be influenced in very subtle ways. In this research, participants typically first engage in a different task in which they unscramble sentences (putting scrambled sentences together in the correct order) that contain words having to do either with morality (e.g., *honest*, *dishonest*) or might (e.g., *strong*, *weak*). This task, or related task, seeks to activate morality-related concepts or might-related concepts—rather unconsciously. As it turns out, people are more likely to make a cooperative choice when morality was activated in such a task than when might was activated.

### The Iterated Prisoner's Dilemma

The Prisoner's Dilemma has often been used to study repeated choices by which people respond to one another's choices, a situation that captures interaction. Actually, most of the examples discussed so far illustrate the Prisoner's Dilemma but do not perfectly

match the features of a single-trial Prisoner's Dilemma because there usually is a history or future of interaction that accompanies working meetings or exchanges of products (e.g., baseball cards). As such, single-trial interactions are more common in dealings with relative strangers rather than with partners, friends, or acquaintances. In contrast, the iterated Prisoner's Dilemmas, characterized by repeated interaction, is more relevant to processes that shape people's interactions with partners, friends, or acquaintances.

This research has focused on a variety of processes. One such process is the role of verbal communication. Often, cooperation can be enhanced if people are able to communicate before their choices in a Prisoner's Dilemma. The more important question is, of course, how one can persuade the other to cooperate. Some research has compared the effectiveness of four messages: (1) "I will cooperate." (2) "I would like you to cooperate." (3) "If you don't cooperate, then I will choose so that you can't win." (4) "If you now decide to cooperate and make a cooperative choice, I will cooperate." This research has shown that a message that communicates conditional cooperation involving threats and promises tend to be somewhat more effective than those that do not incorporate such messages. These principles were subsequently used in designing strategies for building trust and resolving conflict, as well as further theorizing on these topics.

The iterated Prisoner's Dilemma has also been used to examine the effectiveness of behavioral strategies. How should one behave if one seeks to obtain stable patterns of mutual cooperation? Or how can a person motivate, through his or her own behavior, the other person to make cooperative choices? Consider, for example, the tit-for-tat strategy that begins with a cooperative choice and subsequently imitates the partner's previous choice. This strategy has been shown to yield greater outcomes than a 100% cooperative or 100% noncooperative strategy. Following early experiments examining this strategy, Robert Axelrod in 1984 organized a computer tournament in which several social and behavioral experts submitted programmed strategies that they believed would, when pitted against other possible programs, produce the highest outcomes. Each strategy then played against (or with) each other strategy. The interesting result was that tit for tat yielded far better outcomes for itself than did any of the other strategies.

An important feature accounting for tit for tat's effectiveness is its niceness, in that the self is never

first to make a noncooperative choice, and therefore cannot be perceived as exploitative or aggressive. Tit for tat is also effective because it is retaliatory: Noncooperative behavior is responded to with a reciprocal noncooperative action. Furthermore, tit for tat is forgiving, in that noncooperative choices by the other in one situation are easily remedied in subsequent situations. Finally, tit for tat is also a clear strategy, readily understood by others, and indeed it tends to be experienced as directed toward establishing cooperation.

At the same time, tit for tat fails to initiate cooperation after there has been a lapse in it. Hence, a limitation of tit for tat is that it may give rise to the so-called echo effect (or negative reciprocity), that is, interaction patterns whereby the two persons are "trapped" in cycles of noncooperative responses. This limitation is especially important in situations characterized by *noise*—when there are discrepancies between intended and actual outcomes for an interaction partner because of unintended errors (e.g., not being able to respond to an e-mail because of a local network breakdown). In such situations, an unintended error may lead to misunderstanding ("why hasn't he responded to my e-mail") and eventually a noncooperative response ("I will make him wait as well"), which may instigate the echo effect. Indeed, some recent research indicates that some level of generosity might be important in overcoming the detrimental effects of such unintended errors. That is, when unintended errors are likely to occur with some regularity, strict forms of reciprocity will give rise to the echo effect, which can be prevented or overcome by adding a little generosity to reciprocity: that is, by consistently behaving a little more cooperatively than the other did in the previous interaction.

Moreover, the Prisoner's Dilemma also often operates in situations involving more than two individuals (the so-called N-person Prisoner's Dilemma; also referred to as social dilemma). For example, everyone enjoys clean public places, such as clean parks or sports stadiums. Yet people often find litter in such places, indicating that it is somewhat tempting to litter. As another example, whether or not to exercise restraint in the use of energy represents such a dilemma because overuse eventually leads to depletion of natural resources. In N-person Prisoner's Dilemmas, threats or promises, or tit for tat, are generally less effective because there are so many people involved so that they are harder or even impossible to implement (to whom should I give tit for tat?). Typically, the level

of cooperation is much lower in N-person Prisoner's Dilemmas than in two-person Prisoner's Dilemmas. Also different mechanisms tend to underlie behavior in N-person situations. For example, feelings of perceived efficacy, the feeling that one can make a difference and affect collective outcomes in a positive manner, feelings of personal responsibility (feeling responsible for a positive collective outcome), and feelings of identifiability (whether to feel anonymous or identifiable such that others can tell who cooperated and who did not) are all important ingredients of cooperation. These and other findings may be effectively used in public campaigns, which emphasize that people can make a difference ("all pieces help" to enhance perceived efficacy), or that people need to do so out of moral obligation or concern with the group (to enhance feelings of responsibility).

And finally, there are Prisoner's Dilemmas between groups, or between representatives of two groups. Two companies may compete for the same clients, even though they both enjoy the public attention for their new products. Nations also often face such conflicts between their own group's interest and both groups' interests. Frequently, interactions between groups (or their representatives) are often less cooperative than are interactions between individuals. One reason is that groups do not tend to trust each other as much as individuals do, in that groups often rely on a scheme of distrust—which is not too surprising because groups often do compete in everyday life. A second reason is that group members tend to support their representative, and one another, for actions that serve the interest of their group (and themselves), but not that of the two groups together. The Prisoner's Dilemmas of this sort have received relatively little attention, but may well be one of the most challenging to manage.

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*See also* Cooperation; Social Dilemmas; Trust

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## PROCEDURAL JUSTICE

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Procedural justice is the study of people's subjective evaluations of the justice of decision making of conflict resolution procedures—whether they are fair or unfair, ethical or unethical, and otherwise accord with people's standards of fair processes for interaction and decision making. Procedural justice is usually distinguished from subjective assessments of the fairness of outcomes (distributive justice) and the degree to which people feel that they are gaining or losing resources in the group (outcome favorability). Subjective procedural justice judgments have been the focus of a great deal of research attention by psychologists because people are widely found to be more willing to defer to others when they act through just procedures.

John W. Thibaut and Laurens Walker presented the first system set of experiments designed to show the impact of procedural justice. Their studies demonstrate that people's assessments of the fairness of third-party decision-making procedures shape their satisfaction with their outcomes. This finding has been widely confirmed in subsequent laboratory and field studies of procedural justice.

What do people mean by a fair procedure? Four elements of procedures are the primary factors that contribute to judgments about their fairness: opportunities for participation, having a neutral forum, trustworthy authorities, and treatment with dignity and respect.

People feel more fairly treated if they are allowed to participate in the resolution of their problems or conflicts. The positive effects of participation have been widely found. People are primarily interested in presenting their perspective and sharing in the discussion over the case, not in controlling decisions about how to handle it.

People are also influenced by judgments about neutrality—the honest, impartiality, and objectivity of the authorities with whom they deal. They believe that authorities should not allow their personal values and biases to enter into their decisions, which should be made based on consistent rule application and the use

of objective facts. Basically, people seek a level playing field in which no one is unfairly disadvantaged.

Another factor shaping people's views about the fairness of a procedure is their assessment of the motives of the third-party authority responsible for resolving the case. People recognize that third parties typically have considerable discretion to implement formal procedures in varying ways, and they are concerned about the motivation underlying the decisions made by the authority with which they are dealing. They judge whether that person is benevolent and caring, is concerned about their situation and their concerns and needs, considers their arguments, tries to do what is right for them, and tries to be fair. In other words, people assess the degree to which they trust the authority.

Studies suggest that people also value having respect shown for their rights and for their status within society. They want their dignity as people and as members of the society to be recognized and acknowledged. Because it is essentially unrelated to the outcomes they receive, the importance that people place on this affirmation of their status is especially relevant to conflict resolution.

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*See also* Conflict Resolution; Distributive Justice

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on a term paper. Procrastination has a negative impact on the quality of one's work and is linked to a variety of negative physical and psychological outcomes.

## History and Background

Procrastination lies at the heart of the psychological study of goal attainment. To attain a goal, people must have adequate motivation and ability to perform the necessary actions involved in satisfying the goal. Procrastination is particularly relevant in cultures that are industrialized and place a high priority on adherence to schedules. Philip DeSimone has shown that procrastination becomes a more salient concept as a society becomes more industrialized. Although some researchers have argued that procrastination is a completely modern phenomenon, similar words and concepts related to procrastination have existed throughout history. Ancient Egyptians used words related to procrastination to describe both useful habits of avoiding unnecessary work and harmful habits indicative of laziness that preclude the possibility of completing an important activity. The *Oxford English Dictionary* states that the word *procrastination* was frequently used by the early 17th century to describe situations in which people intelligently chose to restrain their behavior to arrive at a better conclusion. Procrastination began to be used as a means of the negative consequences of squandering time before a deadline during the mid-18th century, which coincides with the emergence of the Industrial Revolution. Thus, the tendency to procrastinate has existed for many years but became problematic when societies placed a high priority on faithfulness to schedules.

## Consequences

Procrastination is a difficulty that is pervasively reported in everyday settings among people who are otherwise psychologically healthy. As many as 20% of nonclinical adult men and women report that they chronically procrastinate. And although procrastination may offer people a temporary break from an upcoming deadline, the consequences of procrastination are almost uniformly negative. Chronic procrastination has been linked to low self-esteem, self-control, and self-confidence. Other research has shown that chronic procrastinators are more likely than are non-procrastinators to have increased levels of depression, anxiety, perfectionism, self-deception, and noncompetitiveness. Compared with nonprocrastinators, chronic

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## PROCRASTINATION

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### Definition

Procrastination refers to wasting time before a deadline. The tendency to procrastinate involves putting off work that must be completed to attain a certain goal, such as watching television instead of working

procrastinators also show signs of dysfunctional impulsivity, suffer more ill health effects, and tend to score low on measures of the Big Five factor of Conscientiousness. People who procrastinate on a regular basis make inaccurate predictions of the amount of time needed to complete activities and tend to focus on past events rather than anticipating future events. Thus, chronic procrastination is related to a wide variety of negative physical and psychological outcomes.

### Causes

In addition to documenting the consequences of procrastination, psychologists have investigated the possible reasons why people procrastinate. One explanation is that people procrastinate to protect their self-images from the negative consequences that accompany poor performance. From this perspective, placing a barrier in the way of completing a task (by procrastinating) can allow the person to explain the causes of their behavior in a positive or negative manner. If the person procrastinates and performs well on a task, then the person can explain the causes of the successful performance as having the ability to overcome an obstacle. If the person procrastinates and performs poorly, in contrast, then the person can explain his or her performance by the procrastinating behavior that caused the person to perform at a suboptimal level. Some research has shown that behavioral procrastination is related to the extent to which people place barriers in the way of completing activities to manipulate whether their performance can be explained positively or negatively. Joseph Ferrari and Dianne Tice showed that chronic procrastinators engaged in procrastination when an upcoming task was evaluative and potentially threatening. Thus, one possible cause of procrastination is that people place barriers in the way of their goal to minimize the negative impact of possible poor performance.

Another possible cause of procrastination is a sense of self-uncertainty early in life. According to this perspective, the bonds that people form with their primary caregiver from an early age can influence the degree to which people procrastinate later in life. People who grow up knowing that their caregiver is loving and responsive are less likely to procrastinate later in life, whereas people with a less secure attachment to their primary caregiver are more likely to

procrastinate later in life. Other research has demonstrated that children raised by overcontrolling parents are more likely to procrastinate later in life than are children who were raised by noncontrolling parents. These findings suggest that insecure attachment to primary caregivers at an early age is associated with a tendency to procrastinate later in life.

### Prevention

Researchers have recently begun to explore prevention strategies that may reduce the negative consequences of procrastination. One strategy is to teach chronic procrastinators to restructure their mistaken thoughts regarding goal completion. Chronic procrastinators rely on thoughts that either increase task anxiety (e.g., “It’s hopeless to complete this task”) or decrease task anxiety (e.g., “I’ll do it tonight, so I don’t have to worry”). Teaching chronic procrastinators to identify and challenge these anxiety-producing thoughts may reduce the likelihood of continued procrastination. Another treatment strategy has been to boost concern and forethought for behaviors. As noted earlier, chronic procrastination is associated with low scores on the Big Five factor of Conscientiousness. Ferrari and colleagues have demonstrated that putting emphasis on the existent pattern of self-deceptive thinking aids in the reduction of procrastination among people low in Conscientiousness. The findings from these prevention strategies, though still preliminary, offer evidence that procrastination and its negative effects can be reduced.

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*See also* Anxiety; Attachment Styles; Big Five Personality Traits; Goals; Planning Fallacy; Self-Defeating Behavior; Self-Handicapping

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## PROJECTION

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### Definition and History

Many biases affect the impressions people form of each other, and a great deal of work by social psychologists explores those biases. For example, people often do not take into account how others' behaviors are constrained by the situations they are in (the fundamental attribution error). Impressions can also be biased and distorted because of the influence of stereotypes. Yet another bias—and a more subtle one—is the tendency for people to see in others characteristics that they are motivated to deny in themselves. For example, a woman tempted to cheat on a test might accuse others of dishonesty, a man with unwanted sexual fantasies and desires might become obsessed with the immorality of his neighbors, and another with an urge to commit violence against someone might come to believe that the other person is the potential aggressor. All these hypothetical cases are examples of *projection*—specifically, defensive projection (also sometimes referred to as direct or classical projection).

Sigmund Freud provided some of the earliest descriptions of projection, and his daughter Anna Freud further elaborated on his ideas. As a result, defensive projection is strongly associated with psychoanalytic theory. For psychoanalysts, projection was one of many defense mechanisms (along with repression, denial, reaction formation, and others)—psychological processes used to help people avoid becoming aware of anxiety-provoking thoughts or feelings.

Outside of psychoanalytic circles, though, the phenomenon was long viewed with a great deal of skepticism. Experimental social psychologists in particular doubted the very existence of defensive projection. The difficulty of figuring out how to study projection in a careful and systematic way was only part of the problem. Further complicating matters was confusion about how to define the phenomenon. For example, some argued that projection of a trait required actually possessing that trait. Unfortunately, it is not clear how to establish that a person can unambiguously be characterized by traits such as dishonesty, lustfulness, or aggressiveness. Still other researchers insisted that lack of awareness was a necessary characteristic of projection. It was never clear, though, what the awareness

criterion referred to: Not being aware that one has a characteristic? Not being aware that one despises the characteristic? Not being aware that one is attributing the characteristic to another person? Not being aware that one's attribution of the trait to another person is a function of one's own motivation to deny the trait?

### Contemporary Research

In the 1990s, however, projection was revived as a topic of study, and several studies support a general account of how it comes about. Although many unfavorable traits are almost universally disliked, individual people might be motivated to avoid and deny some of them more than others would. One person might desperately want not to be seen as incompetent; another might be most motivated to steer clear of dishonesty; still another might most despise cowardliness. Unfortunately, human behavior being as complex, ambiguous, and multidetermined as it is, it is hard to avoid ever doing, saying, thinking, or feeling anything that might be seen as evidence that one has a hated trait. One way of dealing with the distress that results is to simply try not to think about that evidence—that is, to suppress thoughts about the trait and about the possibility that it might at least to some extent characterize one's behavior. For example, one might try to forget about a nasty comment one just made and try to avoid thinking about how making such a comment suggests at least a certain amount of nastiness. Unfortunately, a great deal of research suggests that thought suppression can backfire. In other words, directly trying not to think about something can lead those thoughts to be harder to avoid than if one had never tried to suppress them. As a result, thoughts about the trait will have a tendency to pop into mind when interacting with other people, and therefore, it will dominate the impressions one forms of others. It should be noted that this account does not require a person to objectively possess a trait before he or she can project it; it is enough that people just be strongly motivated to deny it and be vigilant for any traces of it in their behavior.

Research supports the claim that efforts to deny a trait increase the likelihood that people will come to believe that others can be labeled with that very trait. In addition, people with a general and long-standing tendency to suppress thoughts (people known as repressors) project more than others. Finally, recent research has begun to address the possibility (long

suggested by students of intergroup relations) that stereotypes and prejudices can develop as a result of defensive projection.

Projection is seen as a defense mechanism. That can mean at least two different things. Projection is related to defense in that it results from people's efforts to defend themselves against the possibility of perceiving themselves in certain ways. In other words, it comes about as a result of the suppression of threatening thoughts. But does projection itself work as a defense—that is, do people feel better about themselves and experience less anxiety as a result of projecting unwanted traits onto others? Recent research suggests that projection can be considered to be a defense in that sense as well. People have been found to report more positive self-concepts and less distress after they are led to project.

Many people seem to have pet peeves about the deficiencies of their fellow human beings. Some people gripe about others' stupidity and laziness, some are struck by others' cruelty, and others are flabbergasted at the selfishness they see around them. Research on defensive projection suggests that these tendencies often are more revealing of the observers' anxieties and fears about themselves than they are about the nature of the people that arouse their disgust.

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*See also* Defensive Attributions; Fundamental Attribution Error; Ironic Processes; Meta-Awareness; Social Projection; Stereotypes and Stereotyping

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## PROPINQUITY

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### Definition

Propinquity refers to the proximity or physical closeness of one person to another. The greater the degree of propinquity, the more likely that two people will be attracted to each other and become friends. Propinquity is usually thought of in terms of functional distance—that is, the likelihood of coming into contact with another person—rather than sheer physical distance.

### Background and Modern Usage

Research on the effects of propinquity rests on the common-sense premise that one is unlikely to become friends with someone whom one has never met. Beyond this simple principle, however, is a set of observations and implications with considerable relevance for understanding how people move from initial encounters to the development of friendship. The power of propinquity is illustrated by a well-known finding from the Maryland State Police Training Academy. When aspiring police officers were asked to name their best friend in their training class, most named someone whose name, when placed in alphabetical order, was very close to their own. This result is readily attributed to the use of alphabetical name position for dormitory assignments and training activities.

Among the various explanations for propinquity effects, two have received the most support. One is termed the *mere exposure effect*. All other things being equal, the more often a person is exposed to a particular stimulus, the more favorably that stimulus tends to be evaluated. This has been shown with abstract paintings, letters of the alphabet, names, faces, and people. Thus, according to the mere exposure explanation, propinquity influences attraction because physical closeness increases familiarity and hence liking for other persons.

A second explanation is more interactive in nature. Physical proximity increases the frequency of encounters, and thereby creates opportunities for interaction. Because most of our interactions tend to be on the positive side of neutral, propinquity breeds positive experiences, which in turn foster attraction and friendship. In other words, propinquity creates opportunities

to interact with others; more often than not, these interactions are rewarding and enjoyable in a way that promotes friendship formation. This explanation suggests an important exception to the propinquity-attraction rule: In circumstances in which people are predisposed in a more negative way—for example, because of substantial value differences, bias, or competing interests—propinquity should increase the likelihood of disliking. Research has shown that this is indeed the case.

The idea that functional distance may matter more than simple physical proximity reflects both of these explanations. Many factors other than sheer distance affect the frequency with which people encounter one another—for example, the physical and temporal layout of everyday routines such as going to work, health clubs, and recreation. Moreover, in the modern world, propinquity may also be cultivated electronically, such as by e-mail, instant messaging, and cell phones. Although the principle of propinquity may be timeless, the ways in which propinquity is established are ever-changing.

*Harry T. Reis*

*See also* Attraction; Contact Hypothesis; Mere Exposure Effect; Personal Space; Positive–Negative Asymmetry

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## PROSOCIAL BEHAVIOR

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### Definition

Prosocial behavior is voluntary behavior intended to benefit another. Thus, it includes behaviors such as helping, sharing, or providing comfort to another. Prosocial behavior is evident in young children but changes in frequency and in its expression with age. Individual differences in prosocial behavior are

caused by a combination of heredity, socialization, and situational factors. Prosocial behaviors can be performed for a variety of reasons, ranging from selfish and manipulative reasons (e.g., helping get something in return) to moral and other-oriented reasons (e.g., helping because of moral principles or sympathy for another's plight). Prosocial behavior that is not performed for material or social rewards (e.g., rewards, approval), but is based on concern for another or moral values, is usually labeled "altruism."

A topic of attention in the social psychological literature is whether there is true altruism—that is, if people ever help others for reasons that are not really selfish. Although people sometimes assist others even when they receive no social or material benefits, some psychologists argue that there is always a selfish reason underlying altruistic motives. For example, they argue that people actually help because of the psychological merging of the self with another, the desire to elevate one's own mood or to avoid negative feelings or a negative self-evaluation (for not helping). People sometimes help others to alleviate their own feelings of distress when dealing with someone else in distress or need, or primarily because of personal ties to needy others. Nonetheless, C. D. Batson has provided evidence that people often assist for other-oriented sympathy, and there is likely at least some selfless motivation for some types of prosocial actions.

### Importance

Prosocial behavior is relevant to both the quality of close interpersonal relationships and to interactions among individuals and groups without close ties. People, as individuals or as members of a group, often assist others in need or distress, as well as others whose needs are relatively trivial. Charities and societies depend on people helping one another. In addition, prosocial behavior has benefits for the benefactor. For example, children who are more prosocial tend to be better liked by peers, and adults who engage in helping activities tend to have better psychological health.

### Personal Characteristics Associated With Prosocial Behavior

As is evident in everyday life, some people are more prosocial than others. Prosocial children and adults tend to be prone to sympathize with others. They also

are more likely to understand others' thoughts and feelings and to try to take others' perspectives. In addition, people who tend to assist others often hold other-oriented values (e.g., value others' well-being) and tend to assign the responsibility for actions such as helping to themselves. Prosocial children tend to be positive in their emotional expression, socially competent, well adjusted, well regulated, and have a positive self-concept. In both childhood and adulthood, people who reason about moral conflicts in more mature ways (e.g., use more abstract moral reasoning, with more sophisticated perspective taking and a greater emphasis on values) are also more likely than their peers are to help others. Of particular note, preschool children who engage in spontaneous, somewhat costly prosocial behaviors (e.g., sharing a toy they like) engage in more prosocial behavior as adolescents and tend to be sympathetic and prosocial as adults. Thus, there appears to be some continuity in prosocial responding from a fairly early age.

### Situational Factors

Even though some people are more prone to help than are others, situational factors also can have a powerful effect on people's willingness to help. For example, people are less likely to help when the cost of helping is high. They also are more likely to help attractive people and to help if they are the only ones available to help (e.g., there are no other people around who see an individual who needs assistance). People in good moods are likely to assist others more than are people in neutral moods, although sometimes people in bad moods seem to help others to raise their moods. People also are more likely to help if they are exposed to models of prosocial behavior. Moreover, the interaction of situational factors with personality characteristics of potential helpers is important; for example, sociable people seem more likely to provide types of helping that involve social interaction whereas shy individuals often may tend to help in situations in which they do not need to be outgoing or socially assertive.

### Origins

Prosocial behavior is a complex behavior affected by numerous factors, both biological and environmental. Findings in twin studies support the view that heredity plays a role: Identical twins (who share 100% of their genes) are more similar to each other in prosocial

behavior, as well as sympathetic concern, than are fraternal twins (who share only 50% of their genes). Heredity likely affects aspects of temperament or personality such as self-regulation, emotionality, and agreeableness, which contribute to people engaging in higher levels of prosocial behavior.

Considerable evidence also indicates that individual differences in prosocial behavior also are linked to socialization. For example, adults are more likely to help others if, as children, their parents were models of prosocial behavior. Warm, supportive parenting, especially if combined with the use of positive discipline (e.g., the use of reasoning with children about wrongdoing), has also been linked to prosocial tendencies in children, whereas punitive parenting (e.g., parenting involving physical punishment, the deprivation of privileges, or threats thereof) has been inversely related. Parents who help their children to attend to and understand others' feelings tend to foster prosocial tendencies in their offspring. Appropriate levels of parental control, when combined with parental support, prosocial values, and behaviors that help children to attend to and care about others' needs, seem to foster prosocial responding.

### Age and Sex Differences

Even very young children, for example, 1-year-olds, sometimes help or comfort others. However, the frequencies of most types of prosocial behavior increase during childhood until adolescence. It currently is unclear if prosocial tendencies increase or not in adulthood. This increase in prosocial behavior with age in childhood is likely caused by a number of factors, including increased perspective-taking skills and sympathy, internalization of other-oriented, prosocial values, greater awareness of the social desirability of helping, and greater competence to help others.

There also are sex differences in sympathy and prosocial behavior. In childhood, girls tend to be somewhat, but not greatly, more likely to engage in prosocial behavior. Girls also are more empathic or sympathetic, albeit this sex difference is small and depends on the method of assessing empathy or sympathy. Women are perceived as more nurturant and prosocial, although they likely help more only in certain kinds of circumstances. Indeed, men are more likely to help when there is some risk involved (e.g., interactions with a stranger on the street) or if chivalry might be involved.

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*See also* Altruism; Empathy; Empathy–Altruism Hypothesis; Gender Differences; Helping Behavior; Kin Selection; Moral Reasoning; Twin Studies

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## PROSPECT THEORY

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### Definition

Prospect theory is a psychological account that describes how people make decisions under conditions of uncertainty. These may involve decisions about nearly anything where the outcome of the decision is somewhat risky or uncertain, from deciding whether to buy a lottery ticket, to marry one's current romantic partner, to undergo chemotherapy treatment, or to invest in life insurance.

Prospect theory predicts that people go through two distinct stages when deciding between risky options like these. In the first phase, decision makers are predicted to edit a complicated decision into a simpler decision, usually specified as gains versus losses. Purchasing a car is simplified into losing \$20,000 and gaining a car, whereas buying a lottery ticket is simplified into losing \$1 and gaining a small chance to win \$100,000. A key feature of this editing phase is that the way in which people edit or simplify a decision may vary from one moment to the next, depending on situational circumstances. A person may think of a lottery as a .001% chance to gain \$1 million, for instance, or as a 99.999% chance to lose \$1. People make decisions based on these edited prospects, and the way that prospects are edited is therefore a critical determinant of the decisions they will make.

In the second phase, decision makers choose between the edited options available to them. This

choice is based on two dimensions: the apparent value of each attribute or option and the weight (similar, although not identical to, the objective likelihood) assigned to those values or options. These two features—overall value and its weight—are then combined by the decision maker, and the option with the highest combined value is chosen by the decision maker.

The most interesting feature of prospect theory for most psychologists is that it predicts when (and why) people will make decisions that differ from perfectly rational or normative decisions, and has therefore figured prominently in explanations of why people make a variety of transparently bad decisions in daily life.

### Background and History

Decision-making research before the 1970s was dominated by normative theories that prescribe how people “ought” to make decisions in a perfectly rational way, and many implicitly assumed that most people, in daily lives, followed these normative rules. Prospect theory was a notable departure from these existing theories because it offered a descriptive theory of how people actually make decisions, rather than providing a perfectly rational account of how they ought to do so.

The simplest way to choose between risky options is to choose the option with the highest expected value—the likelihood that an option will occur, multiplied by the value of that option. Imagine, for instance, that you are deciding whether to pay \$1 for a lottery ticket that offers a 10% chance of winning \$10. The expected value of this lottery ticket is \$1 ( $0.1 \times \$10$ ), the same as the cost of the ticket. Rationally speaking, you should therefore be perfectly indifferent about buying this ticket or not. The problem, noted by both economists and psychologists, is that rational theories did not always describe people's actual behavior very well. Few people, for instance, would actually purchase the lottery ticket in the last example. The certain loss of \$1 simply does not compensate for the 10% chance of winning \$10 and a 90% chance of winning nothing. In general, research found that people were more averse to taking risks than the expected value of outcomes would predict.

The inability of expected value calculations to explain people's decisions then led to the development of *expected utility theory*, which essentially incorporated people's attitude toward risk into their expected value calculations. Expected utility theory assumed

that attitudes toward risk were stable within individuals, were not influenced by the way a particular decision was described (or framed), and was not influenced by the mood or situational context of the decision maker. However, experiments again revealed that decision makers often violate the predictions made by expected utility theory. For instance, a terminal cancer treatment with a 1 in 10 chance of saving the patient's life is identical to a cancer treatment with a 9 in 10 chance of death (assuming people can only live or die), and yet terminally ill cancer patients themselves would likely be more interested in pursuing this treatment when described as the likelihood of living than when described as the likelihood of dying.

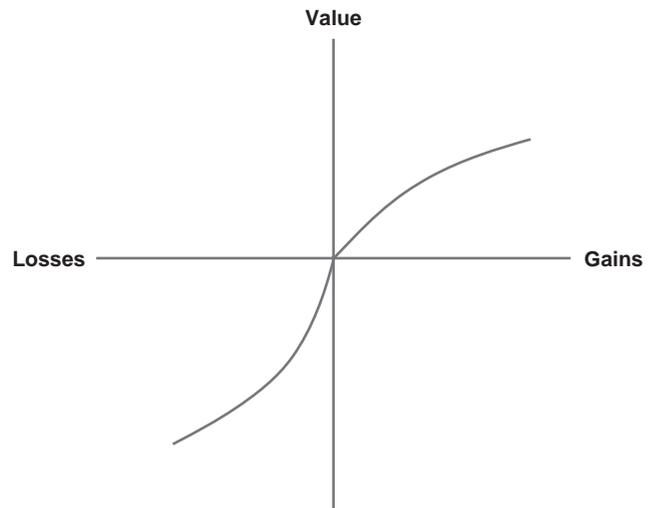
Prospect theory was motivated by these failures of rational models to describe actual decision making in everyday life. Daniel Kahneman, one of the founders of prospect theory along with the late Amos Tversky, won the 2002 Nobel Prize in economics, at least in part, for this work.

## Value and Weighting Functions

Prospect theory's central prediction is that choices between uncertain outcomes are determined by the combination of an outcome's apparent value (predicted by the *value function*) and the importance or weight assigned to a particular outcome (called the *weighting function*).

### Value Function

There are three critical aspects of the value function (see Figure 1). First, value is assigned to changes in value rather than to absolute value. Almost no attribute can be judged in isolation, but can be judged only in relation to something else. A person is tall, for instance, only in comparison with others who are shorter. Or a person is happy only in relation to those who are sadder. So too, prospect theory predicts that the value assigned to an option is determined only by comparison with other options, and the option used in this comparison is therefore of critical importance. Winning an all-expenses-paid trip to Florida might sound wonderful compared with an all-expenses-paid trip across the street. But that trip to Florida might not sound nearly as wonderful when compared with an all-expenses-paid trip to Fiji. This comparison in prospect theory is called a *reference point*, and the value of an object is determined by the change in



**Figure 1** A Hypothetical Value Function

value between an object under consideration and that reference point, rather than by the absolute value of an object. This means that people might accept an option in one situation that they reject in another.

Second, the value function is S-shaped (see Figure 1), and predicted to be concave for gains above the reference point and convex for losses below the reference point. This means that differences between small gains or losses close to the reference point are assigned a high value, whereas differences farther away from the reference point are assigned smaller values. The difference between winning \$5 versus \$10 seems rather large, for instance, but winning \$1,000 and winning \$1,005 seems relatively small, even though the objective difference (\$5) is identical.

Third, the value function is steeper for losses than for gains (see Figure 1). This means that a loss is assigned greater value than is a gain of an objectively identical amount. The prospect of losing \$10 in a gamble, for instance, seems worse than the prospect of gaining \$10 seems good. This difference helps explain why few people are interested in betting money on the outcome of a fair coin, even though the probability of winning money on this gamble is identical to the probability of losing money.

These two features of the value function have at least three profound effects on decision making. First, the S-shape of the value function means that minor changes near a reference point are likely to have a much more dramatic influence on decisions than are equivalent changes further from the reference point.

A person might drive across town, for instance, to buy a \$10 book on sale for \$5, but would not do so to buy a \$1,005 TV on sale for \$1,000. Or a person might be very enthusiastic about taking a new drug that reduces his or her risk of contracting a disease from 5% to 1%, but much less enthusiastic about a new drug that reduces the risk from 50% to 46%. Second, the asymmetry between gains and losses means that people will generally be loss-averse, which explains why people are not indifferent to gambles that have an equal probability of losing versus winning the same amount of money. What is more, this asymmetry explains why framing a decision in terms of gains or losses can have such a profound influence on behavior. People are unlikely to choose an option framed as a loss from a reference point compared with the same option framed as a gain from a reference point. Third, the asymmetry between gains and losses means that people are likely to be risk seeking in the domain of losses, but risk averse in the domain of gains. Because the prospect of losses hurts more than the prospect of gains feels good, people are likely to take greater risks to avoid a foreseeable loss than to ensure a foreseeable gain. People who fear falling short of a goal, for instance, may choose to adopt a riskier course of action to eventually achieve that goal (that may leave them even further from their goal), compared with people who believe they will exceed their goal.

### **Weighting Function**

Rational models of decision making assume that people multiply the perceived value of an outcome by the objective likelihood that the outcome will occur. Prospect theory modifies this slightly and predicts that instead, people multiply the perceived value of an outcome by a decision weight. The major difference between the decision weights and objective probabilities is observed with extreme probabilities (either very low, e.g., 1%, or very high, e.g., 99%). For instance, moving from having no chance of contracting a terminal illness to having a 1% chance has a much larger effect on one's decision making than moving from a 50% chance to a 51% chance. Although the increase in the likelihood of contracting a terminal illness is the same (1%), the influence this increase has on one's decision—considered its weight in the decision—is not. In general, people tend to overweight low-probability events in judgment, which helps explain the irrational appeal of gambling and insurance for

very low-probability events. At the other extreme, people tend to underweight highly certain outcomes. People will pay much less, for instance, for a lottery in which they have a 99% chance of winning \$1,000 than they will for a lottery in which they have a 100% chance of winning \$1,000, but there is little difference between the amount people would pay for a 50% versus 51% chance of winning \$1,000. Again, the objective difference in probabilities (1%) is identical, but its impact on one's decision is not.

### **Evidence**

Support for prospect theory can be found in a wide variety of disciplines, including sociology, psychology, and many areas within economics. Much of the empirical support comes from studies in which people make hypothetical or real choices between gambles. These gamble studies are ideal because they allow researchers to clearly specify the value and probabilities associated with each gamble, and provide an analogy to many, if not all, risky decisions made in daily life. Substantial empirical support exists for the major tenets of prospect theory: the importance of reference points in decision making, the asymmetry between gains and losses of equivalent magnitudes, and the weighting function that overweights low-probability events and underweights high-probability events. Recent advances in prospect theory involved demonstrations in field settings (such as with New York taxi drivers), and the more complicated treatment of decisions with a very large number of possible outcomes (called *cumulative prospect theory*). None of these recent advances challenged the major tenets of the original formulation.

### **Importance for Social Psychology**

At its heart, social psychology investigates how situations—typically social situations—influence judgment and behavior. Prospect theory explains how situational variability in the way a decision is framed can have a dramatic impact on the decisions people make. These decisions are not restricted to any particular domain. They can be decisions to accept a financial gamble as much as they can be decisions about whether to marry one's high-school sweetheart, whether to fund social welfare policies, or whether to help a person in need.

In particular, the overall prediction from prospect theory that judgments and decision are determined by comparisons to an existing reference point has figured prominently in many areas of social psychology. For instance, White Americans in public opinion surveys typically report that racial conditions have improved significantly more than Black Americans do. One of the reasons for this difference appears to be that minority groups frame their progress as falling short of a goal compared with majority groups and, therefore, are more likely to consider what still needs to be accomplished rather than what has already been gained. Research on social comparisons similarly highlights the importance of reference points for determining one's self-concept, and research on social judgment shows that people often use their judgments as a reference point for others' judgments.

The asymmetry between gains and losses has similarly influenced several areas of social psychology. For instance, people tend to react much more strongly to threatening social cues in the environment than to helpful or supportive social cues. This pattern has been termed the *negativity bias* and is both informed by, and an extension of, the gain–loss asymmetry documented by prospect theory. The gain–loss asymmetry has also figured prominently in theories of motivation and goal pursuit. Focusing on preventing a loss versus achieving a gain activates very different kinds of psychological states and behaviors, a line of research clearly inspired by the insights of prospect theory. Finally, people's tendency to be risk seeking in the domains of losses but risk averse in the domain of gains has been applied to political attitudes for change versus stability and has therefore shed light on the origins of conservative versus liberal social attitudes.

One very specific phenomenon that has been of particular interest to social psychologists is the endowment effect. Empirical evidence demonstrates that people are more reluctant to give up or sell an item once they own it than they are interested in acquiring it if they do not. In the most common experimental demonstration, participants were randomly assigned to either receive a mug to take home or to receive no mug. Those who received a mug later state the amount of money they would ask to sell the item, and those who do not have a mug indicate the amount they would spend to buy the object. Despite being randomly assigned to own the mug, results show repeatedly that selling prices are higher than buying prices. The reason is that buyers are gaining an object and

therefore value it less than do sellers who are losing an object. The power of this situational influence, unfortunately, is generally lost on buyers and sellers themselves who instead explain the other role's behavior as an instance of greed—not wanting to pay or sell an object for what it is “really” worth.

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*See also* Behavioral Economics; Consumer Behavior; Decision Making; Mere Ownership Effect

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## PROTOTYPES

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### Definition

A prototype is the best or most central member of a category. An object can be described in terms of prototypicality, which refers to the degree to which it is a good example of a category. For example, baseball is a more prototypical sport than is billiards or bullfighting, and an automobile is a more prototypical vehicle than is a sled or skateboard.

## Background

The idea that category members differ in how well they fit their category is an important component of what is known as the natural view of categories, which emerged in the 1950s with the publication of Ludwig Wittgenstein's *Philosophical Investigations*. Radically transforming how categories were understood, the natural view replaced the classical view, a perspective originating from Aristotle's thinking about categories that had been the accepted belief for two millennia.

According to the classical view, a category, like a formal set, has specific defining characteristics that make the determination of category membership unambiguously clear. Objects that possess all the defining characteristics are category members and objects that do not are nonmembers. Having an absolute criterion for category membership implies that there is no gradation among category members. All objects that meet the standard for inclusion are equivalently good category members. The classical view also assumes that categories are arbitrary, as expressed in Benjamin Lee Whorf's writing on language and thought, which portrays categorization as a linguistic community's agreement about how to organize its otherwise chaotic reality. In this view, a category is merely sociolinguistic convention, without any inherent order or constraint in which attributes cluster together to define it.

## The Natural View and Categorization

Despite its longevity, the classical view ultimately gave way because the natural view better describes how people actually categorize objects. The natural view recognizes that most categories are not defined by a set of specific properties that are true of all category members. Instead, category members are linked by family resemblance, a group of related characteristics that category members will likely, but not necessarily, possess. For example, a number of things are typically found on vehicles, such as wheels and a motor. However, none of these typical attributes are found on all vehicles, and there is no essential characteristic that an object must possess to be categorized as a vehicle.

Family resemblance implies that category members may not be equivalent. When individual category members possess some but not all of the category's common features, an object with more of these common features

will be considered a better example of the category than one that has fewer. Natural categories have an internal structure, with the prototype, or best example of the category, at the center and less prototypical objects radiating away from it. Although the category's center is clear, its boundaries are fuzzy. There is no definite point at which one can say the category ends. People will agree about the status of most objects. Things like cars and bicycles are clearly vehicles, but coffeepots and neckties are obviously not. However, at the margins of a category, there will be objects whose status is unclear. People will disagree about whether things like a wheelbarrow, an elevator, or a pair of skates can be considered a vehicle. According to the natural view, no absolute boundary divides the things that are vehicles from those that are not.

The natural view rejects the idea that categories are arbitrary. It contends that a category's common attributes are things that naturally belong together. For example, it is not merely chance that attributes like feathers, beaks, laying eggs, and the capacity to fly are characteristic of the category "bird." They form a meaningful category because these things naturally occur together. Creatures that possess any one of these attributes are also very likely to have the others.

Substantial empirical evidence indicates that the natural view provides a more accurate account of categorization than does the classical view, much of which was obtained by Eleanor Rosch and her collaborators in the 1970s. For example, research participants uniformly find it to be an easy and reasonable task to rate whether an object is a better or worse example of a category. There is remarkable consensus in their ratings, and their level of agreement is usually greatest for the most typical category members. Consistent with the idea of family resemblance, objects that possess more of a category's common attributes are judged to be more prototypical. When listing members of a category, people generate the highly prototypical examples first, and less prototypical examples come later, if they are produced at all. People recognize category membership more quickly for highly prototypical objects than for less prototypical objects. Similarity ratings between high and low prototypicality objects are asymmetrical, with less prototypical objects being seen as more similar to highly prototypical objects than vice versa; for example, people more strongly endorse the statement "a sled is similar to a car" than "a car is similar to a sled." Interestingly, prototypicality effects also extend to categories with

specific defining characteristics, such as geometric shapes or even numbers. People reliably judge 4 to be a “better” example of an even number than 104, though they equally satisfy the formal definition of an even number.

Categorization involves making generalizations that are essential for people to organize and make sense of the information they encounter. However, that people readily generate highly prototypical examples when thinking about categories can be problematic for social judgments. Many members of a social group will not share all the characteristics of the most prototypical member. Failure to recognize this may contribute to pervasive errors in social judgment, such as overestimating the degree to which group members possess certain characteristics, underestimating the variability among group members, and focusing on category membership at the exclusion of relevant information such as base rates.

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*See also* Need for Closure; Representativeness Heuristic; Schemas; Subtyping

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## PSYCHOLOGICAL ENTITLEMENT

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### Definition

Psychological entitlement refers to a general belief that one deserves more or is entitled to more than

others are. Psychological entitlement is defined as a general belief because it is consistent over time and across different situations.

### Context and Importance

The concepts of entitlement and deservingness play an important role in much of social life. They both reflect the commonly held idea that when individuals contribute to a situation, they should get something back in return. When individuals do not get what they feel they are entitled to or deserve, they consider the situation unjust or unfair, and may get upset or angry and seek redress.

Entitlement and deservingness are similar but have slightly different meanings. Entitlement usually refers to a reward that a person should receive as the result of a social contract. For example, a person would say that she is entitled to receive a pension because she worked at a job for a set number of years. In the United States, government programs like Social Security are actually called entitlement programs. Deservingness, in contrast, usually refers to a reward that a person should receive as a result of his or her efforts or character. For example, a person may say that he deserves a larger salary because he is such a hardworking employee and keeps such a positive attitude in the workplace.

Psychological entitlement encompasses the experience of both entitlement and deservingness across time and across situations. In this sense, psychological entitlement can be considered an individual difference variable. That is, it reflects a very general difference between persons in beliefs and behaviors: Some individuals have chronically high levels of psychological entitlement, others have moderate levels of psychological entitlement, and still others have low levels of psychological entitlement. Individuals who have high levels of psychological entitlement think that they deserve more than do others in most situations. For example, a student with a high level of psychological entitlement will think that she deserves an A in a class, even if it is clear to the professor and the other students that she does not. Furthermore, this same student will likely feel that she deserves A’s in all of her classes because psychological entitlement is a general trait and not limited to one specific situation. In contrast, another student with a low sense of psychological entitlement would not think that he deserved an A if he did not clearly earn it.

An individual's level of psychological entitlement is typically measured with a self-report scale, the Psychological Entitlement Scale. This scale asks individuals to rate the extent that they agree with certain statements. These include "I deserve more things in my life," "People like me deserve an extra break now and then," and "I feel entitled to more of everything." Individuals who have high levels of psychological entitlement are more likely to agree with these and similar statements.

Psychological entitlement has a wide range of important and often negative consequences for human thoughts, feelings, and behavior. In the workplace, for example, individuals who have high levels of psychological entitlement often believe that they should be paid more than are others in similar positions. This can potentially lead to conflict or divisiveness at work and leave the psychologically entitled person constantly dissatisfied. In romantic relationships, psychological entitlement is also related to many negative consequences. Individuals who have high levels of psychological entitlement report responding more negatively to conflict in the relationships, being less empathic, less respectful, and less willing to take their partners' perspective. They also report being more selfish and more game-playing. Finally, individuals who have high levels of psychological entitlement are more prone to aggression. These individuals believe that they deserve special treatment, so they are particularly likely to be aggressive toward those who criticize them. In short, individuals who have high levels of psychological entitlement often feel shortchanged by others. This is linked to feelings of resentment or anger, selfish and self-centered behaviors, and even hostility and aggression.

Although psychological entitlement is usually linked with negative outcomes, it may also benefit individuals in some situations. For example, employees who have high levels of psychological entitlement may actually end up making more money at work simply because they ask for it. Likewise, students who think they deserve higher grades and demand them might in some cases actually receive higher grades. Of course, these benefits of psychological entitlement may be short-lived. Individuals who constantly demand more resources or better treatment than they truly deserve might well gain bad reputations and eventually be avoided by others.

Finally, psychological entitlement might also operate at the level of social groups. When there is conflict

between groups, excessive levels of psychological entitlement by one group may be blamed. In the United States (and this certainly occurs in other countries), many social groups have been referred to as "entitled." These include CEOs, celebrities, professional athletes, the young, the old, the poor, and the rich. In each of these cases, the label "entitled" applied to a social group implies that members of that group believe that society owes them special treatment. Furthermore, the implication is often that this special treatment is not deserved. For example, if a professional athlete is caught committing a crime, the comment is often made that it is typical of these entitled athletes to think that the rules that apply to everyone else do not apply to them.

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*See also* Narcissism; Narcissistic Entitlement

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## PSYCHOLOGY OF TERRORISM

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*See* TERRORISM, PSYCHOLOGY OF

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## PUBLIC GOODS DILEMMA

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### Definition

Public goods dilemma refers to a real-world decision whereby the outcome for any individual depends on the decisions of all involved parties. More specifically, these dilemmas are decisions in which individuals must weigh personal interests against the collective interest, which is typically a communal resource, a public good.

## Examples of Public Goods Dilemmas

Real-world public goods dilemmas are quite common. For example, the existence of public radio stations is based on listener donations, but any one individual can save money by listening without contributing. Voting, actions by the United Nations, and many environmental problems are all examples of public goods dilemmas.

One of the original public goods dilemmas is Garrett Hardin's "Tragedy of the Commons." In his example, a community uses a common pasture to graze sheep. As long as each rancher uses the pasture for a small number of sheep, the pasture provides plenty of grazing. However, because each rancher sees the logic in adding a few more sheep (a large benefit for each rancher, only minor impact on the pasture), soon the pasture is well beyond its capacity and unusable by all.

## Empirical Study

Public goods games are used to study these dilemmas in the laboratory. In one version, players are given some amount of money either to keep for themselves, or contribute to a shared pool. Typically, any contributions to the shared pool are multiplied to reflect the shared benefit of such contributions. The total amount that a player receives is the sum of (a) the amount that the player kept for himself or herself, and (b) that player's share of the shared pool.

By varying the specifics of these games, much has been learned about how people make public goods decisions. For example, punishments for noncontributors tend to increase contributions. Anonymous players tend not to contribute, whereas players who know each other are more likely to contribute. Similarly, a sense of belonging to a team tends to increase contributions, especially when one's team is competing against another team in a different game.

## Strategies

It may be easiest to illustrate the strategies and payoffs in a public goods game with an example. Imagine a simple four-player game in which players are given \$10 to keep or contribute (with no partial contributions), and contributions get multiplied by 2. Each player's profit is the \$10 he or she kept or an equal share of the total contributions. Assume that Players 2, 3 and 4 will all make the same choice. Table 1 shows Player 1's total profit. Regardless of whether the other players keep or contribute the money, Player 1 profits most by keeping the money, and profits least by contributing it. Thus, although it is illogical for any one player to contribute, if all players contribute, the total benefit for the group is greatest. Hence, the dilemma: Contributing is risky, but it can lead to a larger benefit for the group as a whole.

**Table 1** Player 1's Total Profit

|                 |                   | <i>All Other Players</i> |                   |
|-----------------|-------------------|--------------------------|-------------------|
|                 |                   | <i>Keep</i>              | <i>Contribute</i> |
| <i>Player 1</i> | <i>Keep</i>       | \$10                     | \$25              |
|                 | <i>Contribute</i> | \$0                      | \$20              |

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*See also* Altruism; Cooperation; Intergroup Relations; Social Dilemmas; Social Loafing

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# Q

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## QUASI-EXPERIMENTAL DESIGNS

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### Definition

A quasi-experimental design is a research methodology that possesses some, but not all, of the defining characteristics of a true experiment. In most cases, such designs examine the impact of one or more independent variables on dependent variables, but without assigning participants to conditions randomly or maintaining strict control over features of the experimental situation that could influence participants' responses.

### Example of a Quasi-Experimental Design

Quasi-experimental designs are most often used in natural (nonlaboratory) settings over longer periods and usually include an intervention or treatment. Consider, for example, a study of the effect of a motivation intervention on class attendance and enjoyment in students. When an intact group such as a classroom is singled out for an intervention, randomly assigning each person to experimental conditions is not possible. Rather, the researcher gives one classroom the motivational intervention (intervention group) and the other classroom receives no intervention (comparison group). The researcher uses two classrooms that are as similar as possible in background (e.g., same age, racial composition) and that have comparable experiences within the class (e.g., type of class, meeting time) except for the intervention. In addition, the researcher gives participants in both conditions (comparison and motivation

intervention) pretest questionnaires to assess attendance, enjoyment, and other related variables before the intervention. After the intervention is administered, the researcher measures attendance and enjoyment of the class. The researcher can then determine if students in the motivation intervention group enjoyed and attended class more than the students in the comparison group did.

### Interpreting Results From a Quasi-Experimental Design

How should results from this hypothetical study be interpreted? Investigators, when interpreting the results of quasi-experimental designs that lacked random assignment of participants to conditions, must be cautious drawing conclusions about causality because of potential confounds in the setting. For example, the previous hypothetical example course material in the intervention group might have become more engaging whereas the comparison group started to cover a more mundane topic that led to changes in class enjoyment and attendance. However, if the intervention group and comparison group had similar pretest scores and comparable classroom experiences, then changes on posttest scores suggest that the motivation intervention influenced class attendance and enjoyment.

### The Pros and Cons of Using Quasi-Experimental Designs

Quasi-experiments are most useful when conducting research in settings where random assignment

is not possible because of ethical considerations or constraining situational factors. In consequence, such designs are more prevalent in studies conducted in natural settings, thereby increasing the real-world applicability of the findings. Such studies are not, however, true experiments, and thus the lack of control over assignment of participants to conditions renders causal conclusions suspect.

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*See also* Ecological Validity; Experimentation; Nonexperimental Designs; Research Methods

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# R

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## RACIAL RESENTMENT

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*See* SYMBOLIC RACISM

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## RACISM

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### Definition

Racism is the systematic implementation of a doctrine of racial supremacy that maintains the superiority of one race over another.

### Background, Components, and Modern Usage

Racial supremacy is the hallmark of racism, but it is also often characterized by a belief that racial groups are genetically isolated, biologically based entities that exist in nature. Racists believe that the biology of their group has afforded them greater intellect and moral fiber than the biology of other groups, and, therefore, they must control the behaviors of members of lesser groups to maintain the purity (and supremacy) of their own group.

Racism builds upon prejudice and discrimination, phenomena that have been studied in social psychology for more than 100 years. Prejudice is the affect or emotion, usually negative, an individual feels toward members of a particular racial group. For instance, the negative attitudes regarding Arab Americans that surfaced in response to the September 11, 2001, terrorist

attacks can be thought of as prejudice. Discrimination is treating people differently from one another based on their racial group membership, often resulting in the relative advantage of one group. For example, if an individual owns a store and decides that he or she will only sell goods to members of one racial group, then he or she is discriminating against all the other racial groups. Violent hate crimes, such as lynching, are the most extreme form of discrimination. Racism, prejudice, and discrimination can each take three forms: interpersonal, institutional, and cultural. Consider, for instance, discrimination. Individual discrimination is the unfair treatment of one individual by another, such as attempting to keep a member of a different race from joining your fraternity. Institutional discrimination is the unfair treatment of members of an entire race that is sanctioned by societal institutions, norms, or governing bodies. The Jim Crow laws of the U.S. South that mandated separate public facilities for Whites and Blacks, such as drinking fountains and bathrooms, constituted institutional discrimination. Cultural discrimination entails the promotion and normalization of the practices, values, and products of one race, coupled with the marginalization of those of other races. The use of a White norm for “skin colored” pantyhose and bandages is a form of cultural discrimination.

Many scholars argue that prejudice and discrimination transform into racism when the members of the discriminating group have societal power over the members of the discriminated group. Such societal power allows the dominant group to define racial category boundaries; promote and communicate stereotypes about the other racial groups in schools, churches, and the media; and control the minority groups’ access to

educational, economic, and other societal resources. In other words, racism presupposes the power to affect individuals' lives on a large scale.

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*See also* Contact Hypothesis; Prejudice; Sexism; Stereotypes and Stereotyping; Subtyping; Symbolic Racism

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## RAPE

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Rape occurs when one individual forces another into sexual intercourse against his or her will. Other instances in which one of the individuals participates in sexual acts without fully consenting to them (e.g., unwanted kissing) are encompassed within the more general term *sexual coercion*. Males are much more frequently than females the perpetrators of rape and sexual coercion, not only in humans but also in non-human animals. In a recent review of research literature, the researchers could not find one animal species (other than human beings) where females actually force sex on males.

Although there are differences among studies, partly depending on how questions are asked and who the participants are, survey data on average indicate that almost half of all college women have experienced at least one sexual coercion incident since age 14, and 6% to 15% of college women have experienced rape. About 15% to 30% of male college students report having engaged at least once in some level of actual sexual aggression, and about a third of college men avow some likelihood of raping if they could be assured that no one would know. Acquaintance rape (e.g., by dates and boyfriends) is reported to be as common as stranger rape and usually does not lead to similar adjustment difficulties in the aftermath. Compared with other types of physical assaults, victims of rape suffer relatively higher trauma from sexual assaults, even when the degree of actual physical

severity of the act remains constant. Young women are raped more frequently than are other women and experience the greatest psychological distress following the rape.

Compared with criminologists, who primarily study characteristics of incarcerated rapist populations, social psychologists have focused their research on college students and participants from the general community. The distinctive types of populations they have focused on may help explain some differences between criminologists and social psychologists regarding the proposed characteristics of sexual aggressors. Criminologists have generally concluded rape is typically the result of the same types of characteristics and factors that cause other antisocial acts such as stealing, killing, and cheating. In other words, incarcerated rapists appear to be criminal generalists who commit many different types of antisocial acts. Accordingly, criminologists have found convicted rapists to be comparable with other types of violent criminals on most measures of antisocial traits and behaviors, and the criminal records of rapists often resemble those of other offenders. In contrast, social psychologists have discovered that men in the general population who self-identify as having committed sexual coercion are more specialized in their coercive tendencies. For these men, sexually aggressive behaviors are much less likely to correlate significantly with measures of general antisocial behavior (e.g., drug use, lying, hitting, kicking, fraud, or killing).

An important objective of social psychological research has been to identify risk factors associated with an increased probability of committing sexual coercion among noncriminal populations. Several researchers have found a relation between men's hostile masculinity characteristics and the likelihood of committing sexually coercive acts. Such hostile masculinity includes callous attitudes toward women (e.g., rape myth acceptance and acceptance of interpersonal violence against women), feelings of hostility toward women, and sexual gratification from dominating and controlling women. Related research indicates that being sexually aroused by forced sex, even in fantasy, correlates with self-reported likelihood of raping and actual sexual coercion, and that for such males, but not other participants, the addition of power cues in a simulated relationship with a woman makes females over whom they have power more sexually attractive to them.

Notably, if a man has a hostile masculinity profile, and he also has a generally promiscuous or impersonal sexual lifestyle, then the combination makes him

considerably more likely to be sexually coercive. Men who possess a promiscuous sexuality are identified by certain prior experiences. These men generally have had sexual intercourse at a relatively early age as well as quite a few short-term sexual relationships, without much personal attachment or intimacy. Individuals who come from homes where there was much conflict, including aggression by the parents against each other or sexual abuse of the child, have also been found to be more likely to adopt an impersonal sexual lifestyle. It has also been found that engaging in delinquent acts in adolescence or having close friends who participate in such delinquent acts during adolescence also increases the likelihood of developing an impersonal sexual lifestyle.

Although no single risk factor is strongly predictive of actual sexual aggression, if a man possesses several of these risk factors, these, in combination, can become quite predictive of his propensity to sexually aggress. The risk for sexual coercion is further exacerbated if significant alcohol consumption occurs by either individual on a date or during other social interactions, because inhibitions are likely to be reduced by drinking.

Importantly, risk factors for sexual aggression can be counteracted by certain cultural and individual variables. To illustrate, it has been found that among Asian American men but not European Americans, early risk factors for rape (e.g., abuse and violence in the family of origin) are tempered by the importance one assigns to the preservation of his own social integrity. For example, those males who are more concerned about being shamed by their actions are less likely to commit acts of sexual aggression. This result probably reflects differing norms between Asian and European cultures. Because concerns about losing face and upsetting interpersonal harmony are more characteristic of Asian culture, those Asian men who highly identify with norms of societal interdependency are expected to have this identification as an added cultural incentive not to sexually aggress. Likewise, certain personality traits can serve as possible inhibitory factors against the commission of sexual aggression. For instance, some research has found that males who were otherwise at high risk for sexual coercion were less likely to aggress if they also possessed high levels of empathy and compassion for the feelings of others.

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*See also* Date Rape; Hostile Masculinity Syndrome; Narcissistic Reactance Theory of Sexual Coercion

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## REACTANCE

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### Definition

Broadly, reactance refers to the idea that people become upset when their freedom is threatened or eliminated, so much so that they attempt to reassert their lost freedom. The theory is relevant to the idea that humans are motivated to possess and preserve as many options and choices as possible. When people's options are restricted, they experience aversive emotional consequences. Reactance is very similar to a layperson's idea of reverse psychology: Humans will tend to do the opposite of what they are told to. Being ordered to do something by an external person or source implies that someone is trying to reduce one's freedom. Reactance also refers to the idea that people will want something more if they are told they cannot have it. As a result, humans may act in a manner that will oppose a resistance presented to their freedom.

### Background and History

Psychological reactance theory was first proposed by the social psychologist Jack Brehm in 1966. Reactance theory is still considered to be one of the basic psychological theories; it has withstood decades of testing and can be applied to many aspects of human behavior.

Reactance theory is important because it highlights people's need for control, freedom of action and choice, as well as people's desire to preserve as many

options as possible. Indeed, the theory was devised during a decade when people were constantly advocating and rallying about freedom of choice and action. Brehm observed that humans react strongly to having options taken away by external forces; they become quite upset and will take action to preserve or regain their lost options.

Many psychologists have noted that humans have a very strong aversion to loss, both in options and choices. Essentially, humans value freedom greatly. They like having options so much that they will incur costs to their own self just to maintain options, even if the options they keep open aren't that important or profitable. Think about what would happen if you woke up one day and heard on the news that you no longer have the right to vote; most likely you would become very upset—people value the ability to vote in a democratic society. Though this may seem like an extreme example, even people who do not exercise the right to vote would be upset. Indeed, many people would immediately revolt because someone else is trying to infringe on one of their basic freedoms.

Reactance theory highlights the simple, but important, fact that people value their freedom: When this freedom of behavior and choice is threatened, people will engage in motivated behavior, designed to take steps that will reassert and regain that freedom. In the former example, citizens will rally, petition, they may even become aggressive, if necessary, to try and regain freedom or options they feel are jeopardized.

A subtler example can be demonstrated by one of the original studies on reactance. Participants were asked to rate a series of records and then list the three they desired the most. Importantly, participants were promised that they could keep one of the records. After ranking their top three choices, participants were told that their third choice was unavailable. The researchers found that when participants were asked to rate the records again, the choice that was no longer available (their third choice) would then be rated as more attractive than it originally was. Simply because the option was no longer available, people actually valued it more.

### Consequences

When people react, they become aroused. That is, they become upset, distressed, angry, or emotionally charged. Over the decades, researchers have been able to identify three main ways that people direct this

arousal. These are known as the main consequences of psychological reactance.

First, an object, action, or freedom becomes more attractive after it has been eliminated or threatened. That is, the desire for that behavior or object will increase, as seen in the previous example. This consequence also applies to things such as people and behaviors, not just objects. For example, teenagers who are told by their parents that they cannot attend a party on the weekend want to go to that party more than before their parents restricted the teenagers' behavior. Even if the teenagers originally had no intention of attending the party, once they are told they cannot, they will desire going to the party more than before.

Second, people will engage in behavioral attempts to reassert the threatened or eliminated freedom. That is, a person will try to regain his or her freedom or options. According to reactance theory, when parents forbid teenagers to attend the party, the teenagers will engage in behaviors that they think will increase their chances of regaining their options. For example, they may begin arguing with their parents about the benefits (e.g., social acceptance) and costs (e.g., exclusion, being the only one in the class not attending) of attending the party. Hence, the teenagers will try to regain the ability to attend the party.

Often people will even engage exactly in the same behavior that was threatened or eliminated. Thus, if the teenagers cannot convince their parents to let them go, they may go anyway, either by sneaking out of the house or pretending to do something else, such as going to a respected friend's house.

Finally, reactance may lead people to feel or act aggressively toward the person who is attempting to restrict their freedom. For example, in times of war, citizens whose country is being occupied may feel intense hatred toward the enemy (occupiers) such that they have aggressive thoughts, and sometimes even aggressive actions, toward the enemy.

### Influences on Degree of Reactance

The magnitude of reactance is not exactly the same for each person, nor for each situation. Rather, it depends on several key factors. First, the importance of the action or choice determines the degree of reactance to the loss. That is, when something that is very important to a person is in jeopardy, that person will probably experience stronger reactance (i.e., more

arousal, increased attempt to regain). For example, students wishing to enroll in a course would probably value enrolling in it more if it is required to graduate than if it is only an elective. Consequently, if it is required to graduate and they are unable to enroll in it because the course is full, they will react more strongly than if they had wanted to take it simply as an elective. Moreover, the students who value it more will probably try and reassert their ability to take that course by pleading their case to the professor or department, whereas those students who wanted to take it as an elective might just attempt to enroll in the course next semester (though, to be sure, they will probably want to take the course more than before).

If an option or behavior has not been taken away, but has only been threatened to be taken away, the perceived magnitude of the threat (that is, if only a threat exists) will determine the strength of the reactance experienced by the person. If the threat is blatantly strong, then the person will experience stronger psychological reactance in response to the threat.

### Importance

Having control over their actions and behavior is one of human beings' most important and valued needs. Indeed, people become distressed, angry, and even aggressive to actual loss of freedom, even perceived infringement on freedom. For example, after a couple breaks up, the person who initiated the end of the relationship is better able to cope and often feels a maintained sense of control. The person who did not have control over the termination of the relationship, however, will typically want his or her ex-partner back even more. That person also tends to feel a lack of control over the situation, which can be accompanied by wanting the ex-partner back more, being unable to think about anything else, and taking extreme steps to try and win that person back.

Men who are refused by women they believe they should have the opportunity to sleep with may become angry and coercive, even to the point of raping her. Moreover, sometimes reactance will produce behavior that is opposite of what was intended. This could be one reason why restrictions on violent video games and movies, pornographic material, or unhealthy behaviors such as smoking or drinking underage leads to the opposite of the intended effect. Humans will even use this basic knowledge to their advantage. For

example, some parents may try to have their children cooperate by using reverse psychology on them.

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*See also* Free Will, Study of; Narcissistic Reactance Theory of Sexual Coercion

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## REALISTIC GROUP CONFLICT THEORY

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### Definition

Between the borders of Pakistan and India lies a fertile valley known as Kashmir. Since 1947, India and Pakistan have fought three wars over this valuable territory. Unfortunately, the wars have contributed to hostilities and prejudice experienced by people on both sides. These tensions can be described by the realistic group conflict theory (RGCT). RGCT is a well-established theory with robust research support from both laboratory and field studies. It is used to understand many of the local and global intergroup conflicts that besiege the world. That a solution to end conflict is incorporated within this theory makes it one of the most applicable and compelling social psychological theories existing today.

This theory emerged in the 1960s to describe how perceived competition for limited resources can lead to hostility between groups. Unlike theories that use psychological factors such as personality or value differences to explain conflict and prejudice, RGCT focuses on situational forces outside the self. When valuable resources are perceived to be abundant, then groups cooperate and exist in harmony. However, if valuable resources are perceived as scarce (regardless of whether they truly are), then these groups enter into competition and antagonism ensues between them. The resources in question can be physical (such as land, food, or water) or psychological (such as status, prestige, or power).

One group need only believe that competition exists for hostile feelings and discriminatory behavior to follow. For example, if ethnic group A believes that

members of ethnic group B pose a threat to them by “stealing jobs,” then regardless of whether this is true, ethnic group A will feel resentment and hostility. The extent to which ethnic group A holds any power to follow through on its hostile feelings determines if unfair or discriminatory behavior toward ethnic group B will occur. At the very least, negative stereotypes about the other group will be created and mistrust and avoidance will result. How long and how severe the conflict becomes is determined by the perceived value and scarcity of the resource in question.

RGCT is unique because it does not discuss any personal features of the individuals engaged in the conflict. Other psychological theories use personality factors (such as authoritarianism) or ideologies (such as social dominance orientation) to explain why these hostilities exist. In RGCT, if individuals in a group believe that the two groups share a zero-sums fate, meaning that the other group’s success feels like a failure or loss for one’s own group, then no matter what outside group members say or do, feelings of resentment and discriminatory behavior will result. As the conflict unfolds, the members of each group will close ranks with their fellow members and will come to believe that their fate is connected with each other.

### Classic Study

Muzafer Sherif’s Robbers Cave experiment is a demonstration of this theory. Sherif is credited as one of the most important social psychologists of his time. With his colleagues, he set up a 2-week experiment involving White, middle-class, 12-year-old boys at a summer camp. At first, the boys interacted only with their own group members because Sherif wanted them to develop a sense of group identity. The boys did develop a group identity and called themselves the Eagles or the Rattlers. In the second phase of the study, the boys were introduced to the other group and were required to engage in a series of competitive activities. Rewards and prizes were handed out to the winning team. Sherif and his colleagues purposely set up these games and rewards so that the boys would have reason to compete intensely. During these fierce competitions, both groups became suspicious of and hostile toward one another. As tensions increased, the boys demonstrated allegiance to their group by discouraging one another from establishing friendships across group lines. No one wanted to be seen as a traitor, so the boys stuck to their own groups. Hostility increased to the point that physical fights and acts of

vandalism broke out. Despite direct interventions by adults, the two groups could not seem to reconcile.

Unity was restored only when Sherif and colleagues created situations requiring both groups of boys to depend on each other to achieve important goals equally valued by both groups. In other words, harmony was restored when both groups were equally invested in achieving a goal that required everyone’s help and cooperation. For example, Sherif set up a situation in which a truck carrying their food supply broke down and the help of all the boys was needed to bring the food to camp. After completing a series of such tasks requiring interaction and everyone’s involvement, positive behavior toward the other group members increased. The boys began to behave more like individuals rather than group members and formed friendships across group lines. Psychologically, they began as two distinct groups, but when the perception of threat was replaced by cooperation and interdependence, the groups reestablished themselves as one large group. Therefore, the group distinctions made between Eagles and Rattlers disappeared and everyone felt as if they belonged to the same group.

### Research Support

RGCT has received support from both psychological and sociological studies. For example, RGCT has been used to explain Whites’ opposition to civil rights policies for Blacks. This research indicates that for some Whites, losing certain privileges is at the root of their resistance to racial policies rather than a dislike for Blacks. There has also been cross-cultural research using RGCT to analyze conflict between different ethnic and religious groups of people. These studies show that violence between different groups will escalate in societies experiencing shortages in vital resources. Research has shown that competition can lead to hostile behaviors in children, adolescents, and adults alike.

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*See also* Intergroup Relations; Prejudice; Robbers Cave Experiment; Stereotypes and Stereotyping

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## REASONED ACTION THEORY

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### Definition

The theory of reasoned action (TRA) is a model for predicting people's behavior, which states that the best predictor of people's behavior in any given situation is their intention to perform the behavior. Not surprisingly, the best predictor of whether people will actually do something is whether they intend to do it. The intention to perform the behavior is influenced by a person's own attitude toward (feelings or evaluations of) the behavior as well as the attitudes of people who are important to the person and the associated perceived social pressures (subjective norms).

### Background and Importance

Social psychologists have demonstrated that knowledge of people's attitudes and feelings frequently allows one to predict their behavior. However, research also indicates that sometimes people's behavior is not consistent with their attitudes. For example, students might believe that studying for exams is good because it leads to better grades; however, they still might not study. Therefore, more variables must be influencing the behavior than just attitudes. The TRA was an attempt to identify other factors, such as social pressures, that could be useful in predicting behavior. The result was the better prediction of behavior.

### Components of the Theory and Evidence

According to the TRA, individuals' intention to perform a behavior (their behavioral intention) determines what they do, and it is based on two things: their own attitudes about the behavior and perceived social pressures from people whom they want to please (technically referred to in the theory as subjective norms). Usually, people intend to perform behaviors that they feel positively about or that are popular with other people, and they do not intend to perform behaviors that they feel negatively about or that are unpopular with other people. Once the intention to behave a certain way is determined, people tend to follow through with the intention and engage in the behavior.

Research demonstrates that people tend to perform behaviors about which they have positive attitudes and avoid behaviors toward which they have negative

attitudes. The TRA states that attitudes toward specific behaviors are based upon expectations or beliefs about what the likely consequences of the behavior will be. If people believe that primarily positive consequences will result from the behavior (and negative consequences seem unlikely), they will have positive attitudes toward the behavior. If they believe that primarily negative consequences will result from the behavior (and positive consequences seem unlikely), they will have negative attitudes toward the behavior. For example, a student might believe that studying will lead to better grades but also to missed opportunities to socialize with friends. If socializing is more important to the student than are good grades, or if the student is not confident that he or she would get good grades even with more studying, the student would probably have a negative attitude toward studying. On the other hand, if getting better grades is more important to the student than socializing, and if the student is confident that studying will lead to better grades, he or she will probably have a positive attitude toward studying.

Although research demonstrates that people's own attitudes concerning a behavior significantly influence whether they intend to do it, research has also shown that attitudes are not always sufficient for predicting behavior. According to the TRA, behavioral intentions are also influenced by perceived social pressures. For example, even if a student has a positive attitude toward studying, if the student's friends have negative attitudes toward studying, it is likely that the student will not study much either because of conformity pressures. Whether the student conforms to perceived social pressures will depend largely on the extent to which the student is concerned about what those individuals think. In other words, the perceived social pressure is the result of the beliefs of other people (friends, family, etc.) concerning how the individual should behave as well as how motivated the individual is to comply with those people. For example, even if there is perceived pressure from parents to study, the student may be more motivated to comply with friends' wishes. Studies have demonstrated that the consideration of perceived social pressures in addition to attitudes enhances the prediction of behavioral intention, and thus behavior. However, research shows that some people, as well as some behaviors, are more influenced by social pressure than others.

Typically, TRA researchers ask participants to report their attitudes concerning a specific behavior, including its likely consequences, the perceived social pressures from important others concerning the behavior,

and their intention toward performing the behavior. Researchers then contact participants later to ask them whether they have actually engaged in the behavior. Such research generally supports the theory. Behavioral intentions are better predictors of behavior than are attitudes alone, and considering perceived social pressures in addition to attitudes usually increases prediction of a person's behavioral intention. Therefore, all the components of the TRA are important.

### Implications

The TRA has been used to predict a wide range of behaviors relating to health, voting, consumer purchases, and religious involvement. Although the TRA predicts behavior more successfully than do models that only consider attitudes, the TRA is only applicable to behavior that is deliberate and under the person's control. In instances when there are barriers to engaging in a behavior (for example, students who just do not have enough time to study even though they and their friends have positive attitudes toward studying), a recent extension of the TRA, the theory of planned behavior, must be applied.

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*See also* Attitude–Behavior Consistency; Attitudes; Normative Influence; Theory of Planned Behavior

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remembered and receives greater weight in forming a judgment than does earlier-presented information. Recency effects in social psychology have been most thoroughly studied in impression formation research. Typically, researchers investigate how impressions are formed on the basis of sequentially presented information. For example, a recency effect occurs if a person who is described in terms of three positive traits followed by three negative traits is subsequently evaluated more negatively than is a person described by exactly the same traits but presented in a reverse order (negative traits followed by positive traits). The opposite of a recency effect is a primacy effect, when early information has a disproportionate influence on subsequent impressions compared to more recent information. Both recency and primacy effects have important consequences in many everyday impression formation judgments. One might wonder, for example, whether the most effective strategy in a job interview is to present your best points first (expecting a primacy effect), or present your best points last (expecting a recency effect)? To answer such questions, we need to understand the mechanisms that produce recency effects.

### Mechanism

The most plausible explanation of recency effects emphasizes memory processes: More recent information is simply better remembered and so more available to be used when forming a judgment. Numerous studies have found that immediate past events are usually better remembered than are more distant past events. There are, however, a number of specific conditions that influence the likelihood of recency effects.

### Facilitating Conditions

Two kinds of factors seem to influence the presence and strength of recency effects in impression formation: (1) how the task is structured and presented (*task factors*) and (2) how judges process the available information (*processing factors*). Task factors include the length and distribution of the information array over time. When the information array is long, or there is a long delay or other activity interposed between early and late items of information, or judgments are formed immediately after the presentation of the last information, recency effects are more likely, simply because judges will disproportionately rely on recent and better remembered details. In contrast, when the information

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## RECENCY EFFECT

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### Definition

The recency effect is an order of presentation effect that occurs when more recent information is better

sequence is short and is presented without interruption, primacy effects are the more likely result.

The way judges *process* the available information is also important in explaining recency effects. When judges are instructed to use step-by-step processing and update their impressions after each piece of information is received, primacy effects are reduced and recency effects become more likely. Recency effects are also more likely when judges do not know that they need to form an impression until after all the information is received. In the absence of an a priori impression formation goal, judges must rely on their memories for input into the impression formation judgment. Under such circumstances recent, better remembered information receives more weight and a recency effect results. In contrast, when judges know from the beginning that impression formation is the goal, a primacy effect is more likely.

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*See also* Heuristic Processing; Memory; Person Perception; Primacy Effect, Memory

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## RECIPROCAL ALTRUISM

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Altruism refers to behaviors that are performed for the sake of benefiting others at a cost to oneself. Reciprocal altruism is when altruistic behaviors are performed because they increase the likelihood of repayment in the future. For quite some time the presence of altruistic behaviors in animals and humans was a genuine puzzle for the Darwinian account of evolution through natural selection. It seemed impossible for an organism that acts unselfishly for the sake of another (non-related) organism to benefit in any way that would encourage that organism's reproductive success. This is simply because selfish (non-altruistic) individuals

would on average have more resources than altruistic individuals. After many generations, natural selection seemed to dictate that any genetic basis for altruistic behavior should be eliminated from a population. The theory of reciprocal altruism was first described by the evolutionary biologist, Robert Trivers, as a solution to the problem of how altruistic behaviors directed toward nonkin could have emerged through natural selection.

Trivers's insight was that often an individual could act in such a manner (e.g., by sharing food) as to increase its chance of survival if it could depend on similar altruistic behavior from another individual at some point in the future. For the strategy of reciprocal altruism to work, however, a few conditions must be met: Individuals must interact more than once (so that the opportunity to be repaid can arise), individuals must be able to recognize other individuals reliably, and individuals must be able to remember the past behavior of those with whom it interacts. Because of these constraints, reciprocal altruism is less common than is kin-directed altruism, where individuals act for the good of individuals who share their genes.

Reciprocal altruism is often discussed in the context of *game theory*, particularly the Prisoner's Dilemma Game. This Prisoner's Dilemma provides an elegant way to test cooperative behavior in the simplified context of a game. An influential analysis by the political scientist Robert Axelrod and the evolutionary biologist William Hamilton demonstrated that in this game, in which two isolated "prisoners" must decide whether to "cooperate" and refuse to confess, or to "defect" and confess for a lesser sentence, the most effective strategy (submitted by the mathematical psychologist Anatol Rapoport)—that is, the strategy with the best payoff across repeated interactions—was a tit-for-tat strategy—a strategy that repays in kind. If your partner cooperates, you return the favor. If he or she cheats, you do the same. Because this strategy is essentially reciprocal altruism, Axelrod and Hamilton's analysis was able to demonstrate that evolution could easily have selected for genes that might encourage such altruistic behavior.

It is often remarked that reciprocal altruism is not genuine altruism because it has the seemingly selfish goals of repayment, whereas true altruism is usually defined as self-sacrifice for the sole sake of benefiting others. The fact that altruistic behaviors could emerge through natural selection via the mechanism of reciprocal altruism, however, says nothing about the motives

of the organism engaged in the altruistic act. It is important to recognize that reciprocal altruism is a theory of how cooperation could have evolved, not a theory of the psychological states of the altruist.

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*See also* Altruism; Evolutionary Psychology; Helping Behavior; Moral Reasoning; Prisoner's Dilemma; Prosocial Behavior

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## RECIPROCITY NORM

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### Definition

Reciprocity norm is the rule of human interaction that says people need to reciprocate the action of another person. Simply, this means that when a person is given a gift (which can take any number of forms) by another, the person must repay the gift. Every investigated society has a version of the reciprocity norm. The reciprocity norm has also been termed *a web of indebtedness* by cultural anthropologists.

The reciprocity norm's presence in every investigated society points to its importance and function. The reciprocity norm has many benefits for society, such as reciprocal altruism. There are also important sanctions for those who do not follow the norm in its prescribed mannerisms (which can vary from society to society). It is important that one is aware of how the norm can be abused.

### Aspects of the Norm

The fact that the norm is present in every investigated society suggests that it is a vital component of human interaction. Evolutionary psychologists have suggested that reciprocity was clearly present in human beings' ancestral past and has contributed to human survival. They point to various experiments where reciprocity helps explain the mystery of altruism. "If you scratch my back, I will scratch yours" is common colloquialism that is based on reciprocity.

Reciprocity will occur regardless of whether the reciprocation is done publicly or privately. Studies have investigated the extent to which people will reciprocate even if the original gift-giver is completely unable to tell if the gift was reciprocated. It has been found that people reciprocate the gift, although gift recipients donated slightly less than they might have in a more public situation.

People are very good at detecting cheating in social situations, such as receiving a favor without repaying it. Humans excel in tasks in which the problem is set up as a social cheating scenario, whereas the same task set up as a purely numerical task results in much worse performance.

Other limits on the potential for cheating are enforced by society. Societies have various sanctions for people who break the reciprocity norm, ranging from calling someone a "mooch," to social isolation, to serious legal consequences, which includes death in some cultures. Third parties will often intervene on behalf of someone who has just been shorted by a violation of the reciprocity norm, even if it means incurring some penalty of their own.

### Abuses of the Norm

Importantly, the reciprocity norm itself does not have rules of interaction in most cultures (but see the cross-cultural section later for an important caveat); instead, the norm simply says that the gift must be reciprocated in some fashion. This leaves open the potential for very uneven exchanges.

Dennis Regan clearly demonstrated this effect by setting up an experiment that was purportedly on art appreciation. In this experiment, a participant would come in and rate a painting. Another "participant" (who actually was working for the experiment—also known as a confederate) was also there to rate art. During the course of the experiment, the confederate gave the participant an unsolicited gift of a can of Coca-Cola. The confederate later asked the participant to purchase raffle tickets. Regan found that the gift of the Coke doubled the number of tickets purchased over a control condition. This is important because the cost of the Coke was significantly less than the cost of a single ticket. In fact, the confederate was able to get a 500% return on the cost of the gift in terms of raffle tickets purchased.

Also, it does not matter if the original gift was not wanted, or even forced onto the receiver; they are still obligated to reciprocate. This has been demonstrated

in a number of experimental studies; however, perhaps the best example is the Hare Krishnas.

The Hare Krishnas are a religious organization that used reciprocity very effectively in the 1970s and 1980s. The Krishnas would give a small gift to a traveler, often a flower, and then solicit the traveler to make a donation to their religion. The travelers would begrudgingly give the donation, and then could often be seen throwing the flowers away in disgust. As evidenced by their facial expressions and the frequency they threw the flowers away, the travelers had been forced into giving a donation to a religion that most did not support through the reciprocity norm.

To date, it appears that there is only one limit on reciprocity: when the gift-giver asks the receiver to participate in an antisocial activity. In these cases, the norm of reciprocity does not increase compliance with the request. However, this occurs only in a strictly antisocial activity, such as abetting cheating on a test. More ambiguous circumstances show the increase in compliance to a reciprocity-based request.

### Cross-Cultural Aspects

Another important topic when discussing reciprocity norm is its cross-cultural relevance. It appears that reciprocity occurs in every known society; however, not all societies have the same rules regarding reciprocity. Some have formal, ritualized rules that parse out the debts. For instance, Vartan Bhanji is a ritual form of gift exchange in Pakistan and India. This system ensures that there are no outstanding debts left unpaid. The gifts that are exchanged are often weighed out to ensure the equality of the exchange. Other societies, such as the one in the United States, do not have formalized rules. Despite the lack of formalized rules, there is a clear norm of reciprocation, and when one breaks the norm, there are consequences.

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*See also* Cheater-Detection Mechanism; Conformity; Norms, Prescriptive and Descriptive; Persuasion

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## REDUCTIONISM

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### Definition

Reductionism means that complex principles can be reduced to simpler or more fundamental principles. Social psychologists often oppose reductionism and emphasize instead the social context that surrounds the individual. There are two basic types of reductionism: psychological and methodological.

### Psychological Reductionism

One can often identify reductionism with the mind-body problem, which is the question about the relationship between mental and physiological processes. Psychological reductionism is the idea that one can completely explain the human psyche by breaking it down into several general principles. Social reductionism explains social events in terms of the qualities of the individuals who are involved. For example, a social reductionist would explain the aggression of a football crowd by saying that it is made up of aggressive individuals, whereas another explanation might be that when you take ordinary, non-aggressive people and place in them in a certain social context, they act as an aggressive group.

Proponents of the neuronal reductionism argue that thoughts and feelings consist simply of electrical or chemical changes in the brain, whereas proponents of genetic reductionism argue that genes alone determine human behavior. Reductionism in social psychology also tries to explain social psychological group processes by looking at individual differences (e.g., type A personality) rather than at contextual factors (e.g., frustrations).

Sociobiology embraces several reductionistic approaches to explain human behavior. Some social psychologists, however, argue that breaking psychological processes to individual, neuronal, or genetic levels disregards meaningful information about the social context and history of an individual. The constant tension between those who emphasize basic principles and those who emphasize social context has led to divergent streams of investigation throughout history.

## Methodological Reductionism

Methodological reductionism deals with the selection of one theory among other competing theories. All other things being equal, the best theory is the most parsimonious one. Methodological reductionism is often identified with Ockham's razor (named after William of Ockham), which proposes that if competing theories have equal predictive powers, you should choose the one that makes the fewest assumptions, shaving off those theories that make no difference in the observable predictions of the explanatory hypothesis.

## Modern Developments

In the recent past, there has been a movement within social psychology toward an interactionist approach, which acknowledges the interaction of individual factors (e.g., brain activity, genetics) with the social factors. For instance, social neuroscience proposes the multilevel analysis of psychological factors, trying to combine psychobiological knowledge with social psychological knowledge. This idea is different from the traditional reductionism, in which lower-level processes replace upper-level social processes.

In general, one can also see the current tendency toward using multiple methods in social psychology as an effort to bring together sociobiological knowledge with the knowledge gained through the traditional experiments or surveys.

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*See also* Social Cognitive Neuroscience, Social Neuroscience; Sociobiology

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## REFERENCE GROUP

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A reference group is any group that people use as a point of comparison to form their own attitudes, values, beliefs, and behaviors. For example, new college students may use older (and presumably wiser) college students as a reference group to form their attitudes about politics, what clothes to wear, how much alcohol to drink, what music to listen to, what restaurants to frequent, and so on. In one classic study, college women attending Bennington College in Vermont between 1935 and 1939 reported their political attitudes. These women came from politically conservative, wealthy families who could afford to send their daughters to a private college during the Great Depression. At Bennington, these women encountered faculty members and older students who were much more politically liberal than their parents were. The new students used these faculty and older students (rather than their parents) as a reference group for their own political attitudes. The students in the study consistently voted against their families' political ideology, even 50 years later.

People also use reference groups to evaluate other people. For example, a student might find a professor to be unintelligent. That judgment is not made in comparison with the entire population (relative to which that professor may be quite smart) but, rather, in comparison with other professors (relative to whom that professor may not be very smart). In evaluating members of stereotyped groups people tend to use members of that group, rather than the population as a whole, as the reference group.

Finally, people use reference groups to evaluate themselves. When people are trying to self-enhance, they tend to compare themselves with others who are less skilled than they are. When people are trying to gain an accurate understanding of their abilities, they tend to compare themselves with others who are more skilled than they are.

Although people use different reference groups for different purposes, they are probably not aware they are doing this. Comparisons with different reference groups occur largely at an unconscious level.

The reference group effect can pose significant problems when researchers design psychological questionnaires. For example, questionnaires designed to measure people's independence by asking them how

independently they feel or behave do not work well across different cultures. This is because behavior that would be considered independent in collectivist societies (e.g., Japan, China), would be considered much less independent in individualist societies (e.g., United States, Western Europe). However, a person filling out a survey asking how much the person agrees with the statement “I tend to act independently” is not thinking about how independent he or she is relative to other people in general, but rather in comparison with other people in their society.

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*See also* Bennington College Study; Cultural Differences; Person Perception; Social Comparison

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## REGRET

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### Definition

Regret is the negative emotion that people experience when realizing or imagining that their present situation would have been better had they decided or acted differently. Regret thus originates in a comparison between outcomes of a chosen option and the non-chosen alternatives in which the latter outperforms the former. This painful emotion reflects on one's own causal role in the current, suboptimal situation. The emotion regret is accompanied by feelings that one should have known better, by having a sinking feeling, by thoughts about the mistake one has made and the opportunities lost, by tendencies to kick oneself and to correct one's mistake, by desires to undo the event and get a second chance, and by actually doing this if given the opportunity. Put differently, regret is experienced

as an aversive state that focuses one's attention on one's own causal role in the occurrence of a negative outcome. It is thus a cognitively based emotion that motivates one to think about how the negative event came about and how one could change it, or how one could prevent its future occurrence.

### Relation to Decision Making

As such, regret is unique in its relation to decision making and hence to feelings of responsibility for the negative outcome. One only experiences regret over a bad outcome when at some point in time one could have prevented the outcome from happening. Of course, other emotions can also be the result of decisions; for example, one may be disappointed with a decision outcome, or happy about the process by which one made a choice. But, all other emotions can also be experienced in situations in which no decisions are made, whereas regret is exclusively tied to decisions. For example, one can be disappointed with the weather and happy with a birthday present, but one cannot regret these instances (unless the disappointing present was suggested by oneself). Thus, in regret, personal agency and responsibility are central, whereas in other aversive emotions such as anger, fear, and disappointment, agency for the negative outcomes is either undetermined, in the environment, or in another agent. Hence, regret is the prototypical decision-related emotion in the sense that it is felt in response to a decision and that it can influence decision making.

The relation between regret and decision making is also apparent in regret's connection to counterfactual thinking. Counterfactual thoughts are thoughts about what might have been. It is important to note that not all counterfactual thoughts produce regret, just specifically those that change a bad outcome into a good one by changing a decision or a choice. Thus, when it rains on the way home from work and a person gets wet, the person feels regret when he or she generates a counterfactual thought in which the person brought an umbrella, but not when he or she generates a counterfactual in which it would be a beautiful day. In the latter case, counterfactual thoughts about better weather that could have been would result in disappointment but not in regret (there was nothing the person could have done about the weather, so there is nothing to regret).

## Intensity of Reaction

Experiences of regret can be the result of a negative outcome that was produced by a decision to act or a decision not to act. In other words, one may regret sins of omission and sins of commission. Early regret research focused on whether people regret their actions (commissions) more than their inactions (omissions). This research indicated that people tend to regret their actions more than their inactions. Later research showed that which type of regret is most intense (action regret or inaction regret) depends on the time that has elapsed since the regretted decision. In the short run, people tend to feel more regret about their actions (the stupid things they did or bought), but in the long run, they tend to feel more regret over their inactions (the school they never finished, the career or romance never pursued). This temporal pattern to regret is mainly of the result of several factors that decrease the regret for action over time (e.g., people take more reparative action and engage in more psychological repair work for action regrets than for inaction regrets), and factors that increase the regret for inaction over time (e.g., over time people may forget why they did not act on opportunities, making the inaction inexplicable). An additional factor producing this temporal pattern is that people forget regrettable actions easier than regrettable failures to act, resulting in a greater cognitive availability for failures to act.

Another factor determining the intensity of regret is the justifiability of the decision. People feel most regret over decisions that are difficult to justify. Decisions that are based on solid reasons produce less regret than do decisions that are not well thought through. This justifiability may also explain when actions are more regretted than inactions and when the reverse is true. Consider the following example. There are two coaches of soccer teams. One of them decides to field the same players as last week; the other decides to change the team. Now both teams play and lose. Which coach would feel most regret? Research showed that participants point at the active coach, the one who changed his or her team, as the one who will feel most regret. This clearly shows more regret for action than for inaction (replicating the traditional action-inaction difference). But now consider the same situation, but with the additional information that the current decision to change the team or not follows a prior defeat. Who would now feel most regret, the coach who actively tries to better the situation by changing the

team, or the coach who simply fields the same players that lost the previous game? In this case, participants point to the passive coach as the one feeling most regret. This decision was clearly ill justified and therefore produces more regret. A losing record calls for action, and inexplicable inaction produces more regret in situations that call for action. Thus, both decisions to act and decisions to forgo action may result in regret. The intensity of regret depends on the time since the decision and the justifiability of this decision.

## Influence

Psychologists became interested in studying regret partly because it is a passive emotional reaction to bad decisions, but also because it is a major influence on day-to-day decision making. This influence can take two forms. First, the experience of regret may produce a behavioral inclination to reverse one's decision or undo the consequences. Second, decision makers may anticipate possible future regret when making decisions, and choose in such a way that this future regret will be minimal.

The influence of experienced retrospective regret on ensuing behavior can be functional. The aversive experience prompts people to undo the cause of the regret. For example, after buying a product that proves to be suboptimal, regret can motivate a person to ask for his or her money back, or it may result in apologies in the case of interpersonal regrets. In both instances regret can help people satisfy their needs. It protects people from wasting money and helps them maintain good social relationships. In addition, regret can be functional in the sense that the painful self-reflective nature of the experience is one of various ways by which people learn. The feeling of regret over bad decisions and wrong choices makes them stand out in people's memory and helps people make better decisions in the future. This is also shown by the finding that people tend to feel most regret about things that they can still improve in the future, sometimes referred to as the opportunity principle in regret. Another functional aspect of regret is that it stems from its influence on cognitions. Instead of going back to the shop to undo the regretted purchase or apologizing to the person central in the regret, the person can imagine various ways in which the current situation could have been more favorable to him or her. So regret motivates people to engage in reparative action and helps them remember their mistakes and missed opportunities; by making

cognitively available counterfactual worlds in which one would have arrived at a better outcome, it also prepares people to behave more appropriately when they are confronted with similar choices in the future.

The idea that people, when making decisions, might consider future emotional reactions to possible decision outcomes has some history in research on decision making, starting with economists studying rational choice in the early 1980s. We now know that the influence of anticipated future regret on current decision making can take several forms. First, people may avoid deciding so they can avoid making the wrong decision. However, this inactive attitude may result in regret as well because in the long run inactions produce most regret. People may also avoid or delay their decisions because they want to gather more information so they can make better decisions.

Another way in which anticipated regret can influence decision making is related to post-decisional feedback. Regret stems from comparisons between outcomes of the chosen and nonchosen options, so decision makers can try to avoid regret by avoiding feedback about nonchosen options. In real-life decisions, people may occasionally receive information about foregone outcomes. For example, people choosing to invest in particular stocks will learn about future stock prices for the chosen stocks, but also for the nonchosen stocks. Likewise, gamblers who decide not to bet on the long shot in a horse race will learn after the race is over the position at which this horse finished and, thus, whether this option would have been better. In these cases, one can expect to feel regret if the decision goes awry. For some quite important life decisions, however, such feedback is often not present. If a person decides to go into business with someone or to marry someone, the person will never find out how successful each enterprise would have been had he or she chosen another partner or spouse, or none at all. In these cases, there is only feedback on the chosen option.

The knowledge that this future feedback will or will not be present influences current decision making, as revealed in the following example. Imagine that you have the choice between a sure \$100 or a 50% chance of \$200 (depending on the toss of a coin). If you opt for the sure thing (the \$100), you normally do not learn whether the gamble (the 50% of winning \$200) would have been better. If you opt for the gamble, you will always learn the outcome of the gamble and the outcome of the sure thing. Hence, you will always know whether the sure thing would have been

better. Thus, the sure thing protects you from regret, whereas the gamble carries some risk of regret. In this case, the anticipation of regret promotes a preference for the sure thing, revealing risk aversion. However, when the outcome of the gamble will become known irrespective of one's choice (e.g., the coin will always be tossed), one may also end up regretting the choice for the sure \$100. This may lead to an increased preference for the gamble, revealing risk seeking. Thus, the anticipation of regret may produce risk-seeking and risk-avoiding choices, depending on which alternative minimizes the future regret. Research has shown that these anticipations of regret can influence many real-life decisions, such as stock market investments, salary negotiations, lottery play, prenatal screening decisions, and condom use.

## Implications

Regret is an aversive emotional state that is related to counterfactual thoughts about how one's present situation would have been better had one chosen or acted differently. Therefore, people are motivated to avoid or minimize post-decisional regret. This has several implications for decision making because people may employ different strategies to prevent regret from happening or to cope with regret when it is experienced. In principle, the effects of regret can be considered rational because they protect the decision maker from the aversive consequences of the experience of regret. There might be cases, however, in which an aversion to regret leads one to avoid counterfactual feedback and, hence, results in reduced learning from experience. This might be considered irrational. But, irrespective of this rationality question, regret has shown to be a fundamental emotion in the behavior decisions of most, if not all, people.

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*See also* Counterfactual Thinking; Decision Making; Emotion; Moral Emotions

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## REGULATORY FOCUS THEORY

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For centuries, the hedonic principle that people approach pleasure and avoid pain has been the dominant motivational principle for many disciplines and across all areas of psychology. Even when Sigmund Freud discussed the need to go beyond the pleasure principle because people were controlled by the reality principle—environmental demands—he was simply modifying the pleasure principle such that avoiding pain became almost equal in importance to approaching pleasure. But is that the end of the story of motivation? How does the hedonic principle itself work? Might not there be different ways to approach pleasure and avoid pain that tell us something about motivation beyond the hedonic principle *per se*? Regulatory focus theory was developed in response to these questions.

### Evolutionary Perspective

Regulatory focus theory starts with an evolutionary perspective on motivation. What are the survival motives? To survive, people (and other animals) need both nurturance and security, support or nourishment from the environment (often provided by others), and protection from dangers in the environment (social and nonsocial dangers). Regulatory focus theory proposes that two distinct regulatory systems have developed to deal with each of these distinct survival concerns. When people succeed in satisfying a concern they experience pleasure, and when they fail they experience pain. Thus, both of these regulatory systems involve approaching pleasure and avoiding pain. But this does not mean that the motivational principles underlying these systems are the same. Regulatory focus theory emphasizes the motivational significance of the differences in how actors approach pleasure and avoid pain when they regulate within these distinct systems.

Regulatory focus theory associates the nurturance motive with the development of promotion focus concerns with accomplishment, with fulfilling hopes and aspirations (ideals). It associates the security motive with the development of prevention focus concerns with safety, with meeting duties and obligations (oughts). Once again, people can succeed or fail to fulfill their promotion or prevention focus concerns. But the emotional and motivational consequences of success or failure in these two regulatory focus systems are not the same. When people are in the promotion focus system (either from a chronic predisposition to be in that system or from a current situation activating that system), they experience cheerfulness-related emotions following success (e.g., happy, joyful) and dejection-related emotions following failure (e.g., sad, discouraged). The pleasure of success and the pain of failure are not the same in the prevention focus system. People experience quiescence-related emotions following success (e.g., calm, relaxed) and agitation-related emotions following failure (e.g., nervous, tense). Individuals in a promotion focus also appraise objects and events in general along a cheerfulness-dejection dimension more readily than along a quiescence-agitation dimension, whereas the opposite is true for individuals in a prevention focus.

### Strategic Preferences

Success and failure in promotion versus prevention is also not the same motivationally. To understand why this is, a critical difference between promotion and prevention proposed by regulatory focus theory needs to be introduced. Regulatory focus theory proposes that when people pursue goals, their strategic preferences are different in a promotion versus a prevention focus. The theory proposes that individuals in a promotion focus prefer to use *eager* strategies to pursue goals—strategies of advancement (a gain), which move the actor from neutral (the status quo) to a positive state. In contrast, individuals in a prevention focus prefer to use *vigilant* strategies to pursue goals (a non-loss)—strategies of carefulness, which stop the actor from moving from neutral to a negative state. Why this difference in strategic preferences? Research has found that individuals in a promotion focus experience a world of gains and nongains because their concerns are about accomplishments and aspirations. Strategic eagerness is also about ensuring gains and not wanting to miss gains, so eagerness should fit a promotion

focus. Individuals in a prevention focus, however, experience a world of nonlosses and losses because their concerns are about safety and meeting obligations. Strategic vigilance is also about trying to be careful and not wanting to commit mistakes that produce a loss, so vigilance should fit a prevention focus. Indeed, many studies have found that individuals in a promotion focus prefer to use eager strategies to pursue goals whereas individuals in a prevention focus prefer to use vigilant strategies.

This difference in strategic preferences when people are in a promotion versus a prevention focus is why success and failure in promotion versus prevention is not the same motivationally (or emotionally). When individuals succeed in a promotion focus, it increases their eagerness (experienced as high-intensity joy). In contrast, when individuals succeed in a prevention focus, it reduces their vigilance (experienced as low-intensity calmness). When individuals fail in a promotion focus, it reduces their eagerness (experienced as low-intensity sadness). In contrast, when individuals fail in a prevention focus, it increases their vigilance (experienced as high-intensity nervousness). Evidence indicates that this regulatory focus difference in the motivational impact of success and failure influences postperformance expectations as well. Consistent with people attempting to maintain the strategic state that sustains their focus, individuals in a promotion state raise their expectations for the next trial after success on the initial trial of a task much more than do those in a prevention state (because optimism increases eagerness but reduces vigilance), whereas individuals in a prevention state lower their expectations for the next trial after failure on the initial trial much more than do those in a promotion state (because pessimism increases vigilance but reduces eagerness).

Regulatory focus differences in strategic preferences have other effects as well. Often the differences are revealed when there is a conflict between different choices or different ways to proceed on a task. One conflict is between being risky or conservative when making a judgment. When people are uncertain, they can take a chance and accept something as true, thereby risking an error of commission. Alternatively, they can be cautious and reject something as true. Studies on memory and judgment have found that individuals in a promotion focus take more risks than do those in a prevention focus. Consistent with individuals in a promotion focus being more willing to

consider new alternatives under conditions of uncertainty rather than simply sticking with the known (albeit satisfactory) current state of affairs, evidence shows that they are more creative than are those in a prevention focus and are more willing to change and try something new when given the opportunity. The trade-off, however, is that prevention focus individuals are more committed to their choices and thus stick to them even when obstacles arise.

## Other Conflicts and Implications

Another conflict on many tasks is between speed (or quantity) and accuracy (or quality). Individuals in a promotion focus emphasize speed more than accuracy whereas individuals in a prevention focus emphasize accuracy more than speed. A third conflict concerns whether to represent objects or events in a more global and abstract manner or in a more local and concrete manner. Evidence indicates that individuals in a promotion focus are more likely to represent objects and events in a global and abstract manner (as well as more temporally distant) than in a local and concrete manner, whereas the opposite is true for those in a prevention focus.

There are additional implications of the difference between a promotion focus on gains versus a prevention focus on nonlosses. Studies have found, for example, that promotion focus individuals perform better when success on a task is represented as adding points toward a desired score or as attaining some desired prize rather than when it is represented as not subtracting points or as maintaining some desired prize. Other studies have found that the nature of ingroup versus outgroup bias varies by regulatory focus. For individuals in a promotion focus, ingroup members are treated with a positive bias (“promoting us”), but there is little bias regarding outgroup members. For individuals in a prevention focus, however, outgroup members are treated with a negative bias (“preventing them”), but there is little bias regarding ingroup members.

Motivational theories in psychology have mostly emphasized people’s needs and desires for particular outcomes, from physiological needs to belongingness needs to achievement needs to autonomy needs. Most generally, the emphasis has been on the hedonic needs for pleasure and against pain. Regulatory focus theory differs from this traditional emphasis in highlighting people’s desires to use certain strategies in goal pursuit—an emphasis on the *how* of goal pursuit rather

than on the consequences of goal pursuit. Studies that have tested regulatory focus theory have shown that promotion and prevention strategic preferences are a major determinant of the motivational and emotional lives of people.

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*See also* Emotion; Goals; Ingroup–Outgroup Bias; Self-Discrepancy Theory

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## REJECTION

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### Definition

Defined broadly, social rejection refers to one’s perceived reduction of social acceptance, group inclusion, or sense of belonging. Social psychologists study real, imagined, and implied rejection in a variety of forms and contexts. Explicit rejection, exclusion, and ostracism are different kinds of rejection than can occur within groups or dyadic relationships of a romantic or platonic nature. Rejection typically produces negative immediate effects and leads to either antisocial or prosocial behavior, depending on the context of subsequent interactions.

### History

Even though philosophers, writers, and laypeople have contemplated the nature of social rejection for centuries, social scientists had not formulated cohesive theories about social rejection and acceptance until relatively recently. In the 1950s, psychologists such as Stanley Schachter began examining the motivations that underlie social contact, and Abraham Maslow, in particular, argued that individuals seek relationships to fulfill a need to belong—belonging being a fundamental need secondary only to nourishment and safety needs. By the 1960s, psychologists began fleshing out attachment theories, which argued that parental rejection powerfully influences children’s thoughts, feelings, and behaviors. Notwithstanding this early work on belonging needs and attachment, social psychological research examining the characteristics, antecedents, and consequences of rejection has only come of age in the last decade.

### Complexities of Rejection

Contemporary social psychologists study rejection in an array of forms and contexts. Rejection may be active or passive and involve physical or psychological distancing or exclusion. For example, individuals may be actively rejected when others voice negative views of them or tell them that their presence is not wanted. In comparison, individuals may be passively rejected when others pay little attention to them or ignore them altogether (e.g., the silent treatment). Physical exclusion from a group elicits feelings of rejection in most circumstances (e.g., when an individual is purposefully left out), and psychological exclusion (e.g., when one’s opinions are discounted or ignored) is also experienced as a rejection.

Rejection may be derived from individuals or groups, and the nature of these relationships influences the severity of the rejection. Romantic partners, friends, acquaintances, strangers, and group members can all serve as a source of rejection. Although the causes and characteristics of these rejections are arguably different on average (e.g., a stranger’s insult has different connotations than that of a friend), the most powerful rejections are dispatched by individuals or groups that are important to a person. In other words, the more important a relationship is to a person, the more painful its weakening or dissolution will be.

Similarly, the further one falls in liking after a rejection, the more robust the consequences. In other words, the change in a person's opinion of another has more impact than the absolute level of that opinion. When an individual's positive initial opinion of another person dwindles to a negative opinion over time, this person will feel worse than had the individual always thought poorly of him or her. Likewise, even a drop in positive regard can feel like a rejection. A close friend who is suddenly treated like a casual acquaintance may feel rejected even though general liking remains. Consequently, initial liking needs to be taken into account when considering the impact of a rejection.

As discussed previously, *social rejection* (as well as *social acceptance*) is a multifaceted term that encompasses a number of behaviors and experiences that occur in a variety of contexts. To predict rejection outcomes with the most accuracy, a researcher would require knowledge of the source, the individual's relationship with the source, the nature of the rejection, and so forth. Most researchers find this narrow vision too restrictive and instead choose to blend or mix these variants of rejection together in an effort to generate broad theories that speak to the nature of social rejection more generally. Most of this research has addressed the responses to and consequences of social rejection.

## Responses to Rejection

Immediate reactions to rejection are typically negative. Rejected individuals report feeling worse about themselves in general. In addition to lowered self-esteem, people usually describe their feelings as hurt. Furthermore, people seem to experience social pain and distress after a rejection much like physical pain, according to recent neuroscientific evidence. Rejection also hinders individuals' ability to rein in impulses and make difficult decisions. Given their impoverished decision-making abilities, rejected individuals tend to perform more self-defeating behaviors such as procrastinating and making risky, irrational choices than do accepted individuals. Moreover, rejection impairs individuals' logic and reasoning abilities, and this results in poor performance on tasks that require complex intelligent thought.

The negative consequences of rejection are not confined to the individual who experienced the rejection.

In addition to hurting themselves, rejected individuals also perform antisocial behaviors that hurt others. After being rejected, individuals are especially likely to lash out against the rejecter and to aggress against innocent bystanders as well. Roy Baumeister, Jean Twenge, and colleagues have shown, for instance, that study participants who were told that no one wanted to work with them in a group were more willing to blast innocent others with loud, uncomfortable bursts of noise than were participants who were told that they were accepted into the group. These researchers also demonstrated that rejected individuals feel less empathy for others and are, consequently, less willing to cooperate with and help them. When given an opportunity to cooperate with an unknown partner, rejected individuals choose to cheat the partner instead.

Despite these negative initial reactions, rejection also elicits prosocial behaviors under some circumstances. Rejected individuals try to strengthen social bonds with others by working harder on group tasks, publicly agreeing with others' opinions, and displaying positive, affiliative nonverbal behavior (e.g., smiling, making eye contact, mimicking others' actions). To make subsequent social interactions smoother, rejected individuals pay more attention to subtle social cues like facial expressions and vocal tones than accepted individuals do. When rejected individuals are unable to form new social attachments or mend broken social bonds (e.g., when interaction partners are not available), they attempt to regain a sense of belonging by other means. In comparison with accepted individuals, those who are rejected reflect upon and affirm their own relationships to a greater extent and prefer tasks of a social nature (e.g., looking at photographs of loved ones) rather than those of a nonsocial nature (e.g., looking at a magazine). Among individuals with a strong need to belong, rejected individuals can find companionship with their pets and even atypical targets such as favorite television characters.

On the whole, research on rejection indicates that the consequences of rejection are mixed. Some studies find evidence of antisocial behavior following rejection whereas others find evidence of prosocial behavior. The literature currently suggests that rejected individuals will act in prosocial ways (e.g., being agreeable) when they foresee future interactions with a partner and in antisocial ways (e.g., being aggressive) if they expect little or no contact with a partner. An aim of ongoing and future research is to uncover the

circumstances under which social rejection elicits more prosocial than antisocial effects and vice versa.

### Long-Term Consequences

Even though individuals can recover from a single rejection, the experience itself is unpleasant and detrimental in many ways. Individuals who experience rejections repeatedly, however, suffer even more serious consequences. Such individuals may internalize these rejections and behave in self-fulfilling ways that actually elicit subsequent rejection. In other words, perpetually rejected individuals will come to expect rejection and will push away potential friends and partners and choose to isolate themselves. Stuck in this vicious circle, these individuals' feelings of loneliness, helplessness, and worthlessness will bring about poor mental and physical health outcomes.

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*See also* Need to Belong; Ostracism; Rejection Sensitivity; Self-Esteem; Social Exclusion

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## REJECTION SENSITIVITY

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### Definition

Everyone desires acceptance and dislikes rejection from people who are important to them. Some people, however, are more concerned with rejection, a quality known as rejection sensitivity. Thus, rejection sensitivity refers to a trait that makes some people different from others. Rejection-sensitive people (unlike, or more than, other people) come into new situations feeling

anxious and expecting rejection. For example, when Kate attends a party where she knows only the host, she gets sweaty palms (i.e., indicating high anxiety) and doesn't think anyone will want to talk with her (i.e., rejection expectancy). Rejection-sensitive individuals also perceive rejection in situations more often than others do, tending to read rejection into others' actions and words. Luke is a reserve player on the school's basketball team. Sometimes when his teammates only pass him the ball a few times in a game, he believes they don't like him. Rejection sensitivity also shows itself in how a person reacts to a rejection. Rejection-sensitive people often react to rejection with strong hostility and aggression or severe anxiety and withdrawal. Anna gave her professor low ratings on the teacher evaluation form after she found out she didn't do well on the final. Jake didn't leave the house all summer after his girlfriend broke up with him. The rejection sensitivity model was developed to explain all of these elements—expectation of rejection, perception of rejection, reaction to rejection.

### Context and Background

Psychology has long emphasized the importance of a relationship of trust between children and their primary caregivers. One of the most influential models of the link between early relationship experiences and later interpersonal functioning is John Bowlby's attachment theory. This theory suggests that early experiences cause children to create mental representations (i.e., ideas or images of what close relationships are like) that influence subsequent social interactions. If they can trust their caregiver to meet their needs, they form secure representations. If their needs are met with rejection through the form of unavailability or nonloving responses, then they will become insecure and unsure in their relationships. Other researchers have proposed that these early relationship representations carry over into adulthood, particularly in intimate relationships. Early experiences of rejection can lead to rejection sensitivity as an adult.

Research on rejection sensitivity illuminates how insecure attachment may play out in everyday life. Anticipating and fearing rejection influence people's thoughts and feelings, which in turn influence their behavior in social situations.

In general, rejection sensitivity is correlated with low self-esteem. However, rejection sensitivity involves

insecurity about relationships with others more than about the doubt about one's worth as an individual.

### Evidence and Implications

Research has documented support for the various links of the rejection sensitivity model. Studies of childhood experiences have established that anxious expectations of rejection are associated with exposure to family violence, emotional neglect, harsh discipline, and conditional love by parents. Experiments have shown that anxious expectations of rejection predict a readiness to perceive rejection in others' behavior. Perceiving rejection predicts cognitive, emotional, and behavioral reactions that damage significant relationships and can trigger withdrawal or aggression.

These reactions of hostility and depression may lead to a self-fulfilling prophecy (a prediction that becomes true through its influence on people's thoughts and behavior). This is because rejection-sensitive people perceive rejection in ambiguous situations and overreact to it, making it more likely that their partners will actually reject them. Rejection sensitivity can also hinder people from forming close, meaningful relationships. When combined with other factors, rejection sensitivity may put people at risk for clinical syndromes such as depression, social anxiety, and borderline personality disorder.

### Status-Based Rejection

Rejection sensitivity was originally conceptualized as a tendency to believe potential rejection was caused by personal characteristics. Further work has expanded rejection sensitivity research to address rejection based on group membership such as race or gender. If you believe you may be or are rejected because you are a member of a stigmatized minority group, this can affect how you interact with members of the majority group or social institutions such as schools or workplaces. One study showed that for African American students entering a predominantly White college, higher levels of race-based rejection sensitivity were associated with less racially diverse friendships, less trust that the school had their best interests in mind, more anxiety about seeking help from teachers, and lower grades by the end of the year. Similarly, recent evidence suggests that women who are sensitive to being rejected because of their sex may have

more trouble coping well in environments that have traditionally been dominated by men, such as math or engineering.

### Rejection Sensitivity Measure

The original Rejection Sensitivity Questionnaire (RSQ) assesses anxious interpersonal rejection expectations using 18 scenarios relevant to a college student population. The measure asks participants to imagine themselves in various situations in which they need to ask something of a valued other, such as, "You ask someone you don't know well out on a date." They are then asked to answer the following questions:

How *concerned or anxious* would you be about how the other person would respond?

Very 1 2 3 4 5 6 Very  
unconcerned concerned

How do you think the other person would be likely to respond?

I would expect that the person would want to go out with me.

Very 1 2 3 4 5 6 Very  
unlikely likely

The expectation answer is reverse scored (subtracted from 7) so that higher numbers mean more expectation for rejection. Then for each scenario, the anxiety number and the expectation number are multiplied, and an average is taken across the 18 scenarios. This total RSQ score has a possible range of 1 to 36, with higher numbers indicating greater rejection sensitivity.

The original RSQ has been adapted for an adult population and for group-based rejection sensitivity in the form of the RS-Race questionnaire and the RS-Gender questionnaire. The RS measures can be found at <http://www.columbia.edu/cu/psychology/socialrelations/>.

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*See also* Attachment Theory; Individual Differences; Rejection; Social Exclusion

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## RELATIONAL MODELS THEORY

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### Definition

The relational models theory describes the four fundamental forms of social relationships: communal sharing, authority ranking, equality matching, and market pricing. People in communal sharing relationships feel that they have something essential in common, whereas outsiders are different. Participants in an authority ranking relationship see themselves as ordered in a legitimate linear hierarchy. In an equality matching relationship, people keep track of whether each separate individual is treated equally. In market pricing, people use ratios or rates, according to some standard of due proportions, such as price. People in all cultures use combinations of these four models to organize nearly all interactions, from close relationships to casual and distant ones. The relational models are innate and intrinsically motivated. But children rely on cultural prototypes and precedents to discover how to implement them in culture-specific ways.

Relational models theory integrates classical theories of social relations and society, and it connects natural selection, neurobiology, child development, cognition, emotion, communication, psychological disorders, norms and ideology, religion, social and political structures, and culture. The theory is supported by ethnographic and comparative cultural studies, and by psychological experiments using a variety of methods. Alan Page Fiske formulated the theory; Nick Haslam did much of the early experimental work on it and developed the theory in relation to clinical psychology and social cognition. Research using relational models theory has provided insights into political psychology, cross-cultural interaction, attitudes toward immigration, behavioral and anthropological economics, the social systems of classical Greece, sociolinguistics, business management, group and family processes, moral judgment, social motives and emotions, gifts and

other exchanges, time perspectives, tobacco use, personality disorders, autism, schizophrenia, and vulnerability to other psychological disorders.

### Four Relational Models

#### **Communal Sharing**

In communal sharing, everyone in a group or dyad is all the same with respect to whatever they are doing: They all share some food, or living space, or responsibility for some work. If one has a problem, it concerns them all. Outsiders treat them as collectively responsible for what they do, punishing any or all of them indiscriminately. Communal relationships involve a sense of oneness and identity, which can be as strong as the connection between mother and child or romantic lovers, or as weak as national or ethnic identity. The most intense communal sharing relationships are based on participants' feeling that their bodies are essentially the same or connected because they are linked by birth, blood, appearance, and body marking or modification such as a form of circumcision or excision. Synchronous rhythmic movement can also connect people in this way, for example, in military drill or ritual dance. Sharing food, drink, or substances such as tobacco also underlies communal relationships. So does physical contact, such as caressing, cuddling, kissing, or sleeping close. By making their bodies alike or connected, people create communal relationships, and at the same time communicate the existence and intensity of their relationship. People also think of themselves as the same; their cognitive and emotional representation of the relationship corresponds to the ways they express it. Infants intuitively respond to these expressions of communal sharing, which is how they connect and identify with their families and caretakers.

#### **Authority Ranking**

In authority ranking, people are linearly ordered in a proper hierarchy of privileges and responsibilities. Superiors are entitled to deferential respect, but have pastoral responsibility to represent, stand up for, and protect subordinates. In an authority ranking relationship, people think of their superiors as above, greater than, in front of, having more power or force than, and preceding them. Subordinates are perceived as below, lesser than, following behind, weaker than, and coming

after. This cognitive representation of social ranking corresponds to the social displays of rank that people use to communicate their relative positions, for example, when a person bows to superiors or waits for them to start eating first. In many languages, people respectfully address or refer to superiors using plural forms and use singular forms when speaking to subordinates (for example, French *vous* vs. *tu*). Children intuitively recognize the meaning of being bigger or higher, being in front, or going first.

### **Equality Matching**

Equality matching is the basis of turn-taking, equal rights, even sharing, voting, decision by coin flip or lottery, and balanced reciprocity whereby people return the same kind of thing they received. This is the universal structure of games and sports, where opponents have equal numbers of players or pieces, employ a fair way to decide who chooses first, play on a symmetrical field or board, take turns, have equal time to play, and often use dice or other devices that add uncertain but equal chances. In an equality matching relationship, the participants may be even or uneven at any given point, but when they are uneven, they know how to even things up again—for example, by taking the next turn. In equality matching, people use concrete matching operations to demonstrate equality, such as starting a race side by side, flipping a coin, or lining up the opposing teams one-to-one. These concrete operations are procedural demonstrations of equality: The actions show that the sides are manifestly equal. Casting ballots is an operational definition of equality in political choice; setting up the two corresponding sets of chess pieces and punching the clock at the end of each move are operational definitions of a fair game. Adhering to these rules makes the game a demonstrably fair and proper game. For children and adults, equality matching is intrinsically important; people get very upset when they have less than their peers.

### **Market Pricing**

Market pricing is a relationship governed by ratios, rates, or proportions. The most obvious examples are prices, wages, rents, taxes, tithes, and interest. But market pricing is also the basis for formal and informal cost-benefit analyses in which people make decisions on the basis of what they are investing in proportion to the returns they can expect to get out. Market pricing

always involves some universal standard by which the values of everything in the relationship can be compared. This need not be money; utilitarianism is the moral philosophy based on giving the greatest good to the greatest number, where all good and evil is compared in a metric of utility. Similarly, grades and grade point averages are the product of ratio-based calculations that combine all aspects of academic performance in a single score. People also measure social ratios in terms of time or effort. Market pricing transactions rely on abstract conventional symbols, such as numbers or linguistic descriptions of the features of an item or the terms of a contract. The arbitrary symbols in a used car ad, for example, are totally unintelligible to anyone unfamiliar with the arbitrary conventions of the specific market system: “2000 Ford Mustang GT 39M, conv, auto, lthr, alm, Alpine snd syst, BBK air intake, Flowmasters, 18 X 10 Saleen whls, new pnt, body kit & more, slvg, pp, \$9,500.” The most abstract conventional symbols are prices, which represent the ratios of exchange of all valued features of all commodities in a market system.

### **Four Ways of Organizing Any Interaction**

These four relational models are the components for all kinds of coordinated interactions and social institutions. For example, moral evaluations and sentiments can be based on the communal sense that everyone in the group feels the suffering of everyone else: one for all and all for one. Another form of morality is obedience to superiors such as elders, religious leaders, or gods; conversely, superiors have pastoral responsibilities to protect their flocks. Another moral framework is equality: equal rights, equal opportunities, equal shares, or equal outcomes. Finally, there is justice as proportionality: giving each person what he or she deserves, either punishment in proportion to the crime or reward in proportion to merit. However, the four relational models also structure aggressive, hostile, and violent interactions. When people try to “purify” a group or nation to rid it of others whom they view as inherently different, communal sharing may result in ethnic cleansing and genocide. Acting in an authority ranking system, rulers punish dissidents, kill rebels and traitors, and make war to extend their dominions. Feuding and retaliation typically take the equality matching form of “life for life, eye for eye, tooth for tooth, hand for hand, foot for foot, burning for burning,

wound for wound” vengeance. And the planning of modern warfare is often based on kill ratios and other *rational* cost–benefit calculations. The relational models also organize the social meanings of material things. Studies show that the economic value that people place on objects depends on the social relationships that the objects signify. Indeed, objects such as a wedding ring may have virtually infinite economic value—people refuse to sell them. Cultural and historical research shows that land can be held communally, shared by all: a village commons or a park. Land can be a feudal dominion, such that all who reside on it are subjects of the king and the lord of the manor. People may be entitled to equal plots of land, as represented by homesteading laws, or land can also be what makes people equal, as when owning land is a requirement for voting. Or land can be a commodity that people invest in for the rent or appreciation in market value. In virtually every domain of social life in every culture, people use the four relational models to generate their own actions, to understand others’ actions, to evaluate or sanction their own and others’ actions, and to coordinate joint activities.

Complex, long-term social relationships and institutions are composed of combinations of discrete relational models. For example, a dean has an authority ranking relationship with a professor, who in turn has an authority ranking relationship with students. But the dean should treat professors equitably, and professors should give each student the same opportunities and apply the same standards to all, according to equality matching. Similarly, within each department, faculty may have equal teaching loads. At the same time, students pay tuition and buy textbooks, and professors receive a salary. Yet professors and students have communal access to the library and the Internet services that the university provides; deans, professors, and students also have a shared identification with the university and its teams.

### Research on Relational Models

Ample and diverse evidence supports relational models theory, including ethnographic participant observation, ethnologic comparison across cultures, research on naturally occurring social cognition in everyday life, and experimental studies using rating scales and artificial stimuli. One set of studies analyzed social errors when people called someone by the wrong name, directed an action at the wrong person, or misremembered with whom they had interacted. In five

cultures, when people make these types of errors, they typically substitute another person with whom they have the same type of relationship. So, for example, I may call Susan, Gwen, because I have communal sharing relationships with each of them. Other studies have shown that people intuitively categorize their own relationships into groups roughly corresponding to the four relational models, and judge any two of their relationships to be most similar when the relationships are organized by the same relational model.

People interacting with each other may use different models without realizing it. When this happens, they are likely to get frustrated or disappointed, and to feel that the others are doing something wrong. For example, if Tom assumes that he and Alesha are doing the dishes in a communal framework, he expects them both to wash dishes whenever they can. But suppose Alesha implicitly assumes that dish washing should be based on equality matching. When Tom is busy and Alesha is not, he will be angry if Alesha fails to do the dishes, but if she sees it as his turn, she’ll be angry that he fails to do them. Studies of families, research groups, corporations, and inter-ethnic relations show that mismatching of relational models produces distress and recriminations: Everyone perceives themselves to be acting properly in accord with the relational model *they* are applying, whereas others are transgressing that model. Research also indicates that some people persistently try to apply relational models in ways that are inconsistent with prevalent cultural expectations; this leads to chronic problems associated with personality disorders and vulnerability to other psychological disorders.

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*See also* Authoritarian Personality; Awe; Communal Relationships; Culture; Deindividuation; Dominance, Evolutionary; Envy; Equity Theory; Ethnocentrism; Exchange Relationships; Group Cohesiveness; Group Identity; Groupthink; Ingroup–Outgroup Bias; Mere Ownership Effect; Milgram’s Obedience to Authority Studies; Minimal Group Paradigm; Moral Emotions; Moral Reasoning; Need for Affiliation; Need for Power; Need to Belong; Outgroup Homogeneity; Power; Power Motive; Public Goods Dilemma; Reference Group; Social Dominance Orientation

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## RELATIONSHIP VIOLENCE

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*See* INTIMATE PARTNER VIOLENCE

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## RELIGION AND SPIRITUALITY

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### Definition

Religion and spirituality refer to a search for the sacred dimension of life. The sacred refers to a transcendent realm of experience, one often seen as including a God or a Higher Power, that addresses existential questions about life's meaning and purpose. Religion refers to socially organized forms of the sacred search. Spirituality refers to a personal side of the sacred search, one that may or may not involve organized religion.

### History and Background

Historically, spiritual topics have been neglected within psychology. As a group, psychologists are less religious than is the general population, and many social scientists see religious topics as inappropriate for empirical study. Indeed, with the exception of Gordon Allport's research on religion and prejudice and Daniel Batson's work on religion and helping, most religious topics are just beginning to receive attention within mainstream social psychology.

### Socialization and Religious Faith

Social factors are a major predictor of religious belief and practice. Although cultural factors, peer groups,

and religious education all predict religious commitment, parental religiosity (by both mothers and fathers) is a particularly strong predictor. Several studies suggest that people's images of God mirror their images of their fathers.

Religious doubts and questions are common, particularly in the adolescent and early adult years. Religious doubts have many sources, including unanswered prayers, hypocrisy by religious leaders, and unresolved questions about the reasons for suffering and evil. Religious doubts often lead to fluctuations in faith. Although there are exceptions, most people who permanently abandon religious faith come from homes where religion was not strongly emphasized.

### Religion and Well-Being

During the past decade, many studies from medicine and social science have demonstrated positive associations between religious involvement and health, including both physical and mental health. The association appears to be the result of at least three factors. First, religious involvement often provides a sense of community and ongoing social support. Social support, in turn, predicts better health. Second, most religious belief systems include codes of moral behavior that, if followed, reduce risky health behaviors. For example, most major world religions include prohibitions against sexual promiscuity, poorly controlled anger, and the abuse of alcohol and other drugs. Third, religion and spirituality can provide a sense of meaning or purpose to life while offering answers for deep existential questions. This overarching sense of meaning can help people make decisions, set goals, and find comfort in difficult times. Many people turn to religion as a means of coping with stressful life events, ranging from everyday hassles to bereavement or trauma. The constructive use of religious coping can, in turn, lead to better adjustment.

Followers of virtually all world religions have some means of trying to connect with a sacred or transcendent realm of experience. However, some traditions (typically Western ones) also contend that people can connect with God on a deeply personal level. Studies suggest that when people see themselves as having a loving, close relationship with God, this perception can help to meet attachment needs. Yet, it cannot be assumed that this relationship will always be positive. Many people have negative images of God, viewing God as cruel, uncaring, punitive, or untrustworthy. In the wake of negative life

events, people often become angry toward God. They may also have difficulty trusting God, believing that God is punishing, rejecting, or abandoning them. These negative feelings toward God can lead to crises of faith. Studies are now beginning to use frameworks from social psychological research to explore the dynamics of people's perceived relationships with God, including the potential for both intimacy and conflict.

### Religion and Social Behavior

In social terms, several sources of evidence demonstrate that religious involvement leads to higher levels of altruistic giving and volunteerism. In addition, most religions include a code of moral behavior that focuses on helping and serving others. Religious institutions can be a powerful source of socialization, meaning that people who are strongly committed to a particular religious system are likely to internalize its moral principles. For example, research has demonstrated a consistent connection between religiosity and the value assigned to humility and forgiveness. Yet, as demonstrated across many areas of psychology, the translation from values and principles to actual behavior tends to be imperfect. Therefore, although highly religious people may be especially likely to believe that they should be kind, helpful, or forgiving, they often behave similarly to nonreligious people in controlled laboratory situations. Other personality factors, such as agreeableness or dispositional guilt, may be better predictors of social behavior than religiosity.

As described earlier, religious systems provide meaning systems for answering existential questions. These meaning systems can be helpful in psychological terms. However, believing that one's beliefs are rooted in divine revelation can also promote conflict with groups who hold different beliefs. As such, strongly held religious identities can foster ingroup–outgroup thinking and negative attitudes toward other groups, particularly when people are convinced that their group possesses the only correct view. For example, some studies suggest a positive link between religious fundamentalism and prejudice. The evidence is mixed, however, and depends partly on how prejudice is framed. Fundamentalists and highly religious persons sometimes appear prejudiced because they express disapproval of behaviors that violate their religious beliefs (e.g., drug abuse; certain sexual behaviors). However, this behavioral disapproval does

not necessarily translate to prejudice on nonbehavioral domains such as race. A much clearer association has emerged between prejudice and right-wing authoritarianism—a tendency toward rigidity, conventionality, and unquestioning obedience toward authority. Although right-wing authoritarians tend to score high on fundamentalism measures, it seems to be authoritarianism—rather than religiosity or fundamentalism per se—that predicts prejudice.

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*See also* Beliefs; Prejudice; Search for Meaning in Life; Values

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## REPRESENTATIVENESS HEURISTIC

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### Definition

According to some social psychologists, human beings have the tendency to be cognitive misers—that is, to limit their use of mental resources when they need to make a quick decision or when the issue about which they must make a decision is unimportant to them. People have several strategies they can use to limit their use of mental resources; one such group of strategies is heuristics. Heuristics are cognitive shortcuts or rules of thumb that are used when one must make a decision but lacks either ample time or the accurate information necessary to make the decision. Heuristics are advantageous in that they aid in quick decision making, but the use of heuristics can lead to inaccurate predictions. In general, heuristics are automatic cognitive processes; that is, people use them in decision-making situations without necessarily being aware that they are doing so.

One common heuristic is the representativeness heuristic, a rule of thumb used to determine whether a person or an event should be put into a certain category by judging how similar the person or event is to the prototypical person or event of that category. The

prototypical person or event of a given category is the one that possesses the highest number of representative characteristics of that category; for example, the prototypical chair might have four legs, a seat, and some sort of back. If the person or event one is judging is similar to the prototype, then the person or event is likely to be placed in that category. If there is no similarity to the prototype, then the person or event may be judged as unlikely to be a member of the category. For example, in a freshman psychology course, Andrew meets Anne. Andrew notices that Anne is petite, blonde, and very outgoing. Andrew tells his friend Jeff that he met Anne in class, and Jeff asks if Andrew met Anne the cheerleader or Anne the biology major. Andrew matches the petite, blonde, outgoing Anne he met to prototypes from the categories “cheerleader” and “biology major” and matches Anne to the “cheerleader” category because the prototypical cheerleader is petite, blonde, and outgoing. Because she fits the prototype of one category, Andrew may quickly categorize her and subsequently ignore information that would lead him to place Anne more accurately. Conversely, Andrew meets Heidi, who is tall, has short dark hair, and wears glasses. Because Heidi does not match the prototype of “cheerleader,” Andrew will likely assume that Heidi is not a cheerleader and may ignore evidence that indicates that she is a cheerleader.

### Representativeness Heuristic and Decision Making

The representativeness heuristic can hinder accurate judgments of probability by emphasizing aspects of the event in question that are similar to the prototype or by masking other diagnostic information that demonstrates the event’s dissimilarity to the prototype. For example, in the previous Andrew and Anne scenario, Andrew assumes Anne is a cheerleader because she closely matches his prototype of that category. However, Andrew has ignored important information that might cause him to make a different judgment of Anne; in particular, he has ignored base rates, or the rate at which any one type of person or event occurs in the population at large. At any given university, the number of cheerleaders is typically quite small. On the other hand, the number of biology majors at any given university is much larger than the number of cheerleaders. If Andrew had used base rates instead of the representativeness heuristic as a basis for determining category membership, it is far more likely that he would determine that Anne is a biology major

rather than a cheerleader. This example demonstrates the danger of relying on the representativeness heuristic when making decisions about category membership because the desire to use cognitive shortcuts may supersede the desire to seek accurate and complete information. Andrew’s dismissal of Heidi as a cheerleader is equally erroneous; it is just as likely that Heidi is a cheerleader as it is that Anne is a cheerleader, but because she does not appear to represent the cheerleader category, Andrew is unlikely to judge that she belongs to that category.

### Representativeness Heuristic and Social Psychology

The representativeness heuristic is typically mentioned in the contexts of social cognition (the way people think about the people and situations with which they interact) and categorization (the process of classifying people and events based on their prominent attributes).

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*See also* Base Rate Fallacy; Decision Making; Fast and Frugal Heuristics; Heuristic Processing; Illusory Correlation; Prototypes; Social Cognition

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## RESEARCH METHODS

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### Definition

Research methods are the ways in which researchers measure variables and design studies to test hypotheses. For example, if a researcher wants to study whether people in a happy mood are more likely to offer help to a stranger than are people who are not happy, the researcher might measure or manipulate how research

participants feel and then measure how likely people are to offer help.

## Overview

Researchers can choose among many different ways to measure variables. They can directly observe people's behaviors, directly ask people for their perceptions, or infer people's perceptions on the basis of behaviors or responses that only indirectly relate to the variables of interest. In most areas of social psychology, researchers want to learn what causes the phenomenon of interest (in the example, whether differences in mood causes differences in helping). Thus, whenever possible, researchers seek to manipulate variables of interest (e.g., mood) in an effort to make confident claims about causes (e.g., happy mood causing larger amounts of helping). Of course, for some variables or in some settings, the researcher cannot or chooses not to manipulate variables but instead looks at the relations between presumed cause and effect variables (such as mood and helping, respectively, in the example).

Measurement techniques will be discussed first and then research designs. Social psychologists commonly use a variety of measurement techniques including self-report, behavioral observation, response latency (time to answer), and physiological measures. Each type of measure has its strengths and limitations, but the extent to which one can draw conclusions from measured data is also a function of the type of research design employed. Social psychological research designs can be broadly classified into experimental and non-experimental research methods. Nonexperimental approaches are well-suited for identifying associations among variables; however, these approaches are less well-suited to determining cause-and-effect relations. However, experimental designs can demonstrate causal relations because of random assignment to conditions and greater control over variables that may covary (go along) with the cause variables under study.

## Measurement Techniques

Whenever possible, researchers try to collect supporting evidence using more than one type of measure. By doing this, the strengths of some measures can offset the weaknesses of other measures. Researchers often have greater confidence in the research conclusions

when a particular theory can be supported by more than one type of measure.

## Self-Reports

Self-reports are perhaps the most widely used measurement technique in social psychology. Self-report measures ask people to directly report their feelings, behaviors, or thoughts. In some cases, self-report questions may require open-ended responses (e.g., "What is your current mood state?"). Other types of self-reports may require people to respond according to a provided scale (e.g., "Please rate your current mood state." 1 = negative mood to 7 = positive mood). Using a set of items that all tap into the variable of interest (e.g., asking people to rate mood on measures of how negative/positive, bad/good, and unpleasant/pleasant their mood is) generally provides a better measure than using only a single item (e.g., only the negative/positive question). The primary advantage of self-report measures is that variables of interest can be directly measured from the source of those experiences.

However, at times, people may not be able or willing to provide accurate reports. When this is true, data collected from self-reports may be inaccurate or misleading. In some cases, for example, the validity of self-reports may depend on respondents' verbal abilities. Self-report data from children or those who have cognitive deficits may be inaccurate because of an inability to understand the questions or express responses. Even when ability to accurately report is not in question, people may not be willing to express their true feelings, thoughts, and behaviors. For example, when asked about socially undesirable opinions or behaviors, people may be inclined to respond in ways that make them look good to themselves and others (i.e., social desirability bias). Thus, when there are concerns that research participants might lie on self-reports (e.g., when addressing socially sensitive issues such as stereotyping, prejudice, or aggression), other forms of measurement may provide especially useful information.

## Behavioral Measures

Behavioral measurement consists of observing and recording people's actions. Social psychologists typically measure a particular behavior(s) (e.g., smiling) because the behavior directly relates to a variable of interest (e.g., mood). Unlike self-reports, one advantage

of behavioral measures is that assessment can occur without participants realizing that the measurement is taking place. Thus, researchers might be able to assess reactions that research participants would not willingly share.

However, one limitation of behavioral measurement is that researchers must infer the reasons for the behavior. For example, imagine a study of opinions toward consumer products where participants are asked to choose one product (from several) that they can take from the study. If a participant selects one product rather than another, this could indicate that he or she has a more positive opinion of the chosen product, but this choice could have also been made for other reasons unrelated to his or her opinion (e.g., taking it to give to a friend). Another possible limitation of behavioral measures (and of some self-reports) is that behaviors are often situation-specific. That is, the behavior may occur in one situation, but not in another similar situation. In most social psychological studies, people's behaviors are assessed in only a single situation. Therefore, the behavior-based assessment of the variable might not reflect a general perception that would work across circumstances; it may reflect a more limited tendency to act a certain way in a certain circumstance.

### ***Response Latency***

Researchers may often be able to make inferences about psychological variables based on how quickly or slowly people make responses. More often than not, computers are used to present words or pictures on screen, and the computer records how quickly people respond to the word or picture (e.g., pronouncing the word, naming the pictured object, or evaluating the object). When speed of response is important, responses often take the form of hitting one of two computer keys as quickly but accurately as possible. One common use of response time is to index whether people have recently been thinking about a concept related to the word or picture on the computer screen. For example, imagine that a researcher believes people are likely to spontaneously think about the concept of race in a certain circumstance. If so, reaction time to label a pictured person as belonging to one racial category or another might be faster in that condition than would the same reactions to the same picture in a condition where previous consideration of race is unlikely.

Like behavioral measures, reaction times may be less susceptible than self-reports are to participant control over socially undesirable responding. Because response times often differ across conditions in very small amounts (fractions of seconds), participants may not even realize that they are responding more quickly to some stimuli than to others, and they may be even less likely to identify any such differences as reflecting the conceptual relations between certain conditions of the study and the critical responses to the specific words or pictures. Like behavioral measures, however, the researcher must infer the meaning of relatively fast or slow responses. Research participants can take time to engage in many different psychological processes. If a number of different processes would make people take longer to respond, then long response times alone may not help the researcher to distinguish among those potential thought processes. This may be especially true when time measures are taken for engaging in an activity such as reading information, rather than responding to a question. People can take a long rather than short time to read a passage for many different reasons. Thus, measures of time taken to read (or, in some cases, respond) may require additional measures or manipulations to help characterize why the additional time was taken.

### ***Physiological Measures***

Social psychologists (and perhaps especially social neuroscientists) may use a variety of measures that assess physiological responses to social stimuli. These measures include those that assess brain or muscle activity, activation of the autonomic nervous system, and others. For example, even if observers cannot see that a participant is smiling, electrical activity may be greater in the smiling muscles when the person is listening to information with which they agree rather than disagree.

Physiological responses are often involuntary or not under people's conscious control. Therefore, concerns about people's inability or unwillingness to respond in a certain way are minimal. Thus, like behavioral and response latency measures, physiological measures can be useful when measuring reactions to socially sensitive material. Disadvantages include the time and expense involved in taking physiological measures. Even relatively minimal physiological recording equipment is expensive, and more advanced physiological measures (especially scanning techniques)

involve very expensive equipment. Most physiological measures are also especially sensitive to participant movements during the study and to the environment in which the measurements are taken. Thus, relatively long periods are taken to acquaint participants with the recording equipment and to get baseline measures (to control for individual differences in baseline activation of the systems under study). In addition, limitations in movement for many physiological measures restrict the kinds of interactions in which research participants can engage while physiological recording occurs. Finally, much remains to be learned about how various patterns of physiological reaction relate to particular psychological processes and variables. Many physiological systems become active during more than one type of psychological process. Therefore, in many circumstances, there may not be a one-to-one mapping of activation of a particular brain area or a particular system with one particular psychological process or outcome. This can make inferences based on physiological measures quite complex when compared with other types of measurement.

## Research Designs

### ***Experimental Design***

Experiments are perhaps the most prominent research approach used in social psychology. Experiments offer many advantages over nonexperimental approaches. In particular, because experiments control extraneous variables through random assignment to conditions, they allow researchers to confidently determine cause-and-effect relations. Random assignment is the procedure of assigning research participants to different experimental groups such that each participant has an equal chance of being assigned to any experimental condition. This is important because researchers can be assured that the background characteristics of the participants in each group are equivalent before a manipulation is applied. For example, let's return to our example of a study of mood and helping. Some people may simply be more likely to offer help to a stranger. Yet, if each person has an equal chance of being assigned to a happy mood group or a neutral mood group, then personal tendencies to offer help should be equal across the groups before any mood manipulation takes place. Later, if

there are differences in helping across mood groups, this difference cannot be attributed to differences across groups in the background tendencies of the people in each group; the differences must have been created by the manipulation.

Even though experimental designs offer many advantages, they do have limitations. For instance, experimentation cannot be performed when variables such as gender, personality traits, or ethnicity are under study because these variables cannot be manipulated. Also, many possible manipulations of variables such as ethnic prejudice, marital status, and physical aggression would not be undertaken because of ethical concerns. Therefore, research addressing influences of variables such as these must be conducted nonexperimentally.

Another potential issue with experimental designs concerns to the extent to which findings can generalize to real life. Increases in experimental control can result in increased artificiality of the experimental setting. This is less of an issue when the goal of the study is to test psychological theory rather than to produce results that are relevant to a particular applied setting. For instance, a researcher may believe that ethnic categories are activated when people encounter group members as they walk down a hallway. Yet, it may be much more straightforward to show such activation in a laboratory showing pictures or video on a computer screen. However, all else being equal, researchers would often prefer that their research findings (or at least the psychological processes that produced the findings) would translate to real world settings. Researchers can increase the likelihood of their results translating to real world contexts by using experimental activities that closely reflect similar activities in everyday life, by showing that the research findings are the same across different kinds of manipulations and measures, or by conducting field research that shows parallel effects without the same level of experimental control over extraneous variables.

### ***Nonexperimental Design***

Although experimentation is the primary way to determine causal relations among variables, a nonexperimental design may be more appropriate for some research questions. Some research questions do not involve cause and effect. For example, when a researcher is developing a multi-item measure of a

particular concept or idea, the researcher may only be interested in identifying the presence of relations among those items, not causal relations. Even when researchers are interested in cause and effect, some variables cannot be experimentally manipulated (e.g., gender, personality traits) or manipulation would not be ethical (e.g., marital status, physical aggression). When this is the case, nonexperimental research is the best that researchers can do. In addressing cause and effect relations, however, nonexperimental approaches face a number of challenges.

Consider nonexperimental investigation of the question of whether people are more likely to offer help while in happy moods. For example, participants could be asked to complete diaries in which they report their moods and their major activities each day for a month or more. It could be, in such a study, that people who report being generally happy also more often report helping others. One of the problems with nonexperimental designs is that causes might often occur in either direction (i.e., happy mood could increase helping, or increased helping could create happy mood). Even when this is not as likely (e.g., if mood were measured before a specific opportunity to help, so the helping opportunity itself cannot be the source of the mood), a measurement of the independent variable (mood) might identify people who are also disposed to help for reasons other than their mood *per se*. For example, the people who report being happy at a particular point in time may be happy because of positive events in their lives (e.g., getting a raise at work), and those positive events themselves may make helping more likely separate from mood (e.g., by making people feel like they have an excess of resources, so they can afford to share). At times, the researcher can measure potential alternative reasons for the effects or can include measurements over time that make a stronger case for the preferred explanation. However, these solutions are often less compelling than running an experiment in which random assignment to conditions equate the conditions on variables not influenced by the manipulation of interest.

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*See also* Control Condition; Ecological Validity; Experimental Condition; Experimentation; Nonexperimental Designs; Quasi-Experimental Designs; Self-Reports; Social Desirability Bias; Social Neuroscience

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## RESISTING PERSUASION

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Resistance is central to persuasion. Without resistance, persuasion is not necessary. Resistance to persuasion can be desirable, for example, when non-smokers repeatedly resist advertisements and peer pressure encouraging them to smoke. But resistance can also be an undesirable characteristic, as when smokers resist the many strong messages encouraging them to stop smoking and prolong their lives.

Effective resistance can be used to ward off unwanted persuasion, but inappropriate resistance can close a person off to meaningful changes. Skepticism, reactance, and inertia are three kinds of resistance that work in different way to limit persuasion. People can do many things to increase or to decrease their own or other people's resistance to persuasion.

### Three Kinds of Resistance

Resistance to persuasion is not just one single thing. One encounters three kinds of resistance: skepticism, reactance, and inertia.

*Skepticism* is resistance to the content of the message. Skepticism focuses on the logic and evidence of the arguments in the message, and produces a desire to critically evaluate and refute those arguments.

*Reactance* refers to the negative reaction people have to someone else telling them what to think or do. Reactance is resistance to the influence attempt itself. The contrariness produced by reactance leads people to counter the persuasion, no matter what it advocates, and to reestablish their freedom to think by choosing the opposite.

*Inertia* is an objection to change itself, no matter which change is advocated. With inertia, people don't

pay attention to the message. They aren't interested in the change. They just want to keep things the way they are.

### **Increasing Resistance to Persuasion**

Sometimes it is advisable to increase one's own resistance or someone else's resistance to unwanted persuasion. Skepticism can be strengthened by (a) increasing a person's motivation to examine the message and (b) assembling information and tools to effectively evaluate a message. Realizing that persuasion is coming will energize both aspects of skepticism. Also, considering the ways this topic is personally important will increase the energy available to critically and carefully think through a message or proposal.

Reactance can be increased by focusing on how the persuasion is manipulative and aimed at limiting freedom. Reactance is stronger when the unwanted influence is directed toward more important values and actions, and when the unwanted influence is more intrusive and offensive. Thoughts that emphasize these aspects of the influence increase the reactance form of resistance.

Inertial resistance can be strengthened by focusing on the current situation, particularly on what is liked about the present situation, and how difficult it would be to change. The nonsmoker who makes a mental list of the top five things to like about being a nonsmoker is bolstering inertia.

### **Decreasing Resistance to Persuasion**

There are times when a person meets resistance, even his or her own resistance to a proposal, and feels that it is baseless and that it prevents a recommendation or change from being realistically considered. In these cases, it may be useful for the person to think of ways to minimize or reduce resistance. Most people think first to overwhelm resistance with debate, explaining why resistance is unreasonable or unnecessary. This tactic rarely works, and most often creates reactance. But some more subtle and effective ways do allow resistance to be minimized.

Skepticism is usually a good quality, but it can be overused and get in the way of making good decisions. A subtle way to diminish skepticism is to provide a guarantee, which eliminates the need for skepticism and scrutiny by assuring that a bad outcome will be

repaired. When a guarantee is not feasible, asking the person (or yourself) to consider the proposal for the future—for example, “What if next year at this time you were a nonsmoker?”—can reduce skepticism. Assessing a proposal for the future (next week, next month, next year) diminishes the influence of the costs and allows the benefits to be considered more clearly.

Framing proposals differently can also greatly affect how the request is considered. Listen to these two ways of framing a request and their respective result: Pat asked her father if she could watch TV while she did homework, and he said “Certainly not!” Pat's sister asked her father if she could do homework while she watched TV, and he said, “That would be great!” Framing this case as a request about changing TV watching was much more effective than framing it as a request about how one does homework.

Reactance can be lessened by minimizing the pushiness or offensiveness of the request. This can be done by making a smaller request, which might be followed later by a larger one. Reactance can also be diminished by making the request politely. Saying, “I know that you might not want to, but would you . . .” rather than simply saying “Would you . . .” increases persuasion dramatically. Another way to minimize reactance is to put the message into a story about someone who acted in a certain way and achieved a certain result. A story sidesteps reactance because the message is not, “you should . . .,” but “Jesse did and it worked for her.” With stories, people are interested in what happened next, without analyzing or contesting what happened the way they would with a direct message.

The interesting problem with inertia is that this form of resistance is unresponsive to persuasion. It is the tuning out of persuasive messages. So, to reduce inertia, one has to do something to make the person tune in to the message. Many television ads are designed on the principle that they first have to capture the audience members' attention before they can hear the message. Bright lights, loud sounds, humor, confusing beginnings, and unexpected events are all ways that advertisements use to overcome inertia.

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*See also* Compliance; Influence; Persuasion; Reactance

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## RESPONSIBILITY ATTRIBUTION

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A responsibility attribution relates to beliefs about the cause of an event, or outcome, or state. The event in question may be positive (success) or negative, but responsibility is used more in association with aversive outcomes. Hence, a responsibility attribution is linked with terms such as *fault* and *blame*, with the individual held accountable for an unwanted experience. In addition, a responsibility attribution may apply to the self or to others. This entry focuses on social perception and judgments about others, rather than on self-perception.

Responsibility attributions are of central importance in studies of thinking, feeling, and behavior (motivation). Social psychologists therefore have devoted much attention to this topic, and that interest remains central.

### How Does One Know If Another Is Responsible?

If an earthquake leveled a house, then it is unlikely that a particular individual will be held responsible. A responsibility attribution presumes that a person brought about the outcome. But responsibility implies more than an attribution to a person. It also embraces a guilty mind and the belief that it could have been otherwise. Hence, although effort and ability are person characteristics, lack of effort resulting in failure elicits judgments of responsibility, whereas this is not the case given lack of aptitude as the cause, which is presumed not to be subject to volitional control and

change. In a similar manner, obesity caused by love of eating or HIV/AIDS caused by promiscuous sexual behavior gives rise to responsibility ascriptions, whereas obesity because of a thyroid disorder or HIV/AIDS traced to a transfusion with contaminated blood results in beliefs of nonresponsibility. The former are “sinners,” the latter are “sick.”

These can be difficult judgments, prone to influence by biases and affected by a variety of information. For example, situational causes of behavior tend to be underestimated in comparison with personal causes, so that an individual may be blamed for a car accident on a rainy day because the severity of the road conditions is underestimated (what is called *discounting*).

Judgments of responsibility embrace complex issues at the intersection of law, philosophy, and psychology, and scholars with these interests often pose odd dilemmas to tease apart the essence of responsibility. Consider the following: Robber #1 is about to rob a bank when Robber #2 enters that bank, holds a gun to the head of Robber #1, and demands that he help rob the bank or else he will be shot. Is Robber #1 responsible for the robbery? Similarly, when a severely abused woman intentionally kills her abusive spouse when he is asleep, is she fully responsible for this action? Judgments of responsibility are lessened given mitigating circumstances, such as mental state at the time of the behavior. Hence, the abused spouse is likely to receive a more lenient sentence than is one who has not been victimized.

### Consequences of Responsibility Beliefs

Responsibility attributions affect emotions. Some psychologists contend that feeling is directly determined by thinking, that is, what is thought determines what is felt. The task for this group of emotion theorists is to specify the key thoughts linked with emotions and identify the feelings they generate. Perceived responsibility for an aversive event gives rise to anger and related emotions such as annoyance. For example, you are mad when a roommate fails to clean up the kitchen or when a friend misses an appointment. Furthermore, the greater the perceived responsibility is, the more intense the anger is. Hence, an intentionally missed appointment gives rise to greater anger than does one forgotten (an unintentional cause revealing a less guilty mind). On the other hand, nonresponsibility for a

negative event or state gives rise to sympathy and pity. People feel sorry for the mentally handicapped person who cannot complete an academic task and for the physically handicapped individual who cannot compete in an athletic event. Thus, responsibility judgments provide one key to thinking–feeling linkages.

In addition, responsibility judgments and their linked feelings give rise to important behavioral reactions. For example, charity is more likely to be endorsed for those considered not responsible for their plights. Hence, it is easier to solicit financial assistance for the blind than for drug abusers. This is one reason why so many have contributed charity to those suffering from hurricane damage in New Orleans and other southern cities. Similarly, welfare payments are denounced by individuals who see these recipients as lazy rather than unemployed because of harsh economic conditions. Political ideology affects these judgments and how the political parties perceive one another and themselves. Democrats (liberals) accuse Republicans (conservatives) of holding others responsible when this is not the case—for example, blaming those in need of welfare for being lazy, when their poverty is caused by the minimum wage being too low or by some other uncontrollable factor. Conversely, Republicans accuse Democrats of being bleeding hearts, giving out public funds to those who are truly responsible for their plights, and not differentiating between the deserving and the undeserving needy. There are kernels of truth in both positions, but of greater importance here is that this debate illustrates the central role responsibility beliefs play in political life.

Responsibility attributions and their consequences are pervasive in other aspects of everyday life as well. For example, teachers and parents are likely to punish failure because of lack of studying but not if this failure is attributed to lack of aptitude; spouses in distressed marriages are more likely to fault their partners for aversive events than are partners in successful marriages; caregivers blame the mentally ill more for passive symptoms (e.g., apathy) than for active symptoms (e.g., hallucinations); and on and on. Thus, responsibility judgments and their linked affects loom large in people's lives.

### Altering Responsibility Beliefs

Inasmuch as being held responsible for a negative event has great personal costs, individuals strive to reduce such judgments. Impression management techniques are available to meet this goal, including denial of the

event; providing an excuse (ex = from, cuse = cause) that is external to the person or uncontrollable (“I am late because the subway broke down”), giving a justification so that the punishable behavior is regarded as serving a higher goal (“I missed the appointment to take my mother to the hospital”), or confessing, which has the paradoxical effect of maintaining responsibility yet reducing punishment. This is likely because the act and the actor are separated—the confessor is perceived as a good person who happened to perform a bad act.

*Bernard Weiner*

*See also* Attributions; Excuse; Fundamental Attribution Error; Person Perception; Self-Serving Bias

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## RINGELMANN EFFECT

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### Definition

The Ringelmann effect refers to individuals expending less individual effort on a task when working as part of a group than when working alone.

### Background and History

Max Ringelmann was a French agricultural engineer who was interested in examining various aspects related to agricultural efficiency. He was primarily interested in conditions under which draft animals such as horses and oxen—and men—are more or less efficient in their work performance. Ringelmann's research represents some of the earliest systematic social psychological research. Because he was also interested in the process by which animals and men could be more efficient, his research also represents some of the earliest known human factors research. Actually, the human factors aspect of his research represented the primary focus of his research, whereas comparisons of

individual and group performance were only a secondary interest at the time of his original research.

In some of his preliminary research, Ringelmann had male participants pull horizontally on a rope for approximately 5 seconds. Participants pulled on a rope individually, in groups of 7, or in groups of 14. During this time, their maximum pulling effort was recorded via a dynamometer (a device that measures maximum force exerted). Those participants who pulled alone exerted a mean force of 85.3 kg per person. When participants pulled in 7- and 14-person groups, the mean force exerted per person was 65.0 kg and 61.4 kg, respectively. Thus, as group size increased, the average force exerted per individual decreased. Ringelmann found similar results when participants were asked to push a crossbar connected to a two-wheeled cart. When participants pushed alone they exerted more force (170.8 kg), on average, than when they pushed together with another person (154.1 kg).

Some of Ringelmann's most cited findings involve examining relative group performance as a function of group size in groups ranging in size from one to eight participants. Similar to his research mentioned previously, individual effort decreased as a function of group size. For example, assuming that the total force exerted for one worker was 1.00, the force exerted for two through eight workers was 1.86, 2.55, 3.08, 3.50, 3.78, 3.92, and 3.92, respectively, indicating a curvilinear relation among group size and group performance. That is, as group size increased, the total force exerted for the group decreased but the difference between two- and three-person groups was greater than the difference between four- and five-person groups and the difference between seven- and eight-person groups was still smaller. Interestingly, Ringelmann did not clearly specify what types of tasks these data were based on. They may or may not come from research specific to rope pulling as is often assumed.

Ringelmann acknowledged two potential reasons underlying this decrement of individual performance when working in groups. The first was that the effect was caused by coordination losses. For example, two people pulling on a rope would be more coordinated in their pulling (more likely to be in sync in their pulling) than would a group of seven or eight people putting together. For Ringelmann, this was the most likely explanation. Nonetheless, he also acknowledged the fact that such an effect might be the result of decreased motivation. For example, with more people pulling on a rope, individuals may feel that the work of their coworkers will be enough to successfully

accomplish the task at hand, thus individual effort decreases as the result. Others did not attempt to disentangle the mystery of the Ringelmann effect until nearly a century after Ringelmann's original work.

## Contemporary Research

Until the mid-1970s, researchers cited Ringelmann's work, but no one had attempted to replicate his findings. Then in 1974, researchers sought to better understand the Ringelmann effect. Is this effect real? Would similar findings emerge if Ringelmann's research had been conducted in a controlled laboratory environment? Are the effects Ringelmann obtained primarily because of coordination losses involved with working together on a task? Alternatively, can Ringelmann's data be explained primarily through other mechanisms such as decreased individual motivation?

Similar to Ringelmann's original research, more contemporary findings indicate that individual effort does decrease as a function of group size. These findings have been replicated using a number of different group sizes and a number of different tasks (clapping, shouting, brainstorming, job evaluation, etc.), including one of Ringelmann's original tasks, rope pulling. Moreover, both reduced motivation and coordination losses contribute to decreased group performance on a task, with coordination playing a bigger role as group size increases. At least two possible causes have been suggested to account for decreased motivation. The first is that as group size increases so does an individual's belief that other group members will be able to successfully accomplish the task at hand, thus leading to decreased effort (i.e., motivation). This is referred to as the free-rider effect. A second explanation for motivation decrements concerns the perception that other group members are not putting forth their best effort. As a result, an individual will reduce his or her effort, compared with when the individual is working alone, so as not to appear as a sucker (i.e., the sucker effect). This research also led to a change in terminology used to describe this effect; the original Ringelmann effect was replaced with a term that more aptly describes this phenomenon, *social loafing*. When working on a task as part of a group, many times people are apt to loaf or work less hard than they would if working alone.

Since the reemergence of research in this area, several variables have been found to moderate or mediate the extent to which individuals will tend to loaf while performing a group task. A few of these variables are identifiability, personal relevance, group cohesiveness,

and task interdependence. For example, individuals are less likely to decrease their individual effort within a group if they believe their individual effort is identifiable, the group task has some personal relevance for the individual (i.e., is important), the group is more cohesive or tight-knit, and successful completion of a task depends on the effort of all group members.

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*See also* Group Dynamics; Group Performance and Productivity; Social Loafing

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## RISK APPRAISAL

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### Definition

The term *risk appraisal* refers to an evaluation of the chances that a future event may occur. Similar terms include *risk assessment*, *risk perception*, *perceived likelihood*, and *perception of vulnerability*. One might appraise the risk of globally significant events (e.g., terrorism, natural disasters) as well as those that are personally relevant (e.g., losing a child, developing a disease). People's beliefs about risk influence a wide variety of decisions and behaviors in many life domains including careers, relationships, and health. As examples, college students are relatively less likely to choose careers in which the chances of getting a job are low, and women are unlikely to get mammographies if they do not feel at risk for breast cancer. If risk appraisals are incorrect, they may lead to faulty decision making and counterproductive behavior, necessitating the development of strategies to correct these appraisals. Laypeople evaluate risk very differently

than experts do, and such differences can have public policy implications.

### Measurement

A common method of assessing perceptions of risk is to ask individuals whether an event will or will not happen, or have them estimate the chances it will happen on a percentage (0%–100%) scale. One problem with the latter approach is that people often have difficulty thinking about risk in numerical terms and think about probabilities differently than experts do. For example, when people estimate that an event has a 50% chance of happening, what they really mean is that it might or might not happen and they are not sure. Several other numerical measures attempt to minimize this problem, such as a magnifier scale in which the lower end of a percentage scale (between 0% and 1%) is divided into smaller units to encourage respondents to use this part of the scale for rare events. Another approach is to have individuals make relative judgments, such as how the risk of one event compares with that of another (e.g., having cancer vs. having heart disease) or how one person's risk compares with that of another person or persons. Still another is to use a verbal scale (ranging, for example, from "very unlikely" to "very likely"). Any of these measures can be designed to be conditional on some behavior (e.g., "If you continue to smoke, what are your chances of getting lung cancer?"). Affective risk appraisals such as worry or the feeling that something will happen can also be assessed.

The choice of measures can greatly influence the findings of a given study. For example, people's verbal risk appraisals are more sensitive to new information than are their numerical risk appraisals, and people may be pessimistically biased regarding their absolute risk of an event yet optimistically biased about their risk relative to that of their peers. Affective perceptions of vulnerability (e.g., "feeling at risk") are sometimes more predictive of behaviors such as vaccination than are cognitive perceptions of vulnerability.

### Errors in Risk Appraisal

People often make errors when appraising their risk. They tend to overestimate small risks and underestimate large risks, and perceive positive events as more likely to occur than negative events. A disproportionate

number of individuals consider their level of personal risk to be lower than that of their peers, a bias called *unrealistic optimism*. People also tend to overestimate the risk of outcomes that have a low probability of occurring and yet result in major consequences (e.g., nuclear reactor explosions, airplane accidents). These events are often marked by a feeling of dread, lack of control, and the potential for extremely negative outcomes. Indeed, people often believe that high risk initiatives have low benefit, whereas experts believe exactly the reverse (as in the case of nuclear energy).

People may be able to estimate the likelihood of a single event occurring (e.g., getting a job), but they often have trouble estimating the probability of a compound event (e.g., getting a job and being promoted). They also have trouble understanding how quickly risk accumulates; for example, smokers do not realize that their risk of lung cancer relative to that of nonsmokers gets substantially higher the more years they continue to smoke. People have trouble making decisions where the risk of one outcome increases and the risk of another decreases (as is the case for many health therapies), and they have trouble considering all possible outcomes when assessing likelihood. For example, when a sample of smokers was asked how many smokers out of 100 would die of lung cancer, the average response was 42, but when asked the same question with a longer list of possible diseases, the average response for lung cancer was much lower. People's risk perceptions are often constructed on the spot based on the way these risk perceptions are measured and the information available to the respondent at that moment. This may explain why risk appraisals are often not as predictive of behavior as one might expect.

### Influences on Risk Appraisal

Many of the errors contaminating people's risk appraisals can be explained by a set of basic psychological phenomena. Amos Tversky and Daniel Kahneman found that people rely on a variety of heuristics, or rules of thumb, when assessing the likelihood of events. An example of such a heuristic is the availability heuristic, whereby people estimate the probability of an event occurring based on how easy it is to think of an instance of that event. People tend to remember (and thus overestimate) events that happened relative to events that did not happen and are likely to remember vivid events more than mundane

events. For instance, people may overestimate the number of times that disclosing personal information on a date backfired, yet suppress memory of many times that it did not. Highly publicized events such as airplane crashes raise risk appraisals for air travel, despite the fact that thousands more die in less publicized car accidents. People also engage in egocentrism, which means that thoughts about the self are more prominent than are thoughts about other people. As a result, when comparing their risk with that of others, people rely on the abundance of information they have about themselves, leading to errors like unrealistic optimism.

People think differently about frequencies than they do about proportions. For example, upon hearing that 10 individuals (of 100) were infected with a communicable disease, people worry more than if they hear that 10% of this group was infected, despite the statistics being equivalent. People seem to focus exclusively on the 10 people who might have been infected. People also fail to acknowledge the actual chances of an event when assessing their own (or another person's) risk. For example, when determining whether a young woman is anorexic, people might compare her build and symptoms with that of other anorexic women and pay little attention to the actual prevalence of anorexia (which is lower than that of other health problems with similar symptoms). Such a bias results from a heuristic called the *representativeness heuristic*, which is used to make judgments of similarity.

People tend to judge risks higher when sad, and lower when angry or happy. Their motivation to believe that good things will happen to them and bad things will not often color their risk perceptions in a self-enhancing direction. As a result, they may be resistant to information designed to increase their risk perceptions, which explains why many health promotion campaigns are unsuccessful. People high in self-esteem, extraversion, dispositional optimism, or sensation-seeking tend to estimate their personal risks as relatively lower, whereas those who are depressed tend to be more pessimistic (though some evidence suggests that depressed people are more realistic about their risk than are nondepressed people). Contrary to popular belief, adults and adolescents do not vary greatly in their appraisals of the risk of various activities, and even older adults have been found to be unrealistically optimistic about their chances of experiencing negative events relative to peers.

## Improving Risk Appraisal

Given the many errors in the way people appraise risk, and given the association of risk appraisals with important decisions and behaviors, it is important to devise ways to improve the accuracy of risk appraisals. The increasing use of computer aids and the Internet will be helpful in this regard. Several Web sites provide personalized risk information to individuals about their chances of getting a disease, and decision aids are now available to patients who need to appraise the risk of competing options (e.g., watchful waiting vs. surgery) when making important medical decisions. These decision aids collect information about patients' values (such as whether years of life matter more than quality of life) to help them understand their risk and to make informed decisions. Evidence also indicates that training in the social sciences, and psychology in particular, improves the ability to reason and make probabilistic judgments, which is necessary to appraise risk accurately. If made available to a wider audience, similar training may reduce errors in risk appraisal on a wider scale.

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*See also* Availability Heuristic; Decision Making; Egocentric Bias; Heuristic Processing; Representativeness Heuristic; Risk Taking

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## RISK TAKING

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### Definition

When people take risks, they engage in behaviors that could lead to negative consequences such as physical injury, social rejection, legal troubles, or financial losses. Behaviors that are more likely to lead to such

outcomes are considered riskier than behaviors that are less likely to lead to such outcomes. Regardless of the degree of risk involved, however, behaviors of any type can lead to both positive and negative consequences. People who take risks think about consequences in one of two ways. The first way involves an awareness that a behavior such as gambling could lead to both positive and negative consequences (e.g., their winnings could increase further or they could lose all of their money), but people engage in the behavior anyway because they assume that the positive consequences are more likely than the negative consequences. In contrast, people who think about consequences in the second way do not seem to consider both positive and negative consequences at the time when they are thinking about engaging in the behavior. Instead, they only seem to consider the possible positive consequences. If they had considered the negative consequences as well, they might not have taken the risk.

### Major Issues in Risk-Taking Research

Researchers from a wide range of disciplines have been interested in risk taking for a variety of reasons. Economists and other financial experts, for example, have considered the implications of philosophical, mathematical, and psychological analyses of risk taking for making wise investment decisions. Given that nearly all financial decisions carry some degree of risk, the focus is not on how one can avoid taking risks. Rather, the focus is on how one can maximize financial gains while minimizing financial losses.

Cognitive psychologists, in contrast, have been less interested in financial decisions and more interested in the ways in which the human mind copes with all the information and possibilities that may be present in a risk-taking situation. People cannot consider all the possible positive and negative consequences of their choices because doing so would require much more memory ability and processing capacity than the human mind possesses. Instead, they simplify the task for themselves by only considering certain kinds of information, narrowing down their options to one or two, and relying on rules of thumb that are usually (but not always) useful guides to selection. Whereas many scholars (especially evolutionary psychologists) now argue that such strategies are highly adaptive and usually inconsequential, others have shown in experiments how simplifying tendencies can lead to systematic

decision errors and inconsistent choices across similar situations.

For example, when presented with hypothetical health policy choices, people make different choices depending on how the information is “framed.” In one study, one group of participants was willing to implement a risky health policy involving a vaccination plan when they were told only that the vaccination would likely “save the lives of 600 people” in a particular town (population = 1,000). A second group, in contrast, was unwilling to implement the policy when they were only told that “400 people might die” if the plan were implemented. Thus, people made different choices even though the choices were formally identical. People presented with the first frame failed to realize that although 600 would be saved, 400 would not be. People presented with the second frame failed to draw the opposite inference.

Although studies of framing and other effects have been of interest to social psychologists as well, other issues currently predominate in the social psychological literature on risk taking. The goal of most studies is to identify the psychological factors that seem to predict who is likely to engage in unhealthy behaviors such as unprotected sex, reckless driving, or cigarette smoking. Some researchers argue that people engage in these unhealthy behaviors because the long-term, negative consequences of these behaviors are outweighed in their minds by the short-term, positive consequences that they produce.

Risk taking is particularly likely when the short-term positive consequences include reductions in both negative emotion and high self-awareness, combined with increases in physical pleasure or arousal. That is, people are drawn to risks that promise a quick positive outcome that will feel good, be exciting, help them forget themselves, and get rid of unpleasant emotions. Experimental procedures that increase negative emotion or self-awareness (e.g., leading people to believe they will never form close relationships; reminding them that they will die someday) increase tendencies toward risk taking. Further work has shown that risk-taking is more likely when (a) factors such as stress or alcohol decrease the number of consequences considered, (b) the risky behaviors serve a variety of goals and needs (e.g., need for intimacy; self-esteem), and (c) people have favorable stereotypes about the kind of person who engages in the behavior, believe that most people engage in the behavior, and their friends would approve of their engaging in the behavior.

Developmental (child) psychology often builds on scholarship in the fields of cognitive and social psychology. Developmental psychologists have given many of the same tasks and measures used by cognitive and social psychologists to children in an effort to document developmental increases or decreases in risk-taking tendencies. Although adolescents are more likely to engage in certain kinds of risky behaviors than are preadolescents and children (e.g., smoking, binge drinking, unprotected sex), age differences have not been found on a variety of other risk-taking measures. Hence, there does not appear to be a global increase in risk taking with age because age differences vary by topic. Similarly, there does not appear to be a general tendency for males to take more risks than females do. Although some studies have found that males engage in certain risky behaviors more than females (e.g., reckless driving), other studies have either found no gender differences or found that females engaged in certain risky behaviors more than males (e.g., females in their 20s smoke more than males in their 20s).

Hence, financial scholars and scholars in various subfields of psychology have had somewhat divergent interests. Nevertheless, several findings and issues have been of interest to scholars in all these disciplines. One issue pertains to the question of whether a person who engages in one kind of risky behavior (e.g., smoking) is also likely to engage in other kinds as well (e.g., binge drinking, reckless driving). Again, the findings seem to show that the degree of consistency depends on which behaviors are presented to participants in studies. Certain kinds of risky behaviors do tend to cluster together (e.g., smoking and binge drinking in teens), but other kinds do not (e.g., trying out for a sport and smoking). Whenever larger lists of risky behaviors are presented to participants, less consistency in the tendency to take risks emerges.

The second issue of interest to scholars in multiple disciplines pertains to the relation between risk taking and rationality. In classical terms, rational people are people who behave in ways that are consistent with their beliefs and values. To illustrate, people who drive recklessly with their children in their cars can be said to behave irrationally if they (a) believe that driving recklessly could lead to the injury or death of any passengers in their cars and (b) consider it very important to protect their children. Similarly, the act of smoking cigarettes is irrational for any person who believes that smoking causes premature death and considers it important to live a long and healthy life.

Several studies of risk taking have shown that adolescents and adults can deviate from the classical norms of rationality. Scholars have reacted to such deviations in one of two ways. Some have argued that the classical criteria for rational behavior need to be discarded in favor of other criteria. In other words, there is nothing wrong with the human mind; there is something wrong with the definition of rationality. These scholars suggest that millions of years of evolution could not have produced a mind that is designed for self-destruction. Other scholars, in contrast, have accepted the classical criteria and sought to determine the psychological and contextual factors that cause people to sometimes behave irrationally. As noted previously, for example, social psychologists have appealed to constructs such as negative emotion, self-awareness, social exclusion, lack of self-regulation, and positive views of risk-takers to explain irrational risky behavior. Developmental psychologists have also appealed to lack of self-regulation, but have added an emphasis on other factors such as impulsivity and sensation-seeking as well. In contrast, cognitive psychologists have focused on various cognitive processes that keep people from attending to, or recalling, the right kinds of information.

The issue of rationality also arises in legal settings. When adults or adolescents engage in criminal behaviors, the question arises whether they should be held accountable for their behavior. Are their beliefs in accord with reality? Do they value their own lives or the lives of others? Did psychological factors such as extreme emotion or uncontrollable impulsivity cause them to behave irrationally? If so, should they be held accountable for not controlling their emotions or impulses?

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*See also* Decision Making; Emotion; Self-Defeating Behavior; Self-Regulation

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## RISKY SHIFT

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Risky shift occurs when people change their decisions or opinions to become more extreme and risky when acting as part of a group, compared with acting individually; this is one form of the phenomenon known as group polarization. The result is that group decisions are bolder and more adventurous than those made by individuals alone and even riskier than the average of the individuals' opinions and decisions before group discussion. However, sometimes people in groups shift such that the group decision is actually more conservative, which is known as cautious (or conservative) shift. The group's initial tendency toward risk is important in predicting if risky shift will occur. The direction of the shift (to be more risky or more conservative) tends to be in line with the general direction of group initial viewpoints.

The term *risky shift* was coined by James Stoner in 1961. To examine group decision making, he asked participants to make decisions about real-life scenarios that involved some amount of risk. Participants first gave their own individual ratings. Then they got together in groups and arrived at a decision together. Following this, participants made their own individual ratings again. Contrary to what was expected, he found that group decisions were more risky. In addition, the postdiscussion individual decisions also showed a shift toward increased risk. Subsequent research has shown that people in groups may make more risky decisions in a variety of situations including, but not limited to, gambling and consumer behavior, and people in groups can become more prejudiced in their opinions of minorities or more liberal on issues such as feminism.

This risky shift in group decision making may occur for a variety of reasons. First, the individuals with more extreme views may be more confident, committed, and persuasive, compared with the more conservative members of the group. In addition, as people present their arguments to the group members, they may come to hold a stronger belief in their own opinions and, in turn, be willing to make more extreme

decisions. These stronger opinions may carry more weight in determining the final decision.

Another reason for the occurrence of risky shift is that the group may fail to consider all available opinions and possibilities. There may be biased filtering and communicating of views, facts, and findings because of motivation by an individual to promote his or her own opinion. This insufficient exploration by the group of costs and benefits of each choice may lead to assumptions in which negative outcomes are overlooked.

Although the goal and desire of committee and group decision making is ultimately to result in more educated, well-rounded, and better decisions, risky shift may be a deterrent to this. In groups such as juries or panels of judges, committees of generals, or boards of directors, as a result of group discussion, the group may choose a more risky option than a single juror or judge, general, or CEO alone would. Unfortunately, in some cases, this may result in poor, even disastrous, decisions and outcomes.

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*See also* Group Polarization; Groups, Characteristics of

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## ROBBERS CAVE EXPERIMENT

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### Definition

The Robbers Cave experiment demonstrated that an attempt to simply bring hostile groups together is not

enough to reduce intergroup prejudice. Rather, this experiment confirmed that groups must cooperate and have common goals to truly build peace. Thus, although contact is vital to reducing tensions between groups, interdependence is essential for establishing lasting intergroup harmony. This experiment is a classic in social psychology and is important because it has implications for reducing conflict between real social groups. In addition, this study has implications for a number of prominent social psychological theories, including realistic conflict theory and social identity theory.

### Background

The purpose of this study was to create conflict and hostility between groups, and then employ interventions designed to reduce it. Researchers accomplished this goal by sending two groups of adolescent boys to a remote location where both the creation and resolution of intergroup conflict could be manipulated. Twenty-two 11-year-old boys were transported to a summer camp located in Oklahoma's Robbers Cave State Park (hence the name by which this experiment has come to be known). All the boys were similar on important demographic features, with each exhibiting satisfactory academic performance and coming from stable, middle-class families. In addition, the boys did not know one another and had no idea that they were about to participate in a psychology experiment. Researchers divided the boys into two equal-sized groups that were taken to opposite sides of the camp. These groups were initially unaware of each other's existence, but this soon changed.

The study took place in three separate stages that were approximately 1 week apart: (1) group formation, (2) intergroup competition, and (3) intergroup cooperation. The purpose of the first stage was to encourage the development of unique ingroup identities among the groups. This occurred as a result of the boys engaging in shared activities (e.g., swimming, hiking) with their own groups, which indeed led to the spontaneous emergence of norms, leaders, and identities. In fact, the groups even chose distinct names for themselves, with one referring to itself as the Rattlers and the other as the Eagles.

In the second stage, the groups were introduced and placed in direct competition with one another. Thus, the boys competed in a series of contests involving activities such as baseball and tug-of-war. The group that

won overall was to be awarded a trophy and other prizes, and the losing group was to receive nothing. The result was a vicious rivalry between the groups, with both verbal and physical attacks being commonplace. For instance, the boys engaged in name-calling and taunting, as well as more physical acts of aggression such as stealing the winning group's prizes and burning each other's team flags. Clearly, the researchers' goal of creating intergroup conflict was easily achieved. However, resolving this conflict turned out to be a more difficult task.

In the final stage of the experiment, researchers arranged specific situations designed to reduce the severe hostility between groups. First, the groups were provided with noncompetitive opportunities for increased contact, such as watching movies and sharing meals together. However, these getting-to-know-you opportunities did little to defuse intergroup hostility. In fact, many of these situations resulted in an exchange of verbal insults and, occasionally, food fights.

As an alternative strategy, the groups were placed in situations that required them to cooperate with one another (i.e., the situations involved superordinate goals). For instance, one situation involved a broken-down truck carrying supplies to the camp. Another involved a problem with the camp's water supply. In both cases, the groups needed to work together because the resources at stake were important to everyone involved. This cooperation resulted in more harmonious relations between groups, as friendships began to develop across group lines. As a telling sign of their newfound harmony, both groups expressed a desire to return home on the same bus.

### Implications and Importance

The Robbers Cave experiment has had an enormous impact on the field of social psychology. First, this study has implications for the contact hypothesis of prejudice reduction, which, in its simplest form, posits that contact between members of different groups improves how well groups get along. This experiment illustrates how contact alone is not enough to restore intergroup harmony. Even after the competition between the boys ended, the hostility did not disappear during future contact. Competition seemingly became incorporated into the groups' identities. The hostility did not finally calm down until the context changed and cooperation between groups was required. Thus,

beyond mere contact, groups also need to be interdependent and have common goals.

Second, this study validated the claims of realistic conflict theory, which specifies that prejudice and discrimination result when groups are placed in competition for valuable resources. The boys in this experiment clearly demonstrated that competition breeds intergroup hostility. More importantly, however, this study highlights the significance of the social context in the development of prejudice and discrimination. The boys selected to participate in this study were well-adjusted and came from stable, middle-class families. Thus, it is unlikely that individual characteristics such as socioeconomic status and family life were responsible for the observed effects because these factors were held constant. Rather, the context of intergroup relations (i.e., competition) led to the observed conflict and hostility. This suggests that prejudice is largely a product of social situations and that individual pathology is not necessary to produce outgroup hatred. Therefore, the results of this experiment speak to a number of social psychological theories that emphasize the importance of the social context in understanding group prejudice, such as social identity theory and self-categorization theory.

*Justin J. Lehmiller*

*See also* Contact Hypothesis; Prejudice; Racism; Realistic Group Conflict Theory; Self-Categorization Theory; Social Identity Theory

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## ROLES AND ROLE THEORY

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“All the world's a stage, and all the men and women merely players”: With these lines from *As You Like It*, William Shakespeare succinctly captured the essence of role theory. In short, people's behavior stems from the parts they play in life. In social psychology, a *role*

is defined as the collection of expectations that accompany a particular social position. Indeed, the word originates from the French *rôle*, which denoted the parchment from which an actor read his lines. Each individual typically plays multiple roles in his or her life; in different contexts or with different people, a particular person might be a student, a friend, or an employee. Each of these roles carries its own expectations about appropriate behavior, speech, attire, and so on. What might be rewarded for a person in one role would be unacceptable for a person occupying a different role (e.g., competitive behavior is rewarded for an athlete but not a preschool teacher). Roles range from specific, in that they only apply to a certain setting, to diffuse, in that they apply across a range of situations. For example, gender roles influence behavior across many different contexts; although someone may be a cashier when she is on the clock, she is a woman across all settings. Role theory examines how these roles influence a wide array of psychological outcomes, including behavior, attitudes, cognitions, and social interaction.

## Background

Within social psychology, role theory has generally focused on roles as causes of (a) behaviors enacted by individuals or groups and (b) inferences about individuals or groups. One of the fundamental precepts of social psychology is that the social and physical environment exerts a profound influence on individuals' thoughts and behavior. Role theory posits that the roles that people occupy provide contexts that shape behavior. For example, the Stanford Prison Experiment demonstrated that normal college students displayed strikingly different behaviors depending on whether they were assigned to be guards or prisoners in a simulated prison environment. Within a short time, prisoners began to show meek, submissive behaviors, whereas prison guards began to show dominant, abusive behaviors. In general, people are motivated to behave in ways that fit valued social roles. Rewards stem from alignment to valued social roles, and punishments stem from misalignment to such roles.

Role theory also examines how observers form inferences about others' personality and abilities based on their roles. Indeed, one of the first questions asked to get to know someone is, "What do you do?" A classic illustration of the power of roles to influence beliefs

about others is a study in which individuals participated in a quiz show with a partner. Their roles as questioner or contestant were randomly assigned by a flip of a coin, in plain sight of both participants. The questioner was instructed to write a series of general knowledge questions based on anything that he or she knew, and then the questioner posed these questions to the contestant. After this trivia game, participants rated the general knowledge ability of themselves and their partners. Both the contestants and observers rated the questioners as more knowledgeable than the contestant. In fact, according to objective tests, the questioners and the contestants did not differ in knowledge. This study clearly showed that observing someone in a particular role leads to the inference of related traits, even when his or her behaviors are required by a particular role, that role is arbitrarily assigned, and role assignment is obvious to all involved.

These trait judgments form partly because observers infer that individuals possess the personality traits that equip them to perform their roles. For example, seeing someone care for a puppy would likely lead to the inference that this individual is sensitive and kind. In contrast, seeing someone play a game of basketball would lead to the inference that the individual is aggressive and competitive. Observers typically assume that people have the personal qualities or motivation to behave a certain way, and thus observers underestimate how much roles elicit behaviors.

## Mechanisms: How Do Roles Lead to Behavior?

### *External Mechanisms*

One basic way in which roles influence behavior is via role affordances, or opportunities for different actions. For example, competitive roles typically promote self-assertion but inhibit kindness. In the quiz-show study described earlier, the role of questioner afforded the display of knowledge. This display led to the inference that the questioner was extremely knowledgeable, even though both partners tested similarly in general knowledge and the questioner was allowed to pick questions that he or she knew.

The expectations of others based on one's role also powerfully influence behavior. Many experiments have documented the effects of the self-fulfilling prophecy, in which an individual's beliefs about a target are

confirmed because the individual elicits such behavior from the target. For example, Robert Rosenthal and colleagues demonstrated the power of expectancies on others by providing teachers with lists of students who had been identified as likely to develop special abilities throughout the school year. In truth, these students did not initially differ from other students. However, the teachers assessed these children as more curious, interesting, and likely to succeed, and by the end of the school year, the “late bloomer” students actually performed better than other students. Studies of the self-fulfilling prophecy have effectively demonstrated how expectancies about different role occupants (e.g., that CEOs will be aggressive or women are emotional) can become reality.

### Internal Mechanisms

With repeated experience in a role, aspects of that role can become internalized in the self-concept—for example, repeated experience of competing against others might lead one to identify as “competitive.” These internalized constructs become an important part of identity and are carried across the boundaries of different roles. Indeed, identity transformations frequently happen when individuals enter or leave roles. Major life transitions, such as going to college, starting a new job, or getting married, represent some of these role-identity shifts.

When someone occupies a certain role, he or she is socialized to perform certain behaviors. In addition, more experience in role-related tasks fosters comfort and expertise in specific domains. Individuals may thus begin to feel greater self-efficacy in roles they have previously occupied. Moreover, socialization into diffuse roles (e.g., gender roles) can lead to greater comfort in activities that are compatible with those roles, with the result that individuals choose specific roles that fit with their diffuse role socialization. For example, the tendency to socialize girls more than boys to attend to others’ needs can contribute to women’s greater selection of communal or caring-oriented careers.

### Implications

Role theory has provided an important framework for understanding perceived and actual group differences. Just as perceivers fail to correct for the influence of roles on individuals’ behavior, they fail to correct for the influence of roles on group members’ behaviors. The role perspective on stereotype content has been

applied to understand stereotypes based on gender, age, ethnicity, and culture. According to the social role theory of sex differences and similarities, the traditional division of labor (in which women are concentrated in caretaking roles and men in breadwinner roles) leads to the inference that men and women possess the traits that equip them to perform their roles. Moreover, group members may differ in their behaviors because of current or historical distributions into certain social roles. As detailed previously, role occupancy can lead to constraints on the performance of behaviors, as well as to the development of skills and abilities associated with those roles.

Role theory also provides an explanation of the sources of prejudice against certain groups. Role congruity theory posits that negativity stems from the lack of fit between the requirements of valued social roles and the perceived characteristics of an individual or group. For example, negativity occurs when a group’s stereotype (e.g., women are kind) does not align with the characteristics required by the role (e.g., leaders are aggressive). As a way of understanding how behavior derives from the surrounding context, role theory thus provides a useful framework to understand the behaviors, thoughts, and attitudes of oneself and others.

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*See also* Fundamental Attribution Error; Looking-Glass Self; Self-Categorization Theory; Self-Fulfilling Prophecy; Sex Roles; Stanford Prison Experiment

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## ROMANTIC LOVE

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Romantic love has been found in every historical era and in every culture for which data are available. To those familiar with the research literature, romantic love today is no longer the mystery it has been considered to be throughout the ages. Nevertheless, there is much more to learn, and romantic love remains a thriving topic of research for social psychologists.

Aspects of romantic love are found in many animal species, and love may have played a central role in shaping human evolution. In humans, romantic love is a source of some of the deepest joys and greatest problems, including depression, abandonment rage, stalking, suicide, and homicide. Therefore, social psychologists and other scientists have devoted a great deal of research to understanding romantic love.

### Definition

People generally understand love by its resemblance to a prototype, which means a standard model or idea (as one would recognize a bird by its resemblance to a robin). The prototypical features of love encompass, in order of centrality, intimacy, commitment, and passion. Scientists, by contrast, define love in a more formal way—for example, as the constellation of behaviors, cognitions, and emotions associated with a desire to enter or maintain a close relationship with a specific other person.

Much research on love has focused on types of love, including distinguishing romantic love from more general kinds of love, such as familial love or compassionate love for strangers. Romantic love, which is associated with dependence, caring, and exclusiveness, is also distinguished from liking, which emphasizes similarity, respect, and positive evaluation. Moreover, passionate love (the fervent desire for connection with a particular other person) is also distinguished from companionate love (the warm feelings one has for people with whom one's life is interconnected). Items on the standard research measure of passionate love focus on such things as wanting to be with this person more than with anyone else, and melting when looking into this person's eyes. A similar distinction is between those whom one "loves" and the subset of these with whom one is "in love."

Another well-researched approach identifies six love styles: *eros* (romantic, passionate love), *ludus* (game playing love), *storge* (friendship love), *pragma*

(logical, "shopping-list" love), *mania* (possessive, dependent love), and *agape* (selfless love). Yet another influential approach, the triangular theory, conceptualizes love in terms of intimacy, commitment/decision, and passion, the various combinations of which define diverse types of romantic love.

### Biological Basis

Biological research suggests that birds and mammals evolved several distinct brain systems for courtship, mating, and parenting, including (a) the sex drive, characterized by a craving for sexual gratification; (b) attraction, characterized by focused attention on a preferred mating partner; and (c) attachment, characterized by the maintenance of proximity, affiliative gestures and expressions of calm when in social contact with a mating partner, and separation anxiety when apart. Each neural system is associated with a different constellation of brain circuits, different behavior patterns, and different emotional and motivational states. With regard to human love, one can equate "attraction" with passionate love and "attachment" with companionate love. Recent studies using functional magnetic resonance imaging of the brain indicate that these three neural systems are distinct yet interrelated.

### Predicting Falling in Love

Numerous experiments have identified factors that lead to liking, in general, and to many forms of loving. These factors include discovering that the other person likes one's self; attraction to the other's characteristics, including kindness, intelligence, humor, good looks, social status; similarities with one's self, especially in attitudes and background characteristics; proximity and exposure to the other; and confirmation and encouragement from one's peers and family that this is suitable partner. In the context of falling in love, discovering that the other likes one's self and that he or she has desirable and appropriate characteristics is especially important. In addition, a well-researched predictor specific to falling in love is the arousal-attraction effect—being physiologically stirred up at the time of meeting a potential partner (e.g., one study found that men who met an attractive woman when on a scary suspension bridge were more romantically attracted to her than were men who met the same woman on a safe bridge; another study found that individuals felt greater romantic attraction to an individual whom they met just after running in place for a few minutes!).

## Effects of Falling in Love

Those experiencing intense passionate love report a constellation of feelings including focused attention on the beloved, heightened energy, sleeplessness, loss of appetite, euphoria and mood swings, bodily reactions such as a pounding heart, emotional dependence on and obsessive thinking about the beloved, emotional and physical possessiveness, craving for emotional union with the beloved, and intense motivation to win this particular partner. Studies have also found that when someone is intensely in love, and that person's romantic passion is reciprocated, the lovers experience an increase in self-esteem and an expanded, more diverse sense of one's self.

## Unreciprocated Love

Autobiographical accounts of being rejected and of being the undesired object of someone's attraction have reported that rejection can lead to strong organization as well as strong disorganization of thoughts, behaviors, and emotions. Both the rejector and rejectee largely express passive behaviors, both are unhappy with the situation, and both usually end up disappointed. A large survey study found that the intensity of a person's feelings of unrequited love can be predicted by how much the individual wants the relationship, how much he or she likes the state of being in love (whether reciprocated or not), and whether the rejectee initially believed his or her love would be reciprocated.

## Maintaining Love Over Time

Longitudinal studies report that passionate love regularly declines after an initial relationship period of 1 to 3 years. Evolutionary anthropologists suggest that this decline is because the basic function of love (to promote the breeding process with a specific individual) was designed to dissipate and change into feelings of attachment so partners could rear their child together in a calmer state. One psychological explanation for this emphasizes habituation. Another psychological explanation argues that passionate love arises from the rapid increase in intimacy or interpersonal connection, which inevitably slows down as one gets to know the partner. Whatever the reason for the typical decline, love does not *inevitably* weaken. In one study following newlyweds for 4 years, about 10% maintained or increased their relationship satisfaction.

Furthermore, some studies have found a small percentage of long-term married people have very high levels of passionate love. How might this happen? One clue is from experiments and surveys showing an increase in passionate love in long-term relationships in which partners do challenging and novel activities together.

## How Does Love Work?

### *Love as Emotion and Motivation*

Love, especially "moments of love," are very emotional (indeed, "love" is the first example most people give when asked to name an emotion). However, love, especially passionate love, may not be a specific emotion in its own right. Rather, passionate love may be better described as a goal-oriented state (the desire for a relationship with a particular partner) that can lead to a variety of emotions depending on the partner's response. Also, unlike basic emotions, passionate love is not associated with any specific facial expression, it is more focused on a highly specific goal, and it is particularly hard to control (it is almost impossible to make yourself feel passionate love for someone). Similarly, brain scan studies show that passionate love engages a common reward-area brain system across individuals, a system similar to that which becomes active when one takes cocaine, but the emotional parts of the brain show different patterns for different individuals.

### *Love and Sex*

People typically feel sexual desire for a person they passionately love, but they may not feel passionate love for all of the people whom they sexually desire. This distinction between these systems is also seen in studies of neural systems active in brain functioning and in varying behavioral responses in laboratory experiments.

### *Love and Attachment*

Attachment theory posits that a key factor in adult love is whether during infancy one's primary caregiver (usually one's mother) provided a secure base for exploration. Research shows that those who had inconsistent caregiving are much more likely to experience intense passionate love as adults; those who had

consistent lack of attention in infancy are especially unlikely to experience passionate love. Some evidence also indicates that the brain systems engaged by passionate love may differ according to one's attachment history.

### Self-Expansion

The self-expansion model posits, with research support, that the exhilaration and intense focused attention of passionate love arise from the rapid rate of coming to feel as if the other is part of oneself that is often associated with forming a new romantic relationship, but that companionate love arises from the ongoing greater opportunities offered by the partner and the potential for loss to the self of losing the partner.

### Love as a Story

An influential (though little researched) idea is that loving relationships can be described accurately by the people involved through narrative autobiographies, often suggesting culturally prototypical "stories." For example, the story of a couple locked in constant struggle is common, as is the story of couples growing to love each other over time.

### Evolutionary Approaches

One evolutionary view (noted earlier), based on animal studies and some recent brain scanning studies, proposes that passionate romantic love evolved to motivate individuals to select among potential mating partners and focus their courtship attention on these favored individuals, thereby conserving precious courtship and mating time and energy. Another influential line of evolutionary thinking is based on the idea that when choosing a mate, a woman is making a bigger investment than is a man. This approach has emphasized gender differences, for example, in what features are desirable in a mate (across cultures, women give more weight to a man's social status; men, to a woman's good looks). Finally, some recent theorists interpret various studies as suggesting that romantic love is an elaboration of the basic bonding system between infants and parents.

Arthur Aron  
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*See also* Attachment Theory; Close Relationships; Love; Self-Expansion Theory; Sexual Desire; Triangular Theory of Love; Unrequited Love

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## ROMANTIC SECRECY

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### Definition

Romantic secrecy is the process by which an individual deliberately conceals his or her ongoing romantic relationship from a person or persons outside of the relationship. Romantic secrecy is typically associated with deception about the nature of a romantic relationship. Romantic secrecy occurs most clearly when an individual conceals all aspects of his or her romantic relationship from others. An individual can maintain such pretenses by meeting privately with only his or her romantic partner or by concealing the romantic nature of the relationship when in public. Romantic secrecy occurs similarly when an individual acknowledges an ongoing romantic relationship, but conceals the romantic partner. Finally, romantic secrecy occurs to a lesser degree when an individual acknowledges a romantic relationship, but goes to lengths to hide the emotional depth of the relationship.

Romantic secrecy occurs for two general reasons. First, individuals commonly engage in romantic secrecy during early relationship development. That is, individuals frequently maintain the privacy of a new relationship until they consider it the right time to reveal the relationship to others. For example, an individual might wait until a new relationship becomes more

serious before disclosing the relationship to friends. This form of romantic secrecy is probably benign insofar as it involves low levels of deliberate deception and any relationship concealment can be regulated easily by romantic relationship partners. Second, and more important, individuals might maintain romantic secrecy because of identifiable external constraints that make relationship disclosure appear harmful. The notion of romantic secrecy generally refers to these kinds of relationships. In these cases, romantic secrecy goes beyond the relatively brief romantic relationship concealment that partners might invoke in developing relationships. Instead, relationship partners experience heightened anxiety about possible romantic relationship disclosure and maintain romantic secrecy for extended periods. For example, romantic partners in an interreligious relationship might keep their relationship secret because they anticipate strong disapproval from friends and family.

Relationships that contain high levels of romantic secrecy are often thought of as “secret relationships.” However, even relationships that appear to be nonsecret can contain milder levels of romantic secrecy. To illustrate, partners who conceal their romantic relationship from one person might not identify their own relationship as secret but still engage in some elements of romantic secrecy.

### Prevalence of Romantic Secrecy

Individuals usually maintain romantic secrecy to avoid negative outcomes that they believe would result from relationship disclosure. Individuals might engage in romantic secrecy to avoid personal harm (e.g., an individual might hide a homosexual relationship to avoid social disapproval). Similarly, individuals might engage in romantic secrecy to protect their romantic partners from harm (e.g., an individual might conceal a romantic relationship to avoid creating a rift between the partner and the partner’s parents). Lastly, individuals might maintain romantic secrecy to protect others outside of the relationship (e.g., single parents might keep newer, unstable romances secret from children to avoid causing them distress).

Individuals might underestimate the prevalence of romantic secrecy because it does not seem a part of the prototypical adult romantic relationship. However, some common forms of romantic secrecy demonstrate the ubiquitous nature of this phenomenon. To begin, workplace romances are common, and romantically

involved coworkers frequently conceal their relationships to avoid gossip and potential administrative repercussions. Members of homosexual, interracial, and interreligious relationships might maintain romantic secrecy because others are more likely to disapprove of these relationships. Members of these so-called stigmatized relationships, particularly members of homosexual relationships, might also worry about more serious issues such as employment termination and even violence.

Romantic affairs are another common source of romantic secrecy. Romantic affairs are noteworthy because they can create two simultaneous forms of romantic secrecy. Romantic affairs might be kept secret from long-term relationship partners, and long-term relationships (e.g., marriages) might be kept secret from extra-relationship partners. For obvious reasons, romantic affairs often require inordinately high levels of romantic secrecy. On a related note, individuals who do not have full-scale affairs might still employ romantic secrecy to leave open the option to “trade up.” Put differently, individuals might avoid revealing their existing romances when in the presence of romantically intriguing and newly met others, particularly when their current relationships are less satisfactory than they used to be.

### Romantic Secrecy and Relationship Quality

Many individuals believe that romantic secrecy increases romantic attraction. According to one theory, romantic secrecy causes individuals to think more frequently about their romantic partners, which, in turn, heightens romantic attraction. Although some evidence supports this theory, research indicates generally that romantic secrecy decreases relationship quality. Individuals in ongoing romantic relationships who report greater levels of romantic secrecy also tend to report reduced relationship quality (e.g., love). Similarly, members of interracial and homosexual relationships appear to find the requirements of romantic secrecy aversive rather than alluring. Romantic secrecy might inhibit relationship quality because relationships with greater levels of romantic secrecy are more difficult to manage and receive less social support. Individuals should be aware of these potential challenges when entering or maintaining relationships that require romantic secrecy.

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*See also* Close Relationships; Deception (Lying); Self-Presentation; Social Support

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## ROSENTHAL EFFECT

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*See* EXPERIMENTER EFFECTS

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## RUBICON MODEL OF ACTION PHASES

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To differentiate and integrate both the selection and realization of goals, the Rubicon model of action phases was developed. The model describes successful goal pursuit as solving four consecutive tasks: choosing between potential goals, planning the implementation of a chosen goal, acting on the chosen goal, and assessing what has been achieved by acting on the goal and what still needs to be achieved by further acting on the goal. Thus, the Rubicon model of action phases posits four distinct phases of goal pursuit: (1) the predecisional phase, in which the pros and cons of one's wishes and desires are deliberated by assessing the desirability of expected outcomes and the question of feasibility (i.e., Can I obtain the desired outcomes if I wanted to?); (2) the postdecisional phase, in which the implementation of the chosen goal is planned by deciding on when, where, and how one wants to act toward the goal; (3) the actional phase, in which one progresses toward the goal by initiating goal-directed behaviors and bringing them to a successful ending; (4) finally, the postactional phase in which the achieved outcomes of the goal-directed behavior are evaluated by looking backward (i.e., How successfully did I perform the goal-directed behavior?)

and forward (i.e., What needs to be done still to achieve the desired outcomes implied by my goal?).

These four phases are separated by three clear transition points: (1) deciding to strive for the realization of certain wishes and desires, thus transforming them into goals (at the end of the predecisional phase); (2) the initiation of actions suited to attain these goals (at the end of the preactional phase); and (3) the evaluation of the achieved outcomes of these goal-directed actions (at the end of the actional phase). The transition point at the end of the first phase is called *the transition of the Rubicon*. This metaphor comes from Julius Caesar's crossing of the northern Italian Rubicon River with his army after some hesitations in 49 B.C.E., thereby initiating a civil war. By crossing the Rubicon, Caesar committed himself to conquer or to perish. Thus, the metaphor "crossing the Rubicon" symbolizes that as soon as one has decided to pursue a select wish or desire, the pro versus con deliberation is terminated, and one is strongly committed to act. Thus, at the end of the predecisional phase, the deliberation is replaced by a sense of determination to actually realize the former wish or desire that is now experienced as a firm goal.

Different modes of thought are associated with each of the four action phases—the so-called action mind-sets. By getting involved with the distinct tasks posed in each of the four phases, certain ways of thinking become more prominent (i.e., unique cognitive procedures are activated). The deliberative mind-set is associated with the predecisional phase. It emerges when people start to think about an unresolved personal problem that is still a wish or desire, thinking of the short-term and long-term pros and cons of both making and not making the decision to realize it. The implemental mind-set is associated with the postdecisional phase. It originates when people start to plan the steps they want to take to actually realize a chosen goal. These plans specify when, where, and how one intends to execute each of these steps.

To investigate the cognitive, self-evaluative, and behavioral consequences of the deliberative and implemental mind-sets, the following experimental paradigm was invented. Research participants are made to believe that they have to perform two different, subsequent experiments (usually performed by two different experimenters). The first experimenter then induces the deliberative and the implemental mind-sets. The deliberative mind-set is induced by having participants deliberate a still unresolved personal problem (e.g.,

Should I move to a different apartment?). The implemental mind-set is induced by having participants plan the implementation of a chosen project to be resolved in the near future (e.g., moving into a different apartment). The second experimenter, being blind to this manipulation of mind-sets, then asks participants to perform certain tasks or answer questionnaires that tap into the hypothesized cognitive features of the two mind-sets. Numerous studies in social and motivation psychology have used this paradigm showing that the deliberative and the implemental mind-sets thus created have distinct consequences.

People in a deliberative mind-set usually show the following attributes: (a) They evaluate their selves accurately (i.e., rate themselves realistically with regard to intelligence, attractiveness, etc.), (b) they show reduced positive illusions of control over frequent outcomes that are uncontrollable, (c) they make less positive illusory judgments of their invulnerability to controllable (e.g., divorce, having a drinking problem) and uncontrollable risks (e.g., death of a loved one), (d) they are impartial in the sense that they appraise desirability-related information even-handedly, (e) they are particularly effective in processing desirability-related information, and (f) they are open-minded as their processing of incidental information is generally very effective.

In contrast, people in an implemental mind-set show quite different attributes: (a) They evaluate themselves in a very positive illusory manner (e.g., they rate themselves as much more intelligent and attractive than the average person in their peer group), (b) they show strong illusions of control over frequent, but uncontrollable outcomes, (c) they make very positive illusory judgments of their vulnerability to controllable and uncontrollable outcomes, (d) they are partial in the sense that they focus on positive desirability-related information more than on negative desirability-related information, (e) they are particularly effective in processing information related to the realization of goals, and (f) they are closed-minded in the sense that they are rather sluggish in processing incidental information.

Recently, these effects of implemental mind-sets (enhanced self-efficacy, optimistic outcome expectations, perceptions of the task at hand as easy, etc.) were shown help people to succeed in their ongoing goal pursuits. Furthermore, people in an implemental mind-set are more optimistic in their forecasts of the survival of their romantic relationships than deliberative mind-set

individuals. When choosing test materials of different difficulty, people in implemental mind-sets preferred more difficult tasks than did people in deliberative mind-sets. Moreover, those in implemental mind-sets overestimated their probability of success as compared with people in deliberative mind-sets.

Finally, there are individual differences in the ability of activating deliberative and implemental mind-sets and their effects on cognition and behavior. Deliberative and implemental mind-set effects are moderated by a person's level of achievement motivation, social anxiety, and goal commitment. For instance, people whose achievement motive is strongly determined by hope for success (in contrast to fear of failure) show a strong illusory optimism when they are in an implemental mind-set compared with a deliberative mind-set. Conversely, fear of failure people when in a deliberative mind-set boost their self-perception of competence (i.e., show illusory optimism), but not when they are in an implemental mind-set.

The Rubicon model of action phases with its associated mind-set theory has stimulated a re-conceptualization of the classic concept of motivation. In the past, the term *motivation* referred to both the readiness to choose a certain course of action and the intensity and effectiveness with which the chosen course of action was implemented. Nowadays, one discusses only issues of choosing a course of action in motivational terms by pointing to the motivational variables of desirability and feasibility. However, the issue of successful implementation of a chosen course of action is considered to be volitional in nature. That is, it depends on people's willpower and their possession of relevant self-regulation skills whether a chosen course of action is ultimately implemented. The mind-set theory associated with the Rubicon model turned out to be conceptually very influential too. Theories of action control that distinguish between types of goals (e.g., abstract vs. concrete, promotion vs. prevention, learning vs. performance) have tried to test their hypotheses by creating respective mind-sets—for instance, creating why versus how mind-sets to assess differences between the pursuit of goals construed at a high versus low level of abstraction.

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*See also* Goals; Implementation Intentions; Positive Illusions; Reasoned Action Theory

## Further Readings

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## RUMOR TRANSMISSION

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### Definition

Rumors are unverified information statements that people circulate to make sense of an unclear situation or to deal with a possible threat. Rumors are about issues or situations of topical interest. Rumors are like news except that news is accompanied by solid evidence; rumor is not. A classic example: “I heard that our department is being downsized; what have you heard?” Rumor discussions are thus collective sense-making and threat-management efforts. The threat could be physical or psychological. In either case, the rumor helps people actively or emotionally prepare for negative events, or to defend against threats to their self-esteem.

Although most people use *gossip* and *rumor* interchangeably, they are different. Gossip is evaluative social talk about individuals outside of their hearing. Gossip may or may not be verified. It is entertaining tittle-tattle of the sort: “Did you hear what Kyle did at the Christmas party?!” Urban legends—sometimes called contemporary or modern legends—also differ from rumor. Urban legends are funny, horrible, or tall tales that amuse us or teach us a moral lesson. They are longer narratives than rumor, with a setting, plot, climax, and denouement. Many people have heard the story of the man who lost his kidney. Away from home on a business trip, he is enticed by a woman at a bar and they return to his room; after a drink, his next memory is waking up the next morning in a bathtub packed with ice, his kidney removed—sold on the black market. Moral of the story: *Indiscretions can be costly!*

## Types, Frequency, and Effects

Social psychologists have been interested in rumors since the 1930s. They often categorize them as one of three types: *Dread* rumors convey fear about a potential negative event: “The ‘good-times’ virus will erase your hard drive!” *Wish* rumors relate a desired outcome: “Have you heard? We’re getting a big bonus this year!” *Wedge-driving* rumors divide people groups, such as this false one from World War II: “The Catholics are evading the draft.” Unfortunately, wedge-driving rumors may be the most numerous of the three. Rumors have been categorized in other ways that indicate what people are collectively concerned about: Stock market rumors suggest ever-present stockholder worries over portfolio value, job-security rumors convey anxiety over possible job losses, personnel-change rumors evidence concern about how one’s job duties might change with a new boss.

Rumors appear to be a regular feature of social and organizational landscapes. For example, in corporations, rumors reach the ears of management about once per week on average. Rumor activity waxes and wanes, but seems especially prevalent when important changes occur that are not well understood and may be potentially threatening. Rumors cause or contribute to a variety of attitudes and behaviors. Negative rumors can lower morale, reduce trust, and sully reputations. Wedge-driving rumors help form or strengthen prejudicial attitudes. Rumors have long been implicated in sparking riots during times of ethnic/racial tension, altering stock market trading, and changing behaviors that affect health or disease detection. Interestingly, rumors may not have to be believed to have such effects: Burger sales at McDonald’s once dropped because of a false rumor that McDonald’s used worm-meat—this even though people disbelieved the rumor!

### Transmission and Belief

People spread rumors for three broad reasons. First, to find the facts so they can act effectively in a given situation: “I heard that I might get laid off—is this true? I’ll put out my resume.” Second, to enhance their relationship with the rumor recipient: Being in the know with the latest information, for example, increases one’s social standing. Third, to boost one’s self-esteem, often by derogating rival groups: By putting other groups down, people sometimes build up their own group—and by extension themselves—by comparison.

People are more likely to spread rumors when they are anxious (worried about a dreaded event or simply anxiety-prone), uncertain (filled with questions about what events mean or what will happen), or feel that they have lost control in a situation that is important to them. These conditions are more likely to occur when people distrust either formal news sources (“That TV news channel is biased!”) or the group the rumor targets (“Management are aliens!”). Finally, rumors that are believed are more likely to be spread than are those in which we have less confidence.

People believe rumors—even fantastic ones—when the rumor accords with their previously held attitudes, it comes from a credible source, is heard repeatedly, and is not rebutted. Rumors that the leader of political party *x* tried to cover up illegal activity, for example, are believed more strongly by members of rival party *y*, who hear these rumors repeatedly from trusted party *y* officials and do not hear a rebuttal of any sort. For these reasons, the plausible rumors circulated in one community are considered fantastic in another. For example, false rumors that the AIDS virus was concocted in a Western laboratory, tested on 100,000 Africans, and led to the current African pandemic are believed by some in the U.S. African American community.

### Content Change and Accuracy

In the course of rumor transmission and discussion, rumors change. Four types of change have been identified: *leveling* is the reduction of the number of details in the rumor message, *adding* is when the rumor becomes more elaborate, *sharpening* is when certain details are accentuated, and *assimilation* is the overall shaping of the rumor to fit preconceived ideas. Sharpening and assimilation occur in all forms of rumor transmission. For example, rumors about an intoxicated football player’s auto accident tend to retain those elements of the story that match athlete stereotypes. Leveling tends to happen especially when rumors are transmitted serially—as in the “telephone game” or “whisper-down-the-lane.” For example, 20 details may be leveled to 5 after several transmissions. In contrast, adding tends to occur in very active high-involvement rumor discussions: A rumor about a sensational murder in one’s local high school is likely to be extensively elaborated.

Rumors have a reputation as being inaccurate and false, but this reputation may not be deserved.

Some situations—such as established organizational grapevines—tend to produce highly accurate rumors, whereas others—such as natural disasters—give rise to grossly inaccurate ones. Several factors affect accuracy. Accuracy is generally reduced by limits to attention and memory, relationship- and self-enhancement motives, high anxiety, the inability to check rumor veracity, and transmitting the rumor without discussion. Accuracy is enhanced when transmitted by persons who are motivated by fact-finding and situated in an established communication channel. Organizational rumors—often transmitted in communication channels that have existed for some time, checked against one another, transmitted with lots of discussion to ensure precision, and discussed by people who want to ferret out the facts—are often extremely accurate. In one organization that underwent radical downsizing, a rumor listing the names of all the people to be cut was circulated one week before the official layoff announcement—the rumor was 100% accurate.

### Managing Rumors

People often desire to prevent or neutralize harmful rumors. Prevention is best accomplished by reducing the uncertainty that gives rise to rumor and by developing trust in formal sources of information. Uncertainty can be reduced even when the rumor cannot be confirmed or disconfirmed by setting a timeline for when more information will be forthcoming, stating the values and procedures by which changes and policies will be made, and stating precisely what is known. Rumors cannot always be prevented however. In such cases, rebuttals—of false rumors—offered by a source perceived to be appropriate and honest, conveying anxiety-reducing information, and relating the context for why the rebuttal is being offered, are most effective in reducing harmful rumor effects. Credible third parties are often effective in refuting rumors. False tales that the Procter & Gamble Corporation contributed to the Church of Satan, for example, were quickly squelched when transmitters were given “truth kits” containing letters from religious leaders stating that these malicious rumors were false.

*Nicholas DiFonzo*

*Prashant Bordia*

*See also* Attitude Change; Gossip; Prejudice; Self-Esteem Stability

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## SALIENCE

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### Definition

The term *salient* refers to anything (person, behavior, trait, etc.) that is prominent, conspicuous, or otherwise noticeable compared with its surroundings. Salience is usually produced by novelty or unexpectedness, but can also be brought about by shifting one's attention to that feature. Salience usually depends on context. A child would not be particularly salient at his or her school, but would be at a nursing home. The act of crying would not be salient at a funeral, but would be at a job interview. A salient feature can be thought of as the "figure" that stands out against the "ground" of all other nonsalient features.

### Importance

Humans have a limited ability to process information; they cannot attend to every aspect of a situation. Salience determines which information will most likely grab one's attention and have the greatest influence on one's perception of the world. Unfortunately, the most salient information is not always the most accurate or important. Salient media coverage might cause people to overestimate the frequency of relatively unusual dangers (e.g., airplane crashes) and underestimate much more common threats (e.g., colon cancer) that do not receive salient coverage. People are not usually consciously aware of the extent to which salience affects them.

### Effects

Salience has been shown to influence people's perception of the causes of events, particularly other people's behaviors. Behaviors have two possible causes: the traits of the person who performs the behavior, or aspects of the situation in which the behavior took place. Researchers have repeatedly shown that the situation in which behaviors takes place is usually not very salient to observers. Instead observers almost always focus on the behavior itself, which leads them to infer the traits of the person. If someone snaps at you, you are more likely to think that this is a mean person than that he or she is simply having a bad day. Although behaviors are quite salient for observers, the situational context is often more salient to the actors themselves, for example, "I'm smiling because one *has* to smile at job interviews." Interesting, some studies have increased the salience of actors' behavior to themselves, for example, by having them perform a task in front of a mirror, or watch a videotape of themselves performing the behavior. In this case, actors attributed their behavior to their own disposition rather than to the situation, just as an observer would, for example, "I'm smiling because I'm a happy person."

### How Do Researchers Manipulate Salience?

Researchers can increase the salience of a person in a number of ways. First, they can simply direct observers' attention to that person. Second, they can change the visual characteristics of the person relative

to others in the situation. For example, one person may wear a brightly colored shirt instead of a dull one, or rock in a rocking chair instead of sitting motionless. Third, researchers can arrange a situation so that the feature is more noticeable to observers. In a classic experiment by Shelley Taylor and Susan Fiske, for example, two actors were seated facing each other having a get-acquainted conversation, while other observers sat in a circle around them. If an observer could see the face of one actor better than the other, that salient actor was believed to have set the tone of the conversation, and have greater influence over the behavior of the other nonsalient actor. Similar results have been shown by having observers watch a videotaped conversation shown from different camera angles. Whichever actor is most visually salient (e.g., has their face shown by the camera) will be judged by most people to control the conversation. In an interesting twist on this experiment, the conversation being observed is between a police officer and someone confessing to a crime. People who viewed the police officer's face were more likely to perceive the confession as coerced, that is, caused by the police officer. Other research has shown that simply sitting at the head of a table will increase one's salience and cause observers to judge that person as having more leadership qualities.

### Salience, Sex, and Race

Salience can affect perceptions of people who are members of minority or stereotyped groups. Researchers have manipulated the uniqueness of an actor's sex or race by changing the composition of a group the actor is in. In one study, participants listened to a tape-recorded conversation between six men. A photograph of each man appeared on a screen as he spoke, allowing researchers to manipulate the proportion of Black to White men in the group. Compared with a situation with equal representation of both races, a person who occupied solo status (the only Black person in the room) was perceived to have spoken more, and to have been more influential in the conversation. Similar studies have shown that the only woman in a room full of men is more likely to be stereotyped than is a woman in a more balanced environment. In general, salient persons and objects are evaluated more extremely than are other targets.

Salience also affects perceptions of entire groups. Smaller minority groups tend to be more salient than larger, majority groups. Observers often perceive members of smaller groups to be more similar to each

other than are members of larger groups. Interesting, members of salient groups are also more likely to overestimate how much they agree with each other, and to show a stronger bias in favor of their own group.

In addition, research has shown that because salient pairings (e.g., violent crime and minority race) are more available in memory, they are likely to be overestimated when people later recall their frequency. This may contribute to the perpetuation of certain stereotypes.

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*See also* Availability Heuristic; Mortality Salience; Priming

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## SATISFICING

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### Definition

Satisficing refers to making a decision with the goal of satisfying or fulfilling some acceptable minimum requirement (instead of choosing the best option). Decision makers who adopt a satisficing strategy do not evaluate all the available alternatives. Instead, they accept the first “good enough” option that they encounter. Satisficing is thought to be a useful decision-making strategy given that people live with limited information-processing capacity in a world of complicated and difficult choices. The cost of expending the resources required to evaluate every available option is thought to be greater than the additional value that will be gained by selecting the best option instead of the good enough option. Satisficing is typically discussed as an alternative to maximizing (maximizing the value of a decision by comparing the value of all options and selecting the best one).

### Background and History

Historically, rational choice theory has strongly influenced how people study and think about decision making. When John von Neumann and Oskar

Morgenstern published *Theory of Games and Economic Behavior* in 1944, they introduced several different elements of rational decision making to the field of economics. Expected utility theory specifies that decision makers can assign an expected value to every alternative course of action. After an expected utility is assigned to every option, the alternative with the highest expected value will be selected.

However, although von Neumann and Morgenstern's work played a key role in the field of economics, psychologists began to demonstrate key ways in which actual decision makers systematically deviate from rational choice models. In the 1950s, Nobel Prize winner Herbert Simon (economist and psychologist) published a series of papers in which he suggested that it is more useful to approach the study of decision making by acknowledging that actual decision makers have to approach complicated choices with limited information and limited cognitive resources available to them. Rational choice theory requires that all options can be thoroughly evaluated, which is not the case in the real world. Simon was the first to coin the term *satisficing* when he suggested that decision makers conserve resources by choosing to fulfill some minimum requirement instead of maximizing expected value. In more recent years, psychologist Barry Schwartz borrowed Simon's term and discovered that individual people differ in the degree to which they tend to approach decisions with the goal of satisficing.

### Individual Differences

Schwartz divided the world into "satisficers" versus "maximizers" when he identified existing individual differences in people's tendencies to approach decisions with the goal of satisficing versus maximizing. He measured these differences through a maximization scale that he developed and administered to several thousand participants. Following are some examples of items found on the maximization scale:

"Renting videos is really difficult. I'm always struggling to pick the best one."

"When I am in the car listening to the radio, I often check other stations to see if something better is playing, even if I am relatively satisfied with what I'm listening to."

"Whenever I'm faced with a choice, I try to imagine what all the other possibilities are, even ones that aren't present at the moment."

Participants rated each statement on a 1 to 7 scale (ranging from *completely disagree* to *completely agree*). Schwartz did not define a strict cutoff that identifies maximizers versus satisficers, but he generally calls people maximizers if their average score is higher than 4 for all the items. Satisficers generally have an average score of less than 4. The distribution of scores for his participants was relatively symmetrical about the midpoint of the scale. About one third received an average score of more than 4.75 and one third scored under 3.25. The final third scored closer to the middle, somewhere between 3.25 and 4.75. In addition, approximately 1 of every 10 participants had an average score of more than 5.5 (extreme maximizers), and similarly, about 1 of every 10 had an average score of less than 2.5 (extreme satisficers).

### Importance and Implications

Schwartz also investigated implications of satisficing versus maximizing for decision makers' experiences both during and after making a choice. People who are more apt to satisfice complete a less thorough search of all available options, make decisions faster, and are less likely to engage in social comparison while choosing. After the decision, satisficers are also more likely to evaluate decision outcomes more positively, despite apparently expending less effort in the process of making the choice. For example, after making a consumer choice, satisficers are less likely to reflect on the products that they didn't choose and engage in "what if" thinking. Satisficers are happier with their choices and don't feel as regretful as maximizers. They are less likely to ruminate and think counterfactually. In addition, satisficers are less adversely affected by an increase in the number of available alternatives. For the maximizer, more options can create anxiety because they make the goal of identifying the best one more difficult to achieve.

Satisficing has also been linked to many positive psychological outcomes. Schwartz administered general well-being scales to subjects and found that satisficers are less likely to be perfectionists and less likely to suffer from depression. They are happier, more optimistic, more satisfied with life, and have higher self-esteem. People who are least likely to employ satisficing strategies (extreme maximizers) tend to demonstrate depressive symptoms that are in the borderline clinical range.

Ironically, striving for the best and adopting an approach that most closely mirrors rational choice

strategies can have negative consequences. People seem to need some choice to maintain happiness, and an initial increase in choice can increase happiness. However, evidence suggests that having too much choice can decrease happiness, particularly if a person does not adopt a satisficing approach. In a complicated world with limitless options, satisficing might be the most rational approach to making decisions.

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*See also* Decision Making; Individual Differences

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## SCAPEGOAT THEORY

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### Definition

Scapegoat theory refers to the tendency to blame someone else for one's own problems, a process that often results in feelings of prejudice toward the person or group that one is blaming. Scapegoating serves as an opportunity to explain failure or misdeeds, while maintaining one's positive self-image. If a person who is poor or doesn't get a job that he or she applies for can blame an unfair system or the people who did get the job that he or she wanted, the person may be using the others as a scapegoat and may end up hating them as a result. However, if the system really is unfair and keeps the person from succeeding financially, or the other people got the job because of nepotism or illegitimate preferential treatment, then blaming those factors would not be scapegoating. Essentially, scapegoating generally employs a stand-in for one's own failures so that one doesn't have to face one's own weaknesses.

### Origins

The term itself comes from the Bible's reference to a goat upon which Aaron cast all the sins of Israel and then banished to the wilderness. Hence, the goat, though presumably blameless, was essentially punished for the sins of the people of Israel. Psychologists have expanded the concept to include not only someone else to pay the price for one's own immorality but also a target of blame and explanation when outcomes are not what one hoped for.

### Historical and Research Applications

History contains a number of examples of political leaders using scapegoats to rally their people at the expense of a despised group. In perhaps the most blatant and tragic example, Adolf Hitler notoriously scapegoated Jews for the fact that other Germans were suffering after World War I. By depicting Jews as more commercially successful than the average German citizen—and unfairly so, by favoring other Jews—he rallied his citizens to extreme levels of nationalism at the expense of Jews and other groups. He thus conjured resentment and hatred toward the group, simultaneously unifying other Germans to a singular cause: the perceived improvement of Germany.

The concept of scapegoating is also somewhat consistent with Sigmund Freud's notions of displacement or projection as defense mechanisms. According to Freud, people displace hostility that they hold toward unacceptable targets (e.g., parents, the boss) onto less powerful ones. Similarly, projection refers to one's tendency to attribute one's own unacceptable feelings or anxieties onto others, thus denying them within oneself. Both mechanisms protect people from their illicit desires or fears by helping them reject the notion that they are the holders of such feelings. As such, the target of their displacement or projection may serve as a scapegoat.

More recently, social psychologists have explained the tendency to scapegoat in similar terms, but with some qualifications and clarifications. For example, the notion of displaced aggression has received a good deal of attention in the field. If a woman has a fight with her boyfriend, she may come home and kick her dog for a minor misbehavior. The dog, then, is her scapegoat and is paying the price for the fight with the boyfriend. The aggression that the fight produced is

not being directed toward its true cause, but instead is directed at the dog, which is a more acceptable target because it cannot retaliate or argue back, as the boyfriend is likely to do. In addition, the theory of relative deprivation is relevant as an explanation for people's tendency to scapegoat. This theory suggests that people experience negative emotions when they feel as though they are treated relatively poorly for illegitimate reasons. For example, a person may be satisfied with his or her salary until the person learns that a colleague whose work is not great but who is friends with the boss gets a raise. Now the person is relatively deprived and may resent the colleague for the person's lower salary.

Other researchers have specified some conditions in which scapegoating against a particular group is most likely to occur. For example, the scapegoated group tends to be one of relatively low power. Otherwise, the group would be able to stamp out the opposition brought from the masses. The scapegoated group also tends to be a group that is somehow recognizable as distinct from the ingroup (the group to which one belongs), so that group members can be easily identified and associated with the undesired situation. Finally, the scapegoat tends to pose a real threat to the ingroup, intentionally or unintentionally. For example, lynchings against Blacks rose dramatically when the economic prospects for Whites began to drop off. African Americans were perceived as a greater threat to the increasingly scarce jobs and opportunities and so were punished in brutally tragic ways. In a land of plenty or when a group is kept completely under wraps, that group poses no threat and therefore does not present the opportunity to serve as a scapegoat.

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*See also* Displaced Aggression; Intergroup Relations; Projection; Self-Serving Bias

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## SCARCITY PRINCIPLE

### Definition

According to the scarcity principle, objects become more attractive when there are not very many of them. This scarcity may be either real or imagined. People assume that because others appear to want something, and it is in short supply, it must be valuable. In a classic demonstration of the scarcity principle, students were divided into two groups. One group was asked to choose a cookie from a jar with two cookies. The other group was asked to choose a cookie from a jar that contained ten cookies. Consistent with the scarcity principle, students who chose from the jar with two cookies (scarce condition) rated the cookies as more desirable than students who chose from the jar with ten cookies (plentiful condition).

### Importance of Topic

Imagine the following scenario, which illustrates several strategic compliance techniques, most notably the scarcity principle. A family's dinner is interrupted by a knock on the door. The father, Fred, answered the door to find an older gentleman, Al, who was holding a bundle of sketches. Al greeted Fred and told him of a great opportunity. For the low, low price of \$249, Al would sketch a portrait of Fred's house. By this time, Fred's wife, Mary, had come outside with their two young sons. The man quickly commented on how cute the boys were and proceeded with his pitch. "This type of sketch normally costs \$700," he informed the couple. Knowing the perils of making quick, emotional decisions, Fred asked Al for his phone number to call him back after discussing his offer. Al quickly replied, "I can't really come back because of time constraints. I do all the sketches and all the door-to-door contacting, so it's simply not efficient for me to return. I really need to know tonight." Mary remarked that she really wanted to have a portrait of their house in the living room and Fred reluctantly agreed. They discussed it briefly and told Al they'd give him \$200. Al countered with \$225 and no sales tax, and they agreed on a deal. Fred and Mary thought, "Wow, did we ever get a bargain: from \$700 to \$249 to \$225 without sales tax! We had saved nearly \$500!"

It was only after Fred and Mary sat down later that evening that they realized Al was indeed an artist: both

a sketch artist and a master in the art of persuasion! Maybe, instead of saving money, they unexpectedly spent \$225 more than they planned to at the outset of the evening. Al had skillfully employed a number of compliance techniques, particularly in his use of the scarcity principle. By telling the couple they had to decide immediately, Al created the illusion that this opportunity would not be available again. Notice how Al did not even respond to their question of whether they could call him. If he had, the sketch would no longer be scarce. By creating the false impression that they had to decide now, Al invoked the scarcity principle, a powerful weapon of social influence.

Of course, Al is not alone in his recognition of the power of a scarce resource. Walk through any mall to find any number of messages alerting people to unbelievable opportunities to purchase items they have always (or never) wanted. But, to take advantage of these fabulous offers, one must act now. Consider the following signs:

“Hurry, while supplies last!” (Presumably supplies will be around as long as people keep buying.)

“Don’t miss out!” (Who wants to miss out, on anything?)

“Don’t be left out in the cold!” (People in cold climates are particularly sensitive to this one.)

“Buy today—save thousands!” (Who in their right mind doesn’t want to save thousands?)

Employed effectively, the scarcity principle is a subtle way to take advantage of the fact that most people assume that if something is in short supply, others must like it, it must be good, and a purchase ought to be made quickly. The scarcity principle has the potential to make something good seem great, and something undesirable seem desirable. The belief that one may miss out on a fabulous opportunity creates a sense of urgency, leading individuals to make emotional, rather than rational, decisions. Thus, one may end up purchasing unwanted items, simply because of what psychologist Robert Cialdini has termed a *feeding frenzy*, not unlike that witnessed among fish when food is sprinkled in a lake. This explains why every holiday season, parents and children line up and fight for the hottest new toys. By creating the perception of scarcity, corporations recognize their products will be more appealing. Hence, the race to purchase Cabbage Patch Kids in the 1980s, Beanie Babies in the 1990s, and sadly, gasoline in the 21st century.

## Implications

Fortunately, there are ways to avoid falling prey to the scarcity principle. First, when people start feeling emotional during a decision, they can stop, and promise to return to the decision when they feel more rational. Although a salesperson may claim that one must act now, odds are the same offer will still be around tomorrow. Actually, many stores seem to have a once-a-year sale on a nearly weekly basis! Second, individuals can limit their purchases to items they had already planned to buy. Anytime people are caught off guard by an offer, they should consciously choose to wait some time before deciding whether or not to purchase the item. Legendary economist John Galbraith theorized that business manufactures the needs it seeks to satisfy. Consumers will be far better off if they decide what they need and make their purchases accordingly, rather than letting others create and decide these needs for them.

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*See also* Consumer Behavior; Decision Making

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## SCHEMAS

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### Definition

A schema is a cognitive representation of a concept, its associated characteristics, and how those characteristics are interrelated. Social schemas are representations of social concepts and may include notions of physical appearance, traits, behavioral information, and functions. Social schemas may be relatively concrete (e.g., one’s fifth-grade teacher) or abstract (e.g., likable person). When a schema is activated, the characteristics of the concept are evoked spontaneously. For example, the concept “librarian” may bring to mind a drably attired unmarried woman, who is quiet, reads books, and helps one conduct a literature search. Those characterizations may be entirely false in general, and certainly many specific librarians will differ from that stereotype, but

they are the characteristics that the observer associates with the concept. Although social schemas for the same concept vary somewhat from person to person, observers who share a common culture or upbringing often hold strikingly similar schemas. In short, social schemas comprise the expectations that observers have for the characteristics and behavior of themselves, other people, and social situations.

## Types of Social Schemas

Observers develop schemas for individual social roles (e.g., librarians) and social groups (e.g., ethnic and cultural outgroups). Schemas for social groups fall under the rubric of stereotypes, and the basic principles discussed later apply to them as well as to other types of schemas.

An event schema, sometimes termed a script, prescribes a chronological order to the relation among the characteristics. Going out to dinner at a four-star restaurant, one expects first to be greeted, then guided to a table, then order drinks, and so forth. Violation of the event schema (e.g., a pronounced delay in ordering drinks) may elicit surprise and possible substitution of another script. Scripts that additionally require causal coherence among the characteristics are termed *narratives*. In a murder trial, for instance, a prosecuting attorney may outline a plausible sequence of events that explains the body of evidence. In a related vein, people form excuses by purporting a narrative of unforeseeable and unavoidable events, thereby reducing their apparent responsibility for negative outcomes. Schemas thus can play an important role in how people understand the causes of behavior and events.

A self-schema is an integrated collection of knowledge, beliefs, attitudes, and memories about the self. Self-schemas may develop around personality traits, roles in relationships, occupations, activities, opinions, and other characteristics that are part of an individual's definition of self. Typically, individuals form self-schemas for characteristics that they believe to be important or central to who they are. In other words, individuals are schematic on central characteristics, but may be aschematic on less central characteristics. For example, individuals who believe that their friendliness is a particularly defining characteristic of their self-concepts probably have a self-schema for friendliness. If such individuals do not consider politics interesting or important, they likely are aschematic on a dimension such as political activism.

Self-schemas, and schemas in general, may vary in their degree of complexity. For example, some people might off-handedly acknowledge their own intelligence, but may view friendliness as more self-defining and important. Their mental representation of friendliness would be more complex, including detailed memories of their own friendly behaviors, stable beliefs about the causes and consequences of friendliness, and certainty about their own friendliness. They also might categorize other people's behaviors in terms of friendliness, thereby using the self-schema as a filter for interpreting their social world.

## Uses of Social Schemas

Schemas can affect whether observers notice information as well as the inferences that they draw about that information. Specifically, schemas can affect how observers categorize a situation or group, process information about it, and then remember that information. Schemas encourage information processing through the schematic lens, often overlooking the unique qualities of the social situation or person. For example, a library patron hurrying to find assistance may notice and approach a drably attired person perusing a heavy reference volume, only to suffer embarrassment when the person denies being the librarian. Relying primarily on the librarian schema led to a categorization error. Later, when the actual librarian is identified, the hurried patron notices sensible shoes and eyeglasses, but misses schema-irrelevant qualities such as the tarnished school ring and brown eyes. Generally speaking, schema-consistent information is noticed and remembered better than schema-irrelevant information, sometimes yielding judgment errors.

The previous example also illustrates that schema use is influenced by observer goals. The patron has a pressing goal to find immediate assistance. Thus, the patron relies on the librarian schema and schema-consistent information to accelerate the process. If the patron had a different goal or fewer time constraints, the impression formation process likely would change. For instance, if the patron hopes to contest a large library fee, a more careful search process might be desired. An accuracy goal generally discourages reliance on schemas and encourages attention to unique behaviors and qualities in forming impressions. When seeking accuracy, even schema-inconsistent information may be remembered better than it typically would be because observers feel compelled to

expend extra effort to reconcile such information in light of the schema.

### Implications

In general, schemas help to organize social information and facilitate navigation through social environments. This organization allows people to use fewer cognitive resources in the detection and interpretation of schema-relevant information, thus increasing efficiency and sparing important resources that could be used for interacting with novel and complex stimuli. However, overreliance upon schemas may lead observers to miss important information. For instance, mistaking a patron for the librarian both interferes with the search for the real librarian and yields an embarrassing interaction with the nonlibrarian. When relying on schemas to guide social experiences, the cost of missing important information must be weighed against the benefit of efficiency.

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*See also* Impression Management; Roles and Role Theory; Scripts; Stereotypes and Stereotyping

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## SCRIPTS

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Let me tell you a simple story: John went to a restaurant. He ordered lobster. He paid the check and left.

Now let me ask you some questions about your understanding of this story: What did John eat? Did he sit down? Whom did he give money to? Why?

These questions are easy to answer. Unfortunately, your answers to them have no basis in actual fact. John may have put the lobster in his pocket. He might have been standing on one foot while eating (if he was eating). Who really knows whom he paid?

You feel we know the answer to these questions because you are relying on knowledge you have about common situations that you have encountered in your

own life. What kind of knowledge is this? Where does it reside? How is it that your understanding depends on guessing?

People have scripts. A *script* can be best understood as a package of knowledge that a person has about particular kinds of situations that he or she has encountered frequently. Some scripts are culturally common, everyone you know shares them, and some scripts are idiosyncratic, which means that only you know about them. When you refer to something that takes place in a restaurant you can leave out most of the details because you know that your listener can fill them in. You know what your listener knows. But, if you were telling a story about a situation that only you were familiar with, you would have to explain what was happening in great detail. Knowing that your listener has the baseball script, you can describe a game to him or her quite quickly. But, if you were speaking to someone who had never seen a baseball game you would either have to make reference to a script the listener already had (cricket perhaps) or else you would be in for a long explanation.

Scripts help people understand what others are telling them and also help people comprehend what they are seeing and experiencing. When a person wants to order in a restaurant and starts to talk to the waiter and he hands the person a piece of paper and a pencil, the person is surprised. He or she may not know what to do. But, the person may have had experience with private clubs that want orders written down. If not, the person will ask. When expectations are violated, when a script fails and things don't happen the way a person expected, he or she must adjust.

Adjustments in daily life to script violations are the basis of learning. Next time the person will know to expect the waiter to hand him or her a paper and pencil. Or the person might generalize and decide that next time doesn't only mean in this restaurant but in any restaurant of this type. Making generalizations about type is a major aspect of learning. Every time a script is violated in some way, every time a person's expectations fail, he or she must rewrite the script, so as not to be fooled next time.

Scripts are really just packages of expectations about what people will do in given situations, so one is constantly surprised since other people don't always do what one expects. This means in effect, that although scripts serve the obvious role of telling people what will happen next, they also have a less obvious role as organizers of the memories of experiences people have had.

Remember that time in the airplane when the flight attendant threw the food packages at the passengers? You would remember such an experience, and might tell people a story about it: “You know what happened on my flight?” Stories are descriptions of script violations of an interesting sort. But, suppose that this happened twice, or five times; suppose it happened every time you flew a particular airline. Then, you would match one script violation with another, to realize that it wasn’t a script violation at all, just a different script you hadn’t known about. Learning depends on being able to remember when and how a script failed, marking that failure with a memory or story about the failure event, and then being able to recognize a similar incident and make a new script.

Scripts fail all the time. This is why people have trouble understanding each other. Their scripts are not identical. What one person assumes about a situation—the script he or she has built because of the experiences he or she has had—may not match another’s because that person has had different experiences. Children get upset when their scripts fail. They cry because what they assumed would happen didn’t happen. Their world model is naive and faulty. But they recover day by day, growing scripts that are just like the ones that adults have. They do this by expecting, failing, explaining their failure (maybe they ask someone for help), and making a new expectation, which will probably fail too someday. This cycle of understanding is a means by which people can learn every day from every experience.

Some people stop learning. They expect all scripts to be followed the way they always were. They get angry when a fork is on the wrong side of a plate because that’s the way it has always been and has to be. All people have such rigidity in their scripts. They have scripts that others wouldn’t consider violating because they want to live in an orderly world. People confuse other people when they fail to follow culturally agreed upon scripts. People depend on other people to follow the rules. And, their understanding of the behavior of others depends on everyone agreeing to behave in restaurants the way people behave in restaurants. It is so much easier to communicate that way.

Scripts dominate people’s thinking lives. They organize people’s memories, they drive people’s comprehension, and they cause learning to happen when they fail.

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*See also* Expectations; Memory; Schemas

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## SEARCH FOR MEANING IN LIFE

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### Definition

The search for meaning in life refers to the idea that individuals are strongly motivated to find meaning in their lives, that is, to be able to understand the nature of their personal existence, and feel it is significant and purposeful. Life feels meaningful to people when they can satisfactorily answer the big questions about their lives, such as who am I, why am I here, what is truly important to me, what am I supposed to do with my life. That finding meaning in life is considered a fundamental motivation by some means that human beings must perceive a sufficient amount of meaning in their lives. In other words, feeling that one’s life is significant, comprehensible, or purposeful may be necessary for human psychological functioning.

### Background and History

For millennia, attempting to understand what makes life meaningful had been the task of artists, theologians, and philosophers. Following World War I, some influential philosophers asserted that life is inherently meaningless. They believed that there was no higher purpose to the universe, and therefore people were all alone in trying to figure out what their individual lives were all about. However, people will go to great lengths to defend their ideas of what life is really all about. In other words, they firmly hold onto their life meanings. For example, many people strive to defend specific religious, moral, or scientific beliefs in the face of contradictory opinions or beliefs. From this

observation, several psychologists proposed that people must be motivated to find meaning in their lives.

Alfred Adler said that people innately strive to accomplish the purpose of their lives, particularly through participation in social activities. Erik Erikson proposed the need for self-integration in later life. In this approach, searching for meaning focuses on struggling to understand one's life experiences and what it all has meant in the Big Picture. Eric Fromm stressed the importance of meaning in human life and suggested that feeling alienated from others and mindlessly feeling, thinking, and acting during daily and work activities reduces our ability to find life meaningful. Abraham Maslow thought meaning would arise from self-actualization, or achieving one's full potential.

Fromm's ideas about alienation and automatization in modern life echo work by Viktor Frankl, the person who is most closely associated with psychological work on meaning in life. Frankl's experiences as a survivor of Germany's World War II concentration camps convinced him of the importance of finding a purpose for living. He felt that the biggest difference between those who did and did not survive the horrific camps was not how much they were forced to work, how little they had to eat, or how exposed to the elements they were (everyone had to work to exhaustion, no one had enough to eat, and all were greatly exposed to adverse weather). Instead, Frankl believed that Friedrich Nietzsche's maxim—by having “our own *why* of life we shall get along with almost any *how*”—made the critical difference. Frankl believed that all people must find their own, unique *why*—in other words, their purpose in life. He wrote that those who found some meaning or purpose were more likely to survive the concentration camps, and those who had lost their purpose were almost certainly doomed. Following Frankl's writings, and his founding of logotherapy (literally, meaning-healing), psychological work on the importance of searching for meaning accelerated dramatically. Roy Baumeister's argument that meaning in life is rooted largely in people's strivings for feelings of purpose, value in what they do, control and capability, and self-worth ushered in the modern era of social psychological research into the search for meaning.

Two important distinctions must be made between the search for meaning in life and related psychological processes. First, although Frankl wrote that the will to meaning drove each person to find the unique meaning of his or her own life, others distinguished between searching for meaning and having meaning. A common assumption is that only people without

meaning in life would search for it. Essentially, the assumption was that searching for and feeling the presence of meaning in life were opposite ends of the same continuum.

Several lines of research, however, demonstrate that searching for meaning is different from having meaning. Psychological measures of how much people are searching for meaning and how much meaning people feel in their lives have very little overlap. Also, the assumption that searching for and having meaning are opposite versions of the same thing may be culturally bound. That is to say, among European Americans (who often think in terms of individuality and dichotomies), there is a small, inverse relation between the two (the less you have, the more you search, and vice versa), whereas some evidence suggests that among people from cultures that are more traditionally collectivistic or holistic (who often think in terms of relationships or harmony, e.g., Japan), the two variables may be positively related (the more you search, the more you feel you have, and vice versa). Those whose cultural influences are somewhere in between (e.g., Spaniards) appear to report no relation between them. Finally, some evidence also indicates that searching for meaning and having meaning fluctuate in their relation to each other depending on age and stages in life. For example, the relation may be less strong in youth and stronger in older adulthood. A younger person might be searching for more meaning and also feel life is meaningful, whereas an older adult is more likely to search for meaning in life if he or she feels that life is somewhat meaningless.

The second important distinction to make is between searching for meaning in life and searching for some sort of meaning in a traumatic or aversive event. Those who have experienced traumatic events, such as being assaulted, losing a loved one, or having a miscarriage, often struggle with the question, why did this happen. Frequently, attempts to answer such questions are referred to as a search for meaning. It is probably more accurate to refer to them as efforts to find situational meaning or attributions. The search for meaning in life refers to attempts to understand what one's life as a whole means, rather than more circumscribed efforts to understand a particular event.

## Importance

If the search for meaning in life is an important psychological motivation, it should be important to human welfare. We know with certainty that the

presence of meaning in life is related to more well-being in relationships, work, and life in general, as well as to less psychological distress. However, we cannot assume that people who are searching for meaning in life are simply less happy and more distressed. The search for meaning in life might motivate people to immerse themselves in religion, volunteering, wilderness adventures, or philosophy just as much as it might drive them to despair. Even people who already feel that their lives are full of meaning might be searching for a deeper understanding of that meaning, or be trying to adjust to a big life change such as having children, or they might be looking for new sources of meaning. For example, a successful athlete might derive meaning from athletic competition. A career-ending injury might take away that source of meaning, and the athlete might look to family, friends, religion, or social service as potential new sources of meaning.

Those highest in the search for meaning appear somewhat less happy, more anxious, and more depressed, but they also appear more open-minded and thoughtful in some ways, reflecting on their past experiences and asking questions about the nature of their religious beliefs. How much people are searching for meaning also varies from day to day. On days when people are searching for meaning in life, they are actually happier. So, even though people who are usually searching for meaning are less happy, people who momentarily search for meaning enjoy the process in the short term. In some ways this supports the theory that the search for meaning is an important psychological motivation: Those who are able to meet temporarily strong needs for meaning over a day or two are happy with their success, whereas those who must search for longer periods, or who are almost always trying to meet this need, are unhappy.

### Individual Differences

People differ in the strength and intensity of their search for meaning in life. Psychologists have developed questionnaires in recent years to measure these differences. Recent efforts to develop psychometrically sound measures of the search for meaning in life appear promising, although more research and theory development are needed. People who score high on search for meaning measures are usually looking for more meaning and purpose in their lives. People who score low are rarely looking for meaning and purpose. Scores on this scale are stable, even over 1 year,

meaning that people who are usually searching for meaning in life now will probably still be searching next year.

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*See also* Happiness; Phenomenal Self; Self-Awareness

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## SELF

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### Definition

In psychology, the notion of the self refers to a person's experience as a single, unitary, autonomous being that is separate from others, experienced with continuity through time and place. The experience of the self includes consciousness of one's physicality as well as one's inner character and emotional life.

People experience their selves in two senses. The first is as an active agent who acts on the world as well as being influenced by that world. This type of self is usually referred to as the *I*, and focuses on how people experience themselves as doers. The second is as an object of reflection and evaluation. In this type of self, people turn their attention to their physical and psychological attributes to contemplate the constellation of skills, traits, attitudes, opinions, and feelings that they may have. This type of self is referred to as the *me*, and focuses on how people observe themselves from the outside looking in, much like people monitor and contemplate the competence and character of other people.

### History and Development

Everyone has an experience of self. That self, however, can be quite different from the one experienced

by another person. For example, historians suggest that people in medieval times experienced themselves quite differently from the way people do today. Literature from that time suggests that people did not possess the rich interior lives that people experience today but, rather, equated a person's self with his or her public actions. Not until the 16th century, according to the literature of the time, did people conceive of an inner self whose thoughts and feelings might differ from the way he or she acted. Over time, that inner self would become to be considered as the individual's *real self*, which reflected who the person really is. Today, people feel their selves are more accurately revealed by their interior thoughts and feelings rather than by the actions they take (although people often reverse this stance in their opinions of others, thinking others are revealed more by their actions than by their feelings and beliefs they express about those actions).

People also differ in their experience of self as they age and develop. Indeed, evidence indicates that people are not born with a sense of self, but that the notion that one is a separate and autonomous being is one that the child must develop. For example, suppose you placed a large orange mark on the forehead of a toddler, and then put the toddler in front of a mirror, a procedure known as a *mark test*. Children don't begin to show any recognition that it is *their self* that they are seeing in the mirror, reaching for their own foreheads to touch the mark, until they are between 18 and 24 months old.

The senses of self that children develop may also differ from the mature one they will attain when they are older. In 1967, Morris Rosenberg asked 10-year-olds to describe themselves in 10 sentences. The children tended to describe themselves in physical terms. Not until a few years later did children, at the edge of adolescence, began to describe themselves in terms of their personality and character. However, some psychologists believe that a psychological rather than a physical sense of self develops much earlier than 10 years old. For example, ask young children if someone would be a different person if that person's body were replaced by someone else's, and children generally say no. However, if that person's personality were replaced by another individual's personality, children argue that that person's self has now been changed.

People in different cultures may also differ in the elements that make up their sense of self. North Americans and Western Europeans tend to view themselves as independent beings. Ask them to describe

themselves, and they tend to dwell on their individual skills and personality traits (e.g., as an intelligent, moral, and hardworking individual). Individuals from the Far East (e.g., Japan), however, tend to ascribe to a more interdependent view of self, defining who they are in terms of their social relations and place in the world. Ask them to describe themselves, and they tend to focus more than do Americans on social roles that they fill in their everyday life (e.g., as mother, or daughter, or as a manager in a local firm).

Some mental illnesses, such as Alzheimer's or bipolar affective disorder, alter or disrupt people's experience of the self. For example, people suffering from autism appear to possess rather concrete, physical experiences of self. They do not experience the self at a more abstract level. If they answer a questionnaire about their personality traits, they later do not remember the traits that they said they possessed. This is in sharp contrast to people not suffering from autism, who show a strong memory bias toward recalling the traits they said were self-descriptive. This difference can be explained if one assumes that nonsufferers have a *self-schema* about themselves, that is, a cognitive representation of their inner personality that aids their later memory. Those with autism, it appears, do not have a self-schema that is as richly developed.

In addition, schizophrenia can damage a person's experience of self. The disordered thought associated with schizophrenia can lead people to lose the experience of themselves as an individual with an unbroken history from the past to the present. Schizophrenia can also lead a person to confuse where his or her self ends and the outside world begins. This can be an important aspect of hallucinations and delusions. People suffering from schizophrenia may lose track of how much they themselves author their hallucinations, instead thinking that the hallucinations come from the outside world.

## Implications

The self that people possess has profound implications for their thoughts, emotional reactions, and behavior. For example, the thoughts people have often are crafted to maintain the sense of self that they possess. This is especially true for thoughts about other people. The impressions that people tend to have about themselves (their "me's"), at least in North America and Western Europe, tend to be rather positive ones with many strengths and proficiencies. People tend to see other people who share some similarity as also imbued

with these same strengths and weaknesses, whereas people who are different are more likely to be seen as having shortcomings and weaknesses. In this way, people can bolster their self-impressions as lovable and capable people.

A sense of self also influences the emotions people feel. People do not feel merely bad or good, but experience an entire panoply of emotions. Some emotions arise because people view that they authored the actions that produced them. When students study hard and do well on tests, they feel happy and proud. If they wrong a friend, they do not feel unhappy; they feel guilty. If they are worried about how their action looks to others, they feel shame, or perhaps embarrassment. Many emotions involve self-consciousness, and the experience of all these emotions requires a sense of self.

Finally, people's views of themselves can significantly affect their behavior. People often act in ways to maintain the view of self they possess. For example, if you ask people whether they would give to charity, they will likely say yes. If someone else approaches them a few days later and asks them to donate, people are then more likely to donate (relative to a group not asked), even though they do not connect the second request to the original question. In a similar way, if you ask a person whether people should save water during a drought, he or she typically responds that they should and do. If you then point out what a long shower the person just had (such as is done in studies of hypocrisy), the person is much more likely to take shorter showers in the future. In short, the actions people take are constrained by the views they have of themselves, especially if those views are made salient to them.

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*See also* Independent Self-Construals; Interdependent Self-Construals; Looking-Glass Self; Phenomenal Self; Schemas; Self-Enhancement

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## SELF-AFFIRMATION THEORY

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### Definition

The self-affirmation theory posits that people have a fundamental motivation to maintain self-integrity, a perception of themselves as good, virtuous, and able to predict and control important outcomes. In virtually all cultures and historical periods, there are socially shared conceptions of what it means to be a person of self-integrity. Having self-integrity means that one perceives oneself as living up to a culturally specified conception of goodness, virtue, and agency. Self-affirmation theory examines how people maintain self-integrity when this perception of the self is threatened.

### Background and History

From humanist psychologists like Abraham Maslow and Carl Rogers to contemporary investigators examining the psychology of self-esteem, there has been a historical emphasis in psychology on the importance of people's sense of personal regard. Some have suggested that a sense of personal regard emerges early in the life of an infant and remains relatively stable through the lifetime.

Contemporary researchers have documented the various adaptations people deploy to maintain self-regard. The social psychologist Daniel Gilbert and his colleagues have suggested that people have a psychological immune system that initiates psychological adaptations to threats to self-regard. Indeed, these protective adaptations may lead to rationalizations and even distortions of reality. The social psychologist Tony Greenwald described the self as totalitarian in its ambition to interpret the world in a way congenial to its desires and needs. People view themselves as able to control outcomes that they objectively cannot. They take excessive credit for success while denying responsibility for failure. They are overoptimistic in their predictions of future success and are blind to their own incompetence. People resist updating their beliefs and behavior in light of new experience and information, preferring to maintain the illusion that they were right

all along. Although people are certainly capable of realism and self-criticism, ego-defensiveness nevertheless seems to be a pervasive human penchant.

The social psychologist Claude Steele first proposed the theory of self-affirmation. A major insight of this theory involves the notion that although people try to maintain specific self-images (such as “being a good student” or “being a good family member”), that is not their primary motivation. Rather, individuals are motivated to maintain *global* self-integrity, a general perception of their goodness, virtue, and efficacy. There is thus some fungibility in the sources of self-integrity. If individuals feel relatively positive about themselves in one domain, they are willing and able to tolerate a threat to their self-integrity in another domain.

Self-affirmation theory led to a reinterpretation of classic research findings in cognitive dissonance. In a classic cognitive dissonance study, people are shown to change their attitudes to bring them in line with their past behavior. People led to commit an action espousing a position with which they disagree (for example, students who write in favor of tuition increases) subsequently come to agree with the position when they believe that their actions were freely chosen. Doing so is a form of rationalization and self-justification; it convinces the individual that his or her action was the right one. Previously, such effects had been viewed as evidence of a basic motivation for psychological consistency; people want to see their attitudes as consistent with their actions. However, Steele and colleagues demonstrated that these effects arise, in part, from the motivation to maintain self-integrity. Thus, when people are given an opportunity to affirm their self-integrity in an alternative domain, the rationalization effect disappears. For example, when people were given the opportunity to express the importance of a cherished personal value (for example, when science students were allowed to don a white lab coat, or when people who valued aesthetics were allowed to assert their love of art), these individuals did not defensively change their attitudes to make them concordant with their behavior.

### Contributions of Self-Affirmation Theory

When self-integrity is threatened, according to self-affirmation theory, people need not defensively rationalize or distort reality. Instead, they can reestablish self-integrity through affirmations of alternative

domains of self-worth unrelated to the provoking threat. Such self-affirmations, by fulfilling the need to protect self-integrity in the face of threat, can enable people to deal with threatening events and information without resorting to defensive bias. Self-affirmations can take the form of reflections on important, overarching values (such as relationships with friends and family) or on a prized skill.

Numerous studies demonstrate that individuals are less likely to rationalize, deny, or resist threatening information in one domain if their sense of self-integrity is affirmed in another domain. People have been shown to be more open to persuasive information, and less biased in their evaluations of political information and health risk warnings if they are first permitted to self-affirm in an unrelated domain, for instance, by reflecting on an important personal value. Self-affirmed individuals are also more likely to acknowledge their own personal responsibility (and their group’s collective responsibility) for defeat. In addition, people are more open to threatening courses of action—for example, compromising with an adversary in a divisive social-political dispute—when self-affirmed. Self-affirmation theory also illuminates the way in which prejudice and stereotyping are forms of self-integrity maintenance. The social psychologists Steven Fein and Steven Spencer showed that respondents were less likely to discriminate against a Jewish job candidate if they had previously been provided with a self-affirmation. People, it seems, can use a negative stereotype as a cognitively justifiable way of putting other people down, to make themselves feel good. However, if their needs for self-integrity are met in another domain, they have less need to resort to negative stereotypes.

Self-affirmations can also help to reduce physiological and psychological stress responses. David Creswell and colleagues had participants complete a self-affirmation procedure before engaging in the stressful experience of public speaking and mental arithmetic in front of a hostile audience. Unlike those in a control condition, those in the self-affirmation condition did not show any changes from baseline in their levels of the stress hormone cortisol. Because chronic stress is linked to physical illness, this finding also suggests that affirming the self could have positive effects on health outcomes.

One of the most important implications of contemporary research on self-affirmation theory involves its demonstration that seemingly small interventions can

have large effects, if they are attuned to psychological processes of self-integrity maintenance. Self-affirmation was used successfully to mitigate the psychological threat associated with being the target of a negative stereotype in school. Previous research had demonstrated that African Americans experience threat and its concomitant stress, in situations in which they know that they or fellow group members could be judged in light of a negative racial stereotype. This stress, in turn, can undermine performance. A series of field experiments demonstrated that a self-affirmation, administered for 15 minutes in the context of students' classroom activities, improved African American students' end-of-term course grades and thus reduced the racial achievement gap by 40%. Although the affirmed state stemming from a self-affirmation may appear relatively brief, the changes in attributions and information processing it prompts can become self-reinforcing or self-sustaining over time.

Research and theorizing inspired by self-affirmation theory has led to theoretical advances in social psychology, with wide-ranging implications for many instances of human functioning and frailty. Self-affirmation theory research suggests that defensive resistance, self-serving illusions, intransigence in social dispute, prejudice and stereotyping, stress, illness, and intellectual underperformance can be understood as arising, in part, from threats to self-integrity and the motivation to protect it. Self-affirmation theory provides a framework for understanding the origins of these problems and an optimistic perspective for their resolution.

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*See also* Cognitive Dissonance Theory; Ego Shock; Goals; Stress and Coping; Values

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## SELF-ATTRIBUTION PROCESS

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### Definition

Self-attribution refers to the process through which people determine the antecedents and consequences of their behaviors. Because people do not have access to their internal states—attitudes, beliefs, emotions, motives, traits—they must infer these from observations of their own behaviors and the situational contexts in which they occurred.

### Historical Background

Theoretical and empirical accounts of the self-attribution process developed from attribution theory, which addressed how individuals infer the internal states of others from observable behaviors. The theory was derived from the work of Fritz Heider, who suggested that behavioral perceptions are a function of how observers make attributions for the causes of behavior. According to Heider, behavioral causes can be attributed either to the person who performed the behavior (i.e., internal cause) or to the environment in which the behavior occurred (i.e., external cause). If an attribution is made to an internal cause, intentionality can be assigned to the person, and thus both stable and temporary characteristics of the actor can be inferred. More recently, Daryl Bem developed self-perception theory as an account of how people determine their own internal states. Bem suggested that people determine their own internal states by inferring them from observations of their own behavior and the situational context in which the behavior occurred.

### The Process of Self-Attribution

Theoretically, self-attribution occurs in a manner that is similar to the process of person perception. Specifically, individuals observe their overt behavior, assign intentionality through an attribution to either internal or external causes, and infer their own internal

states from their behavioral observations. For example, some students often read about social psychology, enjoy the topic, and even read when not studying for an exam; from this, they can make internal attributions of causality. Thus, they can infer that they hold favorable attitudes toward social psychology.

### Errors in Self-Attribution

The process of self-attribution is far from perfect. One exemplary error is known as the self-serving bias, which suggests that people tend to attribute positive outcomes to internal causes but negative outcomes to external causes. For example, if students receive an A, they are likely to attribute the good grade to their own abilities; in contrast, if they receive a D, they are likely to attribute the poor grade to the difficulty of the assignment or to the harshness of the professor.

### Implications

Errors in self-attribution may be responsible for poor psychological health. For example, depression is widely viewed as a function of a maladaptive style of self-attribution that is opposite to the self-serving bias. Specifically, depressed people often attribute positive outcomes to external causes but negative outcomes to internal causes. As a result, depressed people view positive outcomes as the result of chance or fate and view themselves as personally responsible for negative outcomes.

*Christopher P. Niemiec*

*See also* Attribution Theory, Self-Perception Theory; Self-Serving Bias

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## SELF-AWARENESS

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Self-awareness is often defined in terms of an ability to engage in reflective awareness. According to most

theorists, this requires certain types of cognitive abilities. Even in its most primitive form (visual self-recognition and the ability to recognize oneself in a mirror), self-awareness appears to be restricted to a small subset of animals including humans, chimpanzees, orangutans, and dolphins. In humans, this ability is not present at birth and only begins to appear around 12 to 18 months of age. Furthermore, there appears to be some support for George Herbert Mead's claim that development of this ability requires a social rearing history in which the individual comes to recognize that he or she is distinct from others.

Beyond an ability to be reflectively aware of oneself, self-awareness is often associated with executive processes essential to self-regulation. Thus, the self-aware individual is often viewed as more controlled and intentional in his or her actions. Within social psychology, self-awareness is often associated with a theory of objective self-awareness by Shelley Duval and Robert Wicklund. According to this theory, situational cues that remind individuals of themselves (e.g., mirrors and video cameras) lead to attention focused on the self and away from the environment. The result is a self-aware state in which individuals are proposed to compare their current selves with ideal self-standards. Because the current or actual self is usually found to be lacking when compared with these standards, Duval and Wicklund proposed that self-awareness creates a negative emotional reaction. This negative affect then motivates the individual either (a) to regulate his or her behavior with respect to the standard in an effort to reduce the discrepancy, or (b) to avoid the self-aware state.

Although this theory has yielded a great deal of research in support of its basic tenets, several researchers noted that self-awareness inducing stimuli often motivate self-regulation without inducing self-criticism and negative affect. Charles Carver and Michael Scheier proposed an alternative theory of self-awareness that retained some features of the Duval and Wicklund model (e.g., self-focused attention), but argued that the comparison of the current self with an ideal standard is itself sufficient to motivate behavior without creating negative affect. Their model of self-awareness was inspired by other cybernetic models of behavior. Jay G. Hull and Alan Levy proposed a more drastic departure from the original Duval and Wicklund model. According to Hull and Levy, self-awareness inducing stimuli essentially act as self-symbolic primes that activate self-knowledge

and cause the individual to process situations as personally relevant. Behavior follows as a consequence of focusing on the self-relevant aspects of the environment (as opposed to focusing inward and evaluating self).

Although social psychologists are typically interested in situationally manipulated self-awareness, personality researchers are interested in individual differences in tendency to become self-aware. To measure such differences, Alan Fenigstein, Michael Scheier, and Arnold Buss created the Self-Consciousness Scale. This personality inventory has three subscales: private self-consciousness, public self-consciousness, and social anxiety. Private self-consciousness focuses on the internal experience of self-awareness. It is measured with items such as "I'm always trying to figure myself out," "I reflect about myself a lot," and "I'm alert to changes in my mood." Public self-consciousness focuses on the self-presentational motives sometimes associated with self-awareness and is measured with items such as "I'm concerned about the way I present myself," "I'm concerned about what other people think of me," and "I'm usually aware of my appearance." Social anxiety focuses on negative emotions sometimes associated with being the focus of attention of others and is measured with items such as "I get embarrassed very easily," "I feel anxious when I speak in front of a group," and "Large groups make me nervous." Although the social anxiety subscale captures the colloquial understanding of what it means to be self-conscious, the private and public self-consciousness scales assess individual differences in the psychological processes most often theorized to be associated with the self-aware state.

Given that both public and private self-consciousness measures focus on self, it is not surprising that they tend to be modestly correlated. Similarly, both public self-consciousness and social anxiety tend to be modestly correlated. Private self-consciousness tends not to be correlated with social anxiety. Recently, some researchers have argued that private self-consciousness is itself associated with two sub-components: internal state awareness characterized by items such as "I am alert to changes in my mood," and reflectiveness characterized by items such as "I reflect about myself a lot." This issue has yet to be resolved.

With respect to individual differences in self-regulation, the components of the Self-Consciousness Scale are often compared with those of the Self-Monitoring Scale introduced by Mark Snyder.

Individuals high in self-monitoring are motivated by self-presentational concerns, whereas individuals low in self-monitoring are motivated by personal concerns. Perhaps the best way to think about the relation of these individual differences is that high self-monitors are both high in public self-consciousness and low in private self-consciousness. Conversely, low self-monitors are both low in public self-consciousness and high in private self-consciousness.

The effects of individual differences in private self-consciousness have often been found to parallel the effects of situational manipulations of self-awareness (e.g., the presence or absence of a mirror). Similarly, the effects of individual differences in public self-consciousness have often been found to parallel the effects of situational manipulations that remind the individual of their appearance to others (e.g., video cameras). As a consequence, researchers often distinguish between situational manipulations of private and public self-awareness along the same lines that they distinguish individual differences of private and public self-consciousness.

Research has regularly demonstrated that both situational manipulations of self-awareness and individual differences in self-consciousness are associated with increased self-regulation. Manipulations of private self-awareness and individual differences in private self-consciousness have been associated with increased attitude-behavior consistency, increased emotional reactivity to success and failure feedback, and increased self-regulation with respect to standards of appropriate conduct (e.g., increased helping when helping is defined as situationally appropriate, and decreased aggression when aggression is defined as situationally inappropriate). Private self-awareness has also been associated with an increased motivation to avoid self-awareness when it is personally painful (e.g., following failure). Indeed, evidence shows that the latter motivation to avoid self-awareness can lead individuals to consume drugs such as alcohol that can lower self-awareness.

Manipulations of public self-awareness and individual differences in public self-consciousness have been associated with increased self-presentation and impression management. For example, individuals high in public self-consciousness demonstrate a greater emphasis on social rather than personal identities, a concern over body image (body weight, clothing, makeup use), and an increased concern with the perspective of others. Although this focus on

self-presentational concerns can be useful in gaining the approval of others, it can also lead to somewhat self-destructive impression management strategies (e.g., increased self-handicapping) and even paranoia regarding others' intentions.

Whereas most research on this topic has investigated the effects of manipulations that heighten self-awareness, some research has examined manipulations that lower self-awareness. In addition to alcohol use mentioned previously, these include deindividuation manipulations that render the individual indistinguishable from others (e.g., through anonymity, being in a crowd, darkness, or wearing masks). Such manipulations typically increase disinhibited behavior that does not conform to social and personal norms. One popular account of how this occurs is that deindividuation manipulations lower self-awareness. Paralleling the previous arguments, researchers have distinguished both public and private components of the deindividuated experience. Situations that foster anonymity are thought to reduce aspects of public self-awareness whereas situations that reduce the individual's ability to distinguish themselves from others are thought to reduce aspects of private self-awareness.

In summary, at its most basic, self-awareness is associated with a reflective awareness of self. Within social psychology, self-awareness is typically viewed as involving cognitive and affective processes essential to self-regulation. A variety of theories have been offered that describe these processes. Both social psychologists and personality psychologists have actively pursued research on this topic. As a consequence, research has investigated the effects of both situational manipulations (of self-awareness) and individual differences (in self-consciousness). Within each of these approaches, researchers usually distinguish between more personal, private aspects of self-awareness and more public, self-presentational aspects of self-awareness. This has been true both for variables associated with increased self-awareness as well as variables related to deindividuation and decreased self-awareness. Because of its relevance to self-regulation of a variety of different types of behavior, research and theory on self-awareness has integrated topics as disparate as helping, aggression, and self-presentation and bridged traditional divisions between social and personality psychology.

Jay Hull

*See also* Deindividuation; Impression Management; Self-Monitoring; Self-Presentation

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## SELF-CATEGORIZATION THEORY

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Self-categorization theory addresses the problem of the psychological group. Are there such things as psychological groups? How do they form? How is a collection of individuals able to act, think, and feel as a group, collectively, as if, in the extreme, the group members shared a common mind? It is taken for granted that human beings are individual persons, that they have unique personalities and differ from other individuals, but it is also known that they belong to social groups and that these social groups can have a psychological reality for their members. People do not just describe others as belonging to groups, they describe themselves as groups (not as if they were groups, but as groups). They talk about “we” and “us” as well as “I” and “me”; they act under the right circumstances in a highly uniform, consensual, unified way as a crowd, a nation, an army, a mob, an audience, and so on; they experience collective emotions and feelings and share similar attitudes, beliefs, and values. Can people be or become a group, psychologically, subjectively, in terms of their identities, perceptions, feelings, beliefs, motives, and so on? Or is it just an illusion because people are really, fundamentally, nothing but individuals?

Self-categorization theory, in contrast to a popular point of view in North American social psychology, asserts that human beings are and are able to act as both individual persons and social groups. The theory

assumes that a person might act as a unique personality in one context, but display collective similarities as a group member in another. Human beings are very good at varying the degree to which they act in terms of either individual differences or collective similarities, and the theory tries to explain how such flexibility is possible.

Self-categorization theory explains individuality and group behavior (and the relationship between them) in terms of the way that people define and perceive themselves. Like many other theories, it focuses on what is called the *self-concept*, the collection of identities, definitions, descriptions, categories, concepts, and so on, that people use to define and experience themselves, the self-categories that people use to answer the question, who am I? or who are we? Like other theories, the theory assumes that people define themselves differently in different situations and that the way they categorize themselves will influence how they will react to that situation. For example, you may react very differently to a news story about the criminal behavior of a young child if you think of yourself as a police officer rather than as a parent. Self-categorizing is simply the process whereby a person defines the self in terms of varying kinds of “I,” “me,” “we,” or “us” categories such as “the real me,” or “me as opposed to you,” or “we Australians compared with you Americans” or “us Earth people as opposed to you alien Martians.” Nearly all theories before self-categorization theory tended to assume that the self-concept was basically, primarily, or predominantly about defining the person as a unique individual being, that it revolved around ways of defining *I* or *me*. Self-categorization theory holds that people see themselves at different levels, of which the individual level is only one. In particular, it makes a distinction between personal and social identity.

Think of a “chair.” This is a category we might use to describe four-legged objects we sit on in contrast to a “table.” The same object could also be considered “furniture,” a category we might use to refer to both chairs and tables in contrast to, say, “objects not designed for human use.” It could also be called an “old chair” to distinguish it from a “new chair.” In these three cases the object is put into categories at a lower (more specific), intermediate or higher (more inclusive) level as we move from old chair to chair to furniture. With each step, it becomes similar to more objects, which were different from it at more specific levels. The process is just the same with the self the

theory states. People can define themselves as “the me as I was in my youth” in contrast to “the me as I am today,” or “I the writer” in contrast to “you the reader,” or “we English people” as opposed to “you continental Europeans,” or “we Europeans” in contrast to “you Americans,” right up to “we human beings” as opposed to other animals, and beyond. In principle, an endless number of levels of self-categorizing are possible, limited only by reality and one’s imagination, and higher levels include more people (are more collective) than lower levels.

The theory describes the individual level (e.g., “I John Smith” as opposed to “you Jane Brown”) as one’s personal identity and the various possible group levels (e.g., “we Europeans” versus “you Americans”) as social identity. Every person has many different actual and possible personal and social identities. The theory holds that the way that people define and see themselves in any particular situation moves up and down between these levels and between the different identities at each level and that this is completely normal. It also holds that as self-definition shifts from personal to social identity and people see themselves differently, then psychologically and behaviorally people change from being individuals to being group members, from making responses based on individual personality to making responses based on shared social identity and collective similarities.

In sum, people define themselves in terms of social identities as well as personal identities; under certain circumstances, social identities become more important or influential than personal identities in the perception of oneself, and behavior changes from individual to group as people act more in terms of social than personal identity. Much research has looked at how and when people define themselves in terms of personal or social identity, how and why this makes people’s behavior and psychology more collective and less personal, and how these basic ideas can be used to explain the whole variety of phenomena related to group psychology.

Particular social identities become salient as a result of both psychological factors having to do with the perceiver such as his or her experience, habits, motives, beliefs and knowledge, and the nature of the social relationships perceived in a given social situation. One important finding is that people are much more likely to see themselves as individuals in settings where only people from their own group are present than where members of other groups are present.

Social identity comes to the fore more in the presence of outgroup than ingroup members. For example, research shows that a woman who is asked to judge herself against other women will define herself in terms of her personal identity, how she differs from other women as an individual, but one asked to judge herself against other men is likely to emphasize her social identity and see herself as much more like other women and different from men. In the former situation, she may see herself and be faster to rate herself as more masculine (different from the typical woman), but in the latter she may see herself and be faster to rate herself as more feminine (similar to the typical woman and different from men). She can see herself as having completely opposite traits depending on whether her personal or social identity is salient. Another strongly supported finding consistent with this idea is that social identity tends to be especially strong and powerful in situations of social conflict between groups. Americans may see themselves as very individualistic, but if attacked as a group by an enemy, they may pull together behind their leaders and conform strongly to group attitudes in their reactions.

Why do people become more group-oriented when social identity is salient? One reason is that social identities tend to have the same meaning for people because they arise in the same culture and are used in the same situation. Australians asked to say what Australians are like, for example, will agree about a lot of things. Because social categories have similar meanings for the people who use them, people will see themselves as more similar and actually become more similar when they define themselves in terms of the same group. If one asks a group of Australians to discuss their individual views about what Americans are like, one will find that they happily disagree on many points, but if one asks them to think about their views “as Australians,” one will now find a very high degree of uniformity in their views of Americans, just as one will in their views of Australians. Thus, a social identity that is shared by people makes people more similar in their self-described traits, goals, attitudes, beliefs, definition of the situation and behavior when it is made salient in a specific situation. This leads their behavior to become more consensual and unitary; they act alike. It also leads them to expect to be similar and encourages them to influence each other to produce agreement even when it was not originally present.

Also, people who define each other in terms of the same social category share an inclusive self that shapes

their self-interest and emotions. If the self becomes a “we” instead of an “I,” then people can cooperate and be altruistic because helping an ingroup member is helping oneself. Similarly, people can feel the experiences of others because what happens to others is also happening to themselves if they see themselves as members of the same inclusive self-category. If a police officer beats Rodney King, then any African American or any American who identifies with King can react as if he or she were the victim. He or she can feel empathy and sympathy. A person can have collective emotions that go beyond the experience of the individual person.

Research backs up the idea that people’s self-perception, behavior, and psychology change qualitatively as psychological or situational factors make social identity more salient and personal identity less salient. Under these conditions, people see themselves as more similar to ingroup members (and different from outgroup members); they feel closer and more attracted to ingroup members; they are more influenced by ingroup members and agree with them more; they are more likely to cooperate and pursue joint interests, to obey and comply with ingroup members’ authority; they feel ingroup members’ emotions and are motivated by their needs and goals. Self-categorization theory explains how and why people are much more than merely unique persons, and why they are capable of a collective as well as an individual psychology, without any unscientific assumptions about a group mind.

*John C. Turner*

*See also* Collective Self; Intergroup Relations; Self; Self-Concept

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## SELF-COMPLEXITY

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### Definition

People differ substantially in how extremely they react to good and bad events in their lives. Some people experience dramatic swings in mood and self-appraisal in response to the ups and downs of life, whereas others do not. Some experience adverse mental and physical health consequences of stressful events, but others do not. The self-complexity concept helps us understand these differences.

According to Patricia Linville's original formulation of the self-complexity model, people differ in the degree to which they maintain a complex, differentiated view of the self. This model assumes that the representation of the self in memory consists of multiple self-aspects, which may be organized in terms of contexts (home, school, with friends), roles (student, athlete), traits (creative, nurturing), behaviors (studying, playing tennis), and time frames (past, present, and future selves). Intuitively, greater self-complexity involves having a more differentiated view of the self. The greater the extent to which a person makes distinctions among the attributes or features associated with various self-aspects, the greater the person's self-complexity is. Furthermore, a person who is higher in self-complexity is likely to associate different emotions and self-appraisals with different self-aspects. For example, a person may feel good about himself or herself as an athlete but not as a student.

### History and Background

The concept of self-complexity provides a perspective on several enduring issues and paradoxes in the psychology of the self. First, it is directly related to a classic debate about whether people have a unified, single self (a view espoused by many early self theorists) or multiple selves (espoused by William James and most contemporary researchers). The current self-complexity concept assumes that self-knowledge is represented and processed in terms of multiple self-aspects related to various contexts of experience. Second, the self-complexity concept helps people understand the classic paradox—How can a person maintain seemingly discrepant beliefs about the self? A person may associate different self-attributes or behaviors with different aspects of the self, allowing

inconsistent self-knowledge to coexist. For example, a woman may perceive herself as outgoing in small social gatherings yet shy at large parties. Third, the self-complexity concept helps explain the enduring paradox—How can the self be both stable yet malleable? Different self-aspects may be cognitively activated or accessible at different points in time or in different contexts, thus creating a flexible working self. Furthermore, certain core self-aspects (e.g., self as a moral person) may be stable over long periods, whereas others may adapt rapidly in the face of changing experience (e.g., self as a competitive athlete). Also, one may develop entirely new self-aspects as one enters new realms of experience (e.g., self as a parent).

### Importance and Consequences

People differ substantially in their degree of self-complexity. Do these differences have any important consequences for their lives? People also differ substantially in how they react to good and bad events in their lives. The self-complexity concept is important largely because it helps to explain these differences in reactions to life events.

### *Self-Complexity and Affective Extremity*

According to the self-complexity model, those lower in self-complexity will experience greater swings in affect and self-appraisal in response to life events such as success or failure. They will evaluate themselves more positively (and experience more positive emotion) when good things happen, but they will also evaluate themselves more negatively (and experience more negative emotion) when bad things happen. Why? People who are lower in self-complexity tend to maintain stronger ties among the traits or behaviors describing various self-aspects. Thus, a positive or negative event that has a direct impact on one self-aspect is likely to have a relatively broad overall impact on the self because strong ties among the traits and behaviors describing various self-aspects will lead to greater spillover (generalization) from one trait to another or one self-aspect to another. In contrast, with greater self-complexity, there will be less generalization across traits or self-aspects, so a smaller proportion of the self will be affected by any given positive or negative event.

Several types of evidence support this general hypothesis. First, studies of reactions to performance

feedback show that those lower in self-complexity experience both a greater increase in affect and self-appraisal following success feedback and a greater decrease in affect and self-appraisal following failure feedback. Second, assuming that people experience both positive and negative events over time, the self-complexity model predicts that those lower in self-complexity will experience greater mood variability over time. This prediction was supported in a mood diary study in which participants filled out a set of mood scales each day over a 2-week period. In short, higher self-complexity buffers a person against the bad times but also keeps his or her feet on the ground in good times.

### ***Self-Complexity as a Stress Buffer***

Stressful events can lead to mental and physical health problems. Furthermore, people higher in self-complexity experience less negative emotional reactions following negative events. If these negative emotional reactions contribute to stress-related depression and illness, then greater self-complexity may also reduce the adverse health and mental health effects of negative stressful events. As this line of reasoning suggests, several studies have found that greater self-complexity moderates the adverse mental and physical health effects of stressful life events; that is, those higher in self-complexity are less adversely affected by stressful events. They seem less prone to both physical illnesses (e.g., upper respiratory infections) and depressive symptoms 2 weeks after experiencing high levels of stressful life events.

### ***Related Findings and Research***

In an interesting extension of self-complexity to present and future goals, Paula Niedenthal and her colleagues showed that the complexity of the present self moderates reactions to feedback about current goals, whereas complexity of possible selves moderates reactions to feedback about future goals. Roy Baumeister and others have extended self-complexity to the realm of self-regulation. One interesting finding is that those lower in self-complexity are more threatened by failure and consequently are more motivated to escape from self-awareness following failure. Consistent with this prediction, those lowest in self-complexity were the quickest to finish an essay on self goals in front of a mirror following failure. Another

interesting finding is that those who are higher in self-complexity regarding activities have higher optimal activity levels. Greater activity complexity appears to reduce the rate at which performing additional tasks leads to ego depletion and fatigue.

Another important issue concerns the source of differences in self-complexity. Peter Salovey has shown that both positive and negative mood lead to greater self-complexity because both lead to greater self-focused attention than a neutral mood state. Similarly, individuals with greater attentional resources (e.g., working memory capacity) also display higher levels of self-complexity.

Yet another set of interesting issues concerns the mechanisms underlying the link between self-complexity and emotional extremity. Recent research supports the assumption that the emotional consequences of positive and negative experiences spill over from the most directly affected self-aspects to others. As predicted, the degree of spillover is greater for those lower in self-complexity.

### ***Measuring Self-Complexity***

The self-complexity concept is quite intuitive, but applications of self-complexity require a precise measure. Linville's original formulation of self-complexity theory relies on a card-sorting procedure in which people sort a set of features (e.g., smart, shy) into piles describing different self-aspects. Using the results of this sorting task, one can compute a complexity measure known as the H-statistic, which reflects the number of independent dimensions implicitly present in the self-aspects created. The self-complexity model and findings rely heavily on the properties of this measure of differentiation. Recently, there have been several attempts to reformulate the self-complexity concept in terms of separate measures of number of self-aspects and degree of feature overlap between self-aspects. At present, it appears that a reformulation of self-complexity in terms of feature overlap often fails to confirm the theoretical predictions of the self-complexity model. Consequently, almost all of the findings reported here were obtained in studies in which the H-statistic was computed from feature sorting tasks. The self-complexity hypotheses described here are closely tied to the properties of the H-statistic. These hypotheses may not hold for other conceptual definitions or measures of self-complexity. In this context, the specific measure used matters.

## Related Concepts and Research

The term *self-complexity* has close links to other concepts such as *self-schemas* and *self-differentiation*. Self-complexity also has links to other cognitive complexity concepts. In general, experts about a domain perceive objects in the domain in a more differentiated or complex way. For example, ingroup members tend to have a more differentiated view of their group than do outgroup members and political experts have a more complex view of political candidates than do nonexperts. Finally, the self-complexity model has close ties to the complexity-extremity model of social judgment, developed by Linville and Edward Jones.

Patricia Linville

See also Phenomenal Self; Self; Self-Esteem; Stress and Coping

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the self. The self-concept is grounded in subjective experience. This means that a person's self-concept may be different from what he or she is actually like.

## History

One of the first psychologists who wrote about the self-concept was William James, a psychologist in the late 19th century. James distinguished between the *I* and the *ME*. The *I* is the part of the self that is actively perceiving and thinking. The *ME* is the part of the self that becomes an object of the person's thoughts and perceptions. The self-concept relates primarily to the *ME*.

## Adaptive Functions of the Self-Concept

Having a self-concept is a uniquely human trait. The capacity to form a self-concept presumably evolved because it promoted survival and reproduction among early humans. Because people have a self-concept, they can consider themselves in alternative times and circumstances. Thus, one adaptive function of the self-concept lies in helping people plan for the future. Goals, particularly ideals and obligations, are indeed central to people's self-concepts. When a person's current self differs from his or her desired self, this motivates the person to take action to move closer to the desired self. Another adaptive function of the self-concept is to facilitate social behavior. When people view themselves similarly as their interaction partners, this helps people predict how others will behave toward them. A shared cultural background may lead people to construe their self-concepts in a similar manner. For instance, people living in Western cultures like the United States or France tend to regard themselves as more independent from others. By contrast, people living in Eastern cultures such as Japan or India tend to think of themselves as more mutually dependent. When people have similar self-concepts, they may understand each other better.

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## SELF-CONCEPT

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### Definition

Self-concept refers to people's characteristic ideas about who they are and what they are like. Although psychologists often talk about *the* self-concept, a person's self-concept typically consists of a loose collection of ideas rather than a single unified conception of

### Structure of the Self-Concept

Self-concepts have a certain structure. One important aspect of the structure of the self-concept is self-complexity. Individuals with a complex self-concept distinguish between many distinct aspects or dimensions of themselves. Individuals with a simple self-concept view themselves in terms of only a few broad

aspects or dimensions. Individuals with a simple self-concept are more vulnerable to stress than are individuals with a complex self-concept. This is because individuals with a complex self-concept can overcome negative feedback in one self-domain (e.g., getting fired from one's job) by turning their attention to other self-domains (e.g., one's family life, religion). Individuals with a simple self-concept cannot follow this strategy.

Another important aspect of the structure of the self-concept is whether self-views are implicit or explicit. Explicit self-views are ideas about the self of which people are consciously aware. Implicit self-views are ideas about the self that are unconsciously held. Self-views may become unconscious when people use them over and over again, so that these ideas become like automatic mental habits. Explicit self-views are easier to observe than implicit self-views are. This is mainly because people themselves do not know about their implicit self-views. Nevertheless, implicit self-views can be observed indirectly because they influence how people respond to self-relevant objects or situations. Implicit self-views are especially likely to guide people's behavior when people rely on their immediate intuitions, for instance, when people are responding very quickly or when they are distracted.

### Self-Concept Motives

When people learn about themselves, certain kinds of information are especially valuable to them. It seems intuitively plausible that people should be interested in obtaining accurate information about themselves. The desire for accurate information about the self has been called the self-assessment motive. As it turns out, self-assessment is not the only motive surrounding the self-concept. Three additional motives have been found to influence how people construct their self-concepts. First, people want to receive positive, self-enhancing feedback, which is known as the self-enhancement motive. Second, people want to confirm what they already believe about themselves, which has been called the self-verification motive. Third, people want to learn things that help them to improve themselves, which is known as the self-improvement motive.

Self-assessment, self-enhancement, self-verification, and self-improvement jointly determine which information people use to construct their self-concepts.

However, the motives sometimes conflict. For instance, self-enhancement leads people to prefer positive feedback, even when their self-concepts are negative. However, self-verification leads people with negative self-concepts to prefer negative feedback. The conflict between self-enhancement and self-verification motives has been extensively studied by psychologist Bill Swann and associates. These researchers found that self-enhancement drives people's immediate emotional reactions to self-relevant information. However, self-verification may still prevail in people's cognitive beliefs about themselves. People with a negative self-concept may thus internalize negative feedback, even when this feedback is emotionally painful to them. People with a positive self-concept don't experience this conflict because for them, both self-enhancement and self-verification foster a preference for positive feedback.

The different self-concept motives become dominant under different circumstances. Self-enhancement is the most automatic motive, at least among people living in the West. Self-enhancement therefore becomes stronger when people are distracted or emotionally aroused. Self-assessment becomes stronger when people are deliberating about the pros and cons of a course of action. Self-verification becomes stronger when people possess great confidence in their beliefs about themselves. Finally, self-improvement becomes stronger when people believe that they can change their self-attributes. Moreover, self-improvement is particularly strong among people in Eastern cultures.

*Sander Koole*

*See also* Independent Self-Construals; Interdependent Self-Construals; Self; Self-Complexity; Self-Enhancement; Self-Verification Theory

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## SELF-CONCEPT CLARITY

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### Definition

Some individuals possess a clear sense of who they are and where they are going in life. They are aware of their strengths and weaknesses, the nature of their personalities, and where they stand on important attitudes and values. Other individuals have less clear self-concepts. These individuals may not be confident in who they are, may not really know where they stand on important issues, and may not be certain about their abilities. Self-concept clarity refers to the extent to which people with a clear self-concept know who they are, do not have beliefs that conflict with each other, and have viewpoints that are consistent over time. Whereas self-esteem is seen as an overall evaluation of the self as good or bad, self-concept clarity is seen as the way in which people's knowledge about themselves is cognitively organized. One would hypothesize that self-concept clarity is a good thing, providing individuals with a greater sense of understanding and meaning and allowing them to make life decisions that result in greater well-being.

### Measurement

The initial measurement of self-concept clarity was somewhat indirect. For example, the variable was first measured by such factors as the confidence with which individuals reported holding various self-beliefs (e.g., "I am confident," "I am extraverted"), the stability of self-ratings over time (e.g., the consistency between the same self-reports taken 9 weeks apart), and how fast individuals were able to respond to questions about themselves (with a faster reaction time seen as indicating higher self-concept clarity). However, researchers later developed a self-report measure to assess self-concept clarity, whereby individuals are asked to rate the extent to which they have clear self-beliefs that do not conflict with each other. A 12-item scale was ultimately created that asks individuals the extent to which they agree with such items as "In general I know who I am and where I'm headed in life," and "I spend a lot of time wondering what kind of person I really am" (reverse-scored). This scale has been used in many different studies to assess the relationships between self-concept clarity and a

number of additional variables (e.g., self-esteem, psychological adjustment, self-focus).

### Outcomes

One of the earliest and consistent correlates of self-concept clarity was self-esteem. Individuals with high levels of self-esteem are more likely to have positive, well-articulated views of the self, whereas individuals with low self-esteem report inconsistent, uncertain, and unstable views of themselves. Research has also shown that individuals with high levels of self-concept clarity also report lower levels of depression, anxiety, neuroticism, and perceived stress and report higher levels of perceived social support and psychological adjustment than do individuals with low levels of self-concept clarity.

In addition to examining the relationships between self-concept clarity and psychological health, researchers have also assessed whether people high versus low in clarity use different types of coping strategies when dealing with life's challenges. Individuals with clearer self-concepts are more likely to take action, plan, and use positive reinterpretation (trying to view the situation in a more positive, less stressful way) to deal with stressful situations. However, those with a less clear self-concept are more likely to use denial, mental disengagement (e.g., try not to think about the stressful situation), behavioral disengagement (e.g., physically leave the stressful situation), and drugs or alcohol. These relationships are seen even when controlling for the effects of gender, perceived social support, anxiety, depression, and self-esteem.

Relationships of self-concept clarity with motivational factors have also been found. For example, self-concept clarity has been found to be related to the degree of personal engagement an individual feels for his or her occupation. Individuals higher in self-concept clarity are more likely to report a high level of connection with their jobs than are individuals low in self-concept clarity. This could be a result of individuals high in self-concept clarity choosing occupations that are more consistent with their self-views.

Finally, self-concept clarity has also been found to influence how people respond to others. The concept was first linked to a phenomenon known as the foot-in-the-door-technique, whereby individuals who agree to a small favor (e.g., to donate \$1 to a charity) are more likely to agree to a larger favor when asked

later (e.g., to donate \$50 to a charity) than if the smaller favor had not been asked. Interestingly, individuals higher in self-concept clarity were more likely than those low in clarity to comply with a second, larger request. This effect likely stems from those high in clarity wanting to ensure consistency between their behaviors so that agreeing to the small request creates a greater need to agree to the second, larger request. Although individuals high in self-concept clarity are more likely to fall victim to the foot-in-the-door technique, individuals low in self-concept clarity are more likely to have difficulties in conflict resolution because of a need to take ownership over arguments in a dispute. This effect is most likely due to the need that low-clarity individuals have for connecting reality to their self-concept.

### Future Research

Self-concept clarity is a useful variable in understanding psychological health, coping, and reactions to one's interpersonal world. One of the biggest areas in need of future research is how self-concept clarity develops, and what contributes to low versus high clarity. Can someone have high self-concept clarity and then experience life events that lead to lower clarity? Do certain parental behaviors contribute to high versus low self-concept clarity? The answers to these questions await future research.

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*See also* Foot-in-the-Door Technique; Self-Concept; Self-Esteem; Stress and Coping

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## SELF-CONTROL MEASURES

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Self-control (also commonly referred to as self-regulation) is the ability to control one's thoughts, emotions, urges, and behaviors. A person might exert self-control, for example, by trying to stop thinking about something unpleasant, escape a bad mood and feel better, or refrain from cursing in front of his or her parents. Self-control is conceptually similar to what many people refer to as self-discipline, willpower, or self-change. Although self-control can be regarded as an act, the capability for it is a personality trait. Some people are better at self-control than are others, not in every single occasion, but overall. Self-control measures are designed to identify which people are generally good at self-control and which ones are not.

The ability to exert self-control is vital to maintaining a successful and healthy lifestyle. People must frequently exert self-control in many areas of their lives, such as when trying to diet, quit smoking or drinking, control their spending, or refrain from engaging in undesirable sexual acts. Life requires constant self-change and adaptation, such as a new college student who must motivate himself or herself to study in the absence of parental supervision. Self-control is essential in this regard.

Likewise, people who are more capable than others at self-control experience numerous benefits as a result. For instance, they receive better grades, are more popular with peers, have better social relationships and mental health, and cope better with stress. They are also less likely to suffer from eating disorders or have substance problems. High self-control even helps people to follow the law and stay out of jail.

Researchers have developed several different ways to measure self-control. One method is to directly assess people's self-control behaviors. For instance, a researcher might give a person some delicious cookies or ice cream and measure how much the person eats. People typically try to limit how much of these foods they eat, and so eating a larger amount indicates a lack of self-control. One method commonly used with children is to assess the ability to delay gratification.

For instance, a researcher might give a child a marshmallow and tell the child that he or she can eat it immediately or wait to eat it until the researcher retrieves a second marshmallow. The researcher then measures how long the child is willing to resist eating the marshmallow and wait (up to about 20 or 30 minutes) for the second marshmallow. Experiments using this and other similar procedures have shown that children more capable of delaying gratification are more successful (e.g., more popular and healthier mentally) than others many years later, even during adulthood.

Questionnaires are also used frequently to assess self-control. For instance, a research participant might indicate how much he or she agrees with statements such as, “I have a hard time breaking bad habits,” “I never allow myself to lose control,” or “I am able to work effectively toward long-term goals.” Alternatively, participants might be asked to report their recent self-control behaviors, such as how often they have eaten too much or lost control of their temper. Some self-control questionnaires measure the ability to exert self-control more generally, whereas other questionnaires focus on more specific self-control behaviors, such as eating, illegal activities, or drug and alcohol use. One measure of personality assesses the related construct of conscientiousness. Questionnaire measures, like direct assessments of behavior, have also linked self-control with several positive outcomes.

Studies on self-control have demonstrated how self-control operates. When exerting self-control, individuals first monitor themselves or pay attention to the target behavior. For instance, a dieter will first keep track of how much food he or she eats. Progress toward a goal is then compared with some standard, such as an ideal diet. People are far more successful at self-control if they monitor their behavior and set realistic standards than if they do not monitor their behavior or do not set standards.

If a person’s behavior or current state matches the desired goal, then the person no longer exerts self-control. A dieter who reaches his or her ideal weight, for instance, will probably stop dieting. If a person’s behavior or current state falls short of the goal, however, then the person will exert self-control by changing his or her behavior until the desired goal is reached.

Although the process of self-control may seem straightforward, actually exerting self-control is difficult and demanding. Many people fail at self-control. For

example, many people fail to follow their New Year’s resolutions, even during the first week of the year.

Why is exerting self-control so difficult? One reason seems to be that the ability to exert self-control is limited. Consistent with the idea of willpower, people seem to use up their self-control energy, and so they are less likely to succeed at self-control later on. In one study, for instance, participants were given a plateful of delicious cookies and a bowl full of radishes. Some participants were told they could eat whatever they wanted, whereas other participants were told to resist eating the cookies and to eat the radishes instead. It takes self-control to avoid eating cookies and instead eat radishes, and so participants who had to eat the radishes should have used up their self-control energy. To test this idea, the researchers then had participants watch a funny film and asked them to hide or suppress any signs of enjoyment or laughter. Participants who had resisted eating the cookies were less able to hide their enjoyment than were participants who had eaten freely, consistent with the idea that exerting self-control had depleted their self-control or willpower. Thus, people probably fail at self-control because they have limited self-control energy. Indeed, after completing an initial task requiring self-control, people show poorer self-control in numerous areas. They fail to control their spending, inappropriate sexual behavior, and drinking, and they seem less able to avoid thinking about unpleasant topics, such as death!

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*See also* Delay of Gratification; Ego Depletion; Individual Differences; Research Methods; Self-Regulation; Traits

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## SELF-DECEPTION

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### Definition

Self-deception is the act of lying to yourself. You have likely noticed this puzzling behavior in others, that is, cases in which people apparently believe something that they must know is false. This behavior does not include exaggeration, faking, or simple lying—those are cases in which the individual is well aware of uttering a falsehood. Instead, self-deception is something deeper and more complicated, even paradoxical.

Consider some typical examples. An otherwise pleasant young man drinks too much alcohol but gets angry if anyone suggests he has a drinking problem. He refuses to believe he is an alcoholic even though the evidence is obvious: Empty bottles are hidden throughout his apartment, and his boss has often sent him home for drinking on the job. Again, it does not count as self-deception if he knows he is an alcoholic but is simply lying about it.

Consider another case in which a young woman has a deep-seated hatred of her mother but cannot admit it to herself. The signs of this hatred are abundant; she angers quickly at any mention of her mother and makes a face when mentioning her. But the young woman cannot admit it because much guilt and shame would ensue.

The mother of a criminal cannot believe the things the police say about him. Her reason for living, her pride and joy, would be destroyed, so she won't let herself believe it. Still she startles at every ring of the phone, fearing that it is the police calling about her son again.

The more one analyzes such cases, the more complex the notion of self-deception appears. Explaining them requires an acknowledgment of the unconscious part of the mind. Only in the unconscious can an emotional conflict actually influence an individual's behavior and yet be inaccessible. At a conscious level, the truth about an individual's particular problem area is unavailable or, at least, obscure. The unconscious, however, knows the truth.

Therefore, self-deception is not simply being mistaken about oneself. You may well be in error about many aspects of your life. But most of them are not the result of any self-deceptive process. For example, you may not have been told that you are adopted: In that case, others may have purposely deceived you. Or you may believe that you have a genius-level IQ because you accidentally mis-scored a take-home IQ

test. Your recall of the fact that you hated your parents at age 10 may have faded along with other memories. None of these cases qualifies as self-deception.

### History and Background

Because the unconscious appears to be involved, self-deception is often discussed in the context of Sigmund Freud's famous psychoanalytic theory. Rather than being one of the traditional defense mechanisms, self-deception is thought to be a necessary component of all defense mechanisms. Each one has the paradoxical element noted earlier: There must be at least one moment of self-deception for a defense mechanism to work. Those readers familiar with such defenses as projection, intellectualization, and repression will understand that, in each case, a person has to be both unaware and hyperaware of the disturbing information.

Psychoanalytic theory is pessimistic about your ability to ever recognize self-deception in yourself. That conclusion is probably too severe: A person should be able to recognize his or her own self-deception at some point after it occurs—when the person has cooled down and has a more objective perspective on the issue.

### The Paradox of Self-Deception

When Freud first wrote about self-deception, he was attacked by a famous philosopher, Jean-Paul Sartre. Like many nonphilosophers, Sartre dismissed the idea of self-deception as impossible. How can you know something and not know it at the same time?

This criticism is a powerful one. How can you avoid a thought without knowing it is there? An analogy would be the goal of avoiding someone you hate: You cannot effectively avoid the fellow unless you are continuously vigilant for his possible appearance. Similarly, the task of avoiding potentially upsetting self-knowledge requires that you continuously turn your mind away from it. Success at this task would seem impossible if you don't know the threatening thought is even there.

Freud flatly rejected Sartre's critique. A true understanding of the unconscious, Freud argued, would reveal that self-deception can occur. Its feasibility has indeed been supported by recent developments in cognitive psychology.

For example, we now know that many processes are unconscious. Moreover, we know humans' cognitive apparatus allows for multiple versions of the same

information: Contradictory information can be stored in two different parts of the brain. Finally, we also know that the emotional part of a stimulus is processed more quickly than is the content. For example, with a polygraph, the emotional impact of a word can be detected before the word is understood.

Given the solid evidence for these mental processes, the possibility of self-deception becomes quite feasible. Incoming information is processed by two different brain systems. One is the cognitive system that deals with the informational value of the stimulus; the other is the emotional system. Furthermore, the emotional system operates first, thereby allowing the mind to set up preemptive roadblocks for the informational system.

### Evolutionary Basis

Given that self-deception has been mentioned from the earliest writings of human beings, many psychologists suspect that it has an evolutionary basis. That is, human beings engage in self-deception because it is built in to the genes of our species. According to evolutionary theory, such psychological tendencies are part of our genetic makeup because they proved to give a survival advantage to those who engaged in it. Individuals without this tendency did not survive as well as those who did.

But how could such irrationality be adaptive? An anthropologist, Robert Trivers, pointed out that complete awareness of our motives would interfere with their effectiveness. Your ability to remain brave in the face of extreme danger is enhanced if you really believe you can deal with the threat. Your overconfidence that you can make the Olympic team will actually aid in making it come true. In both cases, there are negative consequences if you are wrong: In one case, you may exhaust yourself in 4 years of futile workouts; in the other case, you may unnecessarily risk your life.

### The Evidence for Self-Deception

Thus, it appears that self-deception is possible. But the bulk of the direct evidence for its existence comes from the clinical experiences of psychologists and psychiatrists. Most clinicians can report instances where their patients have clearly deceived themselves, usually with unhealthy consequences.

The experimental evidence for self-deception is much less abundant. In fact, only the two studies described later claim to have demonstrated

self-deception. Of course, it just takes one valid demonstration to prove that human beings can self-deceive. But such demonstrations have proved to be extremely difficult to carry out even in controlled laboratory studies. The reader can decide whether the two studies are convincing or not.

Psychologists Harold Sackeim and Ruben Gur started with the idea that people typically don't like the sound of their own voices. On the main experimental task, participants were asked to pick out their own voices from a series of voices that did, in fact, include their own. They said "Me" or "not Me" to indicate that a voice was theirs or not. At the same time, they are hooked up to a polygraph, which measures emotional response. So we have two pieces of information, an oral response and an emotional response measured by polygraph.

The polygraph invariably shows a blip when the subject's own voice comes on, but many false denials can occur. The oral response is not accurate; it is your voice and you deny it, but the polygraph recognizes it as you. The false denials, coupled with the polygraph, suggest the person knows something and does not know it at the same time; the person is unaware of his or her own beliefs.

When Sackeim and Gur lowered the self-esteem of subjects beforehand, there were more false denials. False denials substantially increased when the person was motivated to avoid self-confrontation.

According to Sackeim and Gur, the false denials show that subjects believe X and do not believe X at the same time. Their lack of awareness is motivated by lowering their self-esteem. They argue that this single demonstration of self-deception is all that is needed to show self-deception occurs.

The second study claiming to demonstrate self-deception was conducted by psychologists George Quattrone and Amos Tversky. They used a cold pressor test, in which participants are asked to immerse one hand in very cold water and keep it there as long as they can stand it.

Some of the participants in the study were told something scary before taking the test: "People who feel a lot of pain from the cold water have a weakness in their cardiovascular system. This defect leads to early heart attacks and a short lifespan."

Results showed that participants receiving this information rated the task as less painful. They even held their hand in the cold water longer. They seemed to be trying to convince themselves that they didn't have the life-threatening cardiovascular problem.

They were engaging in self-deception, according to Quattrone and Tversky, because they wouldn't acknowledge, even to themselves, the pain that they surely were experiencing.

You may or may not be convinced that these studies demonstrate self-deception. What you should be convinced of is that proving self-deception is incredibly difficult. Remember that a convincing experiment has to show that a person believes something and disbelieves it at the same moment. It is not surprising then that only two empirical studies have claimed to demonstrate the phenomenon. Instead, the bulk of writing on self-deception is published by philosophers who, unlike psychologists, do not have to collect data to support their claims. Instead, philosophers' method consists of developing logical, persuasive arguments for their position on an issue.

### The Importance of Self-Deception

The examples discussed earlier suggest a deep-seated powerful psychological process. In each case, the person has the information to draw the correct conclusion but, for strong emotional reasons, will not do so.

A number of everyday positive illusions seem to have the flavor of self-deception but are less dramatic. You might set your watch 10 minutes ahead to ensure that you get to an appointment on time. How can that possibly work? You know very well your watch is 10 minutes fast; you aren't fooling anyone. Yet people say it helps them to be on time. Or take procrastination: People know the strategy hasn't paid off in the past, yet they promise themselves that they'll make that unpleasant phone call later. They come up with amazing rationalizations for staying in bed or waiting until the last minute to write a paper.

Labeling such cases as self-deception is a stretch. They are better placed into the category of strategic coping mechanisms. The term *self-deception* should be reserved for cases in which strong psychological forces prevent a person from acknowledging a threatening truth about himself or herself.

In short, the importance of self-deception to social psychology cannot be overestimated. The concept is central to the human necessity to trade off or, at least, balance two fundamental motivations. People want accurate information about their world and its complexity; at the same time, they need to defend against information that would destroy the ideas that their lives are built on.

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*See also* Deception (Lying); Dual Process Theories; Nonconscious Processes; Positive Illusions; Procrastination; Projection; Self-Enhancement; Self-Esteem

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## SELF-DEFEATING BEHAVIOR

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For social psychologists, a self-defeating behavior is any behavior that normally ends up with a result that is something the person doing the behavior doesn't want to happen. If you are trying to accomplish some goal, and something you do makes it less likely that you will reach that goal, then that is a self-defeating behavior. If the goal is reached, but the ways you used to reach the goal cause more bad things to happen than the positive things you get from achieving the goal, that is also self-defeating behavior. Social psychologists have been studying self-defeating behaviors for at least 30 years. And although they have identified several things that seem to lead to self-defeating behaviors, much more can be learned about what self-defeating behaviors have in common, and how to get people to reduce the impact of these behaviors in their lives.

### Background and History

Social psychologists began thinking about self-defeating behaviors as a class of behaviors in the late 1980s. Interest in this topic spread following the controversy that took place in the 1980s about whether or not a psychological disorder called the *self-defeating personality disorder* should be included in the official handbook of mental disorders, the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*.

The group revising the *DSM* in the 1980s wanted to include a disorder where people showed “a pervasive pattern of self-defeating behaviors.” Some people didn’t want this to be included because they said that there wasn’t enough research to show that a disorder like this really existed; some people didn’t want it to be included because they said that the behaviors that supposedly made up the self-defeating personality disorder were really parts of other personality disorders; and finally, some people didn’t want it to be included because they were afraid that the disorder would be biased against women and would excuse spouse abusers, blaming their victims by claiming that the victims had self-defeating personality disorder.

In the edition of the *DSM* published in 1987 (called the *DSM-III-R*), self-defeating personality disorder was included in an appendix and was not considered an official diagnosis. More recent editions of the *DSM* do not mention the self-defeating personality disorder at all.

Even though social psychologists were inspired by this controversy, they are interested in studying behaviors of normal people, not those of people who are mentally ill. Although some psychiatrists believe that all humans are driven to harm themselves, most people are not motivated in this way. Most humans are interested in accomplishing their goals, not in harming themselves.

## Types

Social psychologists have divided self-defeating behaviors into two types. One type is called *counterproductive behaviors*. A counterproductive behavior happens when people try to get something they want, but the way they try to get it ends up not being a good one. One type of counterproductive behavior occurs when people persevere at something beyond the time that it is realistic for them to achieve the desired outcome. For example, students taking a class, and doing very poorly, sometimes refuse to drop the class. They think that if they stick it out, they will be able to pull their grades up and pass the class. But, it may just be too late for some, or they may not have the ability to really pass the class. Most students’ goals are to get a degree with as high a grade point average as possible, so refusing to drop the class is a self-defeating behavior. Counterproductive behaviors usually happen because the person has a wrong idea either about himself or herself or about the situation the person is in. The students have an incorrect idea about their own abilities; they think they can succeed, but they can’t.

The second type of self-defeating behavior is called *trade-offs*. We make trade-offs in our behavior all the time. For example, you may decide not to go to a party so you can study for an exam. This is a trade-off: You are trading the fun you will have at the party for the benefit you will get from studying (a better grade).

This example of a trade-off is not self-defeating. You are probably going to come out a winner: The benefit of studying will, in the end, outweigh the benefit of going to the party. But, some kinds of trade-offs are self-defeating: The cost that you have to accept is greater than the benefit that you end up getting. One example is neglecting to take care of yourself physically. When people don’t exercise, go to the dentist, or follow the doctor’s orders, they are risking their health to either avoid some short-term pain or discomfort (such as the discomfort of exercise or the anxiety that the dentist causes).

Another example of a self-defeating trade-off is called self-handicapping. Self-handicapping is when people do something to make their success on a task less likely to happen. People do this so that they will have a built-in excuse if they fail. For example, students may get drunk the night before a big exam. If they do poorly on the exam, they have a built in excuse: They didn’t study and they were hungover. This way they avoid thinking that they don’t have the ability to do well in the class.

Some common self-defeating behaviors represent a combination of counterproductive behaviors and trade-offs. Procrastination is a familiar example. When you think about why people procrastinate, you probably think about it as a trade-off. People want to do something more fun, or something that is less difficult, or something that allows them to grow or develop more, instead of the thing they are putting off. But, sometimes people explain why they procrastinate in another way: That they do better work if they wait until the last minute. If this is really the reason people procrastinate (instead of something people just say to justify their procrastination), then it is a counterproductive strategy; they believe that they will do better work if they wait until the last minute, but that is not usually the case. (Research shows that college students who procrastinate get worse grades, have more stress, and are more likely to get sick.)

Alcohol or drug abuse is another self-defeating behavior. Many people use alcohol and drugs responsibly, and do it to gain pleasure or pain relief. But for addicts, and in some situations for anyone, substance use is surely self-defeating. Substance use may be a

trade-off: A person trades the costs of using drugs or alcohol (health risks, addiction, embarrassing or dangerous behavior, legal problems) for benefits (feeling good, not having to think about one's inadequacies). Usually over the long run, however, the costs are much greater than the benefits.

Even suicide can be looked at as either a self-defeating trade-off or counterproductive behavior. People who commit suicide are trying to escape from negative things in their life. They are trading off the fear of death, and the good things in life, because they think the benefit of no longer feeling the way they do will be greater than what they are giving up. But, suicide can also be thought of as a counterproductive behavior. People may think that taking their life will allow them to reach a certain goal (not having problems).

### Causes and Consequences

Causes of different self-defeating behaviors vary; however, most self-defeating behaviors have some things in common. People who engage in self-defeating behaviors often feel a threat to their egos or self-esteem; there is usually some element of bad mood involved in self-defeating behaviors. And, people who engage in self-defeating behaviors often focus on the short-term consequences of their behavior, and ignore or underestimate the long-term consequences.

Procrastination is an example that combines all three of these factors. One reason people procrastinate is that they are afraid that when they do the thing they are putting off, it will show that they are not as good or competent as they want to be or believe they are (threat to self). Also, people procrastinate because the thing they put off causes anxiety (a negative emotion). Finally, people who procrastinate are focusing on the short-term effects of their behavior (it will feel good right now to watch TV instead of do my homework), but they are ignoring the long-term consequences (if I put off my homework, either I'll get an F or I will have to pull an all-nighter to get it done).

These three common causes are all related to each other. If you have a goal for yourself, or if other people expect certain things from you, and you fail or think you will fail to meet the goal, this is a threat to your self-esteem or ego. That will usually make you feel bad (negative mood). So, ego-threats make you have negative moods.

But, negative moods also can lead to ego threats. When people are in negative moods, they set higher

standards or goals for themselves. So, this will make them more likely to fail. Here is a vicious cycle: Failing to meet your goals is a threat to your ego, which leads to negative emotion, which leads you to set higher standards, which makes you fail more. Negative moods also can lead you to think more about the immediate consequences of your actions, instead of the long-term consequences. This, too, can make people do something self-defeating.

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*See also* Procrastination; Risk Taking; Self-Handicapping; Suicide; Sunk Cost; Threatened Egotism Theory of Aggression

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## SELF-DETERMINATION THEORY

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The self-determination theory (SDT), formulated by Edward L. Deci and Richard M. Ryan, is a broad theory of human motivation for which the concept of basic or universal psychological needs for competence, relatedness, and self-determination and the differentiation of types of motivation (autonomous, controlled) are central and defining features. SDT posits that the type, rather than amount, of motivation is the more important predictor of outcomes, and that the type of motivation is determined by the degree of

satisfaction of the basic needs. The theory predicts, and empirical evidence has confirmed, that satisfaction of the basic needs, and being motivated autonomously, are associated with important positive outcomes, such as enhanced well-being, improved learning, and greater persistence. Studies also show that when authority figures are autonomy supportive, taking the other person's perspective and providing choice, the other person tends to become more autonomously motivated.

### Basic Psychological Needs

SDT proposes that, in addition to requiring various physical forms of sustenance (e.g., food and water), humans have evolved to require certain psychological experiences for optimal functioning and psychological health. SDT has identified three psychological experiences that are universally required for optimal growth, integrity, and well-being: the needs for competence, relatedness, and self-determination. The postulate that these needs are universal means that they are essential for all people, regardless of sex, ethnicity, socioeconomic status, or cultural values. Consider each need in turn.

The first psychological experience that has been identified as a need is the feeling of competence, that is, the feeling that one is effective in dealing with one's inner and outer worlds. This concept originated in the writings of Robert White, who spoke of being motivated by *effectance*. White suggested that when children play, they do it because it is fun, but children are also learning and becoming more effective or competent while they are playing. The feeling of competence or effectance applies to learning to manage oneself, for example, learning to regulate one's emotions effectively, just as it applied to learning to function in the larger social milieu. The realization that one is improving in any important activity or meaningful aspect of one's life is very gratifying and can be understood as representing satisfaction of the basic need for competence.

The second type of psychological experience that is a need within SDT is relatedness. The experience of relatedness is broadly defined as feeling connected to other human beings: of loving and being loved, of caring for and being cared for, of belonging to groups or collectives, and of having enduring relationships characterized by mutual trust. When someone shares a meaningful conversation, writes or receives a letter

from a friend or family member, or hugs someone he or she cares for, the person is likely to experience satisfaction of the need for relatedness.

The third basic need within self-determination theory is the need for autonomy or self-determination. The concept of self-determination evolved from the writings of Richard deCharms, who distinguished between internal and external perceived loci of causality. DeCharms suggested that when people have an internal perceived locus of causality, they will feel as though they are the origin of their own actions, rather than being a pawn, which involves feeling pushed around by external forces. Being self-determined involves feeling a sense of volition or full willingness, having a feeling of choice about what one is doing, endorsing one's actions fully, and experiencing freedom in one's thoughts, feelings, and actions. Having these experiences provides satisfaction of the basic need for autonomy or self-determination. Although other psychologists may use one or another of these terms to mean something other than what it means in self-determination theory, the use of these multiple descriptors is intended to give one a real sense of what the terms mean within SDT. In short, SDT maintains that human beings have a fundamental need to fully endorse their actions and to feel free with respect to constraints and pressures.

To summarize, SDT posits that each of these three types of experiences—the experiences of competence, relatedness, and autonomy—contribute importantly to people's psychological and physical well-being. To the extent that any one of these needs is thwarted or denied to people, they will suffer some type of psychological or physical decrement as a result. Furthermore, these psychological needs are identified as the sources of energy for one type of motivation referred to as *intrinsic motivation*.

### Intrinsic Motivation and Extrinsic Motivation

Intrinsic motivation is the type of motivation characterized by the experience of interest and enjoyment. The reward for intrinsic motivation is said to be in the doing of the activity rather than in what it leads to. In other words, intrinsically motivated behaviors are maintained by the spontaneous feelings that accompany the activity. Activities that you truly enjoy—perhaps playing lacrosse or golf, perhaps reading or drawing, perhaps climbing a mountain or taking a dip

in the ocean—are intrinsically motivated. The concept of intrinsic motivation is used to describe the full range of behaviors that are willingly enacted in the absence of contingencies of reward or punishment. The prototypic example of intrinsic motivation is a child at play, running madly around the playground, building a snowman, digging in a sandbox, or turning a large cardboard box into a clubhouse. All these activities require the exertion of energy, yet the rewards are entirely intrinsic to the activities themselves. From an SDT perspective, the energy for such activities originates from the basic psychological needs (e.g., competence, relatedness, and autonomy).

The complement to intrinsic motivation, that is, the type of motivation that energizes and directs other human activities, is referred to as *extrinsic motivation*. This type of motivation is characterized by an instrumentality between the behavior and some separable consequence. The classic example of extrinsic motivation is doing an activity for a reward. In that case, the person is not doing the activity because the activity itself is interesting and enjoyable but rather because doing the activity allows the person to earn the reward. Doing things to avoid a punishment, to please a parent or spouse, to be accepted by a group, to look better than someone else are all examples of being extrinsically motivated.

### Undermining Intrinsic Motivation

One of the phenomena for which SDT is well known is the undermining of intrinsic motivation by extrinsic rewards. In the early 1970s, some surprising research suggested that there might be a dark side to using task-contingent tangible rewards, such as money or prizes, to help motivate people to do interesting activities, such as learning or playing. The initial experiment by Deci found that when college students worked on interesting puzzles to earn money, they ended up finding the puzzles less interesting and enjoyable than did other students who had worked on the same puzzles without being offered money. The students who had been paid for solving the puzzles were less likely to return to the puzzle activity during a subsequent free-play period. In other words, when people were given a reward for doing an interesting activity, they lost interest in the activity and were less likely to engage the activity later.

From the perspective of SDT, the reason for this drop in intrinsic motivation was that the rewards tended to make individuals feel controlled. They

became dependent on the rewards and lost their sense of doing the activity autonomously. Because satisfaction of the need for autonomy is essential for maintaining people's interest and vitality for the activity—that is, their intrinsic motivation—they lost intrinsic motivation when their behavior was controlled.

Interestingly, another early experiment by Deci showed that when people received positive feedback for doing an interesting activity, their intrinsic motivation tended to increase rather than decrease. The SDT explanation was that the information contained in the positive feedback about people's effectiveness at the activity provided satisfaction of the need for competence and enhanced their intrinsic motivation. Because positive feedback is sometimes referred to as verbal rewards, this experiment helped make the important point that rewards do not always undermine intrinsic motivation. Instead, they tend to undermine intrinsic motivation when people *feel* controlled by the rewards.

More than 100 published experiments have explored the effects of rewards on intrinsic motivation. In general, across all these studies, the results indicate that tangible rewards tend to decrease intrinsic motivation whereas verbal rewards tend to enhance it. Still other studies have examined the effects of other motivators such as surveillance, deadlines, evaluations, and pressure to win a competition. These studies suggest that each of these motivators tends to undermine intrinsic motivation because they diminish people's experience of autonomy.

### Autonomous Motivation and Controlled Motivation

The diminishment of intrinsic motivation by extrinsic motivators via the thwarting of people's need for autonomy raised an interesting question: Do all extrinsic motivations tend to *control* people? Put differently, is it possible to be self-determined while doing an extrinsically motivated activity? SDT proposes that people can internalize external prompts or contingencies and accept them as their own. For example, a request from a parent that a child participate in the chores around the house to help the family would be an extrinsic motivator. The child might initially do the chores to please the parent. Gradually, however, the child could internalize the value of helping and the regulation of the behavior and, thus, would be more autonomous in doing the chores. However,

SDT also suggests that values and regulations can be internalized to varying degrees. If the child were simply to take in the regulation and use it to force himself or herself to help, the child would still be relatively controlled. The child might be doing it to avoid feeling guilty or worthless, which, although internalized, does not represent autonomous self-regulation. To become autonomous, the child would need to identify with the importance of the activity and integrate its value and regulation into his or her own sense of who he or she is. Considerable research has shown that it is possible to internalize and integrate values and regulations, and that doing so is associated with higher levels of psychological well-being. Accordingly, over time, SDT changed the most important differentiation in the theory from intrinsic and extrinsic motivation to autonomous and controlled motivation. *Autonomous motivation* consists of intrinsic motivation plus fully internalized extrinsic motivation. *Controlled motivation*, in contrast, consists of regulation by external contingencies and by partially internalized values or contingencies—what in SDT are called *introjects*.

Being autonomously motivated involves feeling a sense of choice as one fully endorses one's actions or decisions. People do intrinsically motivated behaviors because they find the activities interesting and enjoyable; they do well-internalized extrinsically motivated behaviors because they find them personally important. So, interest and importance are the two bases of autonomous motivation, and doing activities for either reason allows people to feel satisfaction of the three basic psychological needs. Controlled motivation, in contrast, involves acting because one feels pressured to do so, either through coercion or seduction. When controlled, people may behave because they feel lured into it by seductive rewards, feel forced into it by authority figures, or have introjected a demand and do it to bolster a fragile sense of self-esteem. When controlled, people might feel a sense of competence or relatedness, but they will not be satisfying their need for autonomy. From the perspective of SDT, satisfaction of all three of the basic psychological needs is necessary for autonomous motivation and for optimal well-being.

### **Positive Outcomes Associated With Autonomous Motivation**

By virtue of the definition of basic needs within SDT, satisfaction of these needs promotes positive psychological health. More than three decades of research has

confirmed that being autonomously motivated and satisfying the psychological needs are vital to both mental and physical well-being. Greater autonomous motivation relative to controlled motivation has been linked to more positive emotions and less stress. This pattern emerges in samples of both children and adults, in countries as varied as Germany, Bulgaria, Russia, South Korea, Turkey, and the United States, among others.

Autonomous motivation also leads to greater maintained lifestyle change, better conceptual understanding and deep learning, greater job satisfaction and performance, and higher creativity. For example, research has demonstrated that when people are autonomously motivated to eat a healthier diet and exercise more, they tend to maintain those behaviors more effectively over the long run. When students in school are more autonomously motivated, they tend to get better grades and are less likely to drop out. Employees at large companies are more likely to receive positive work evaluations when they are autonomously motivated. And the paintings and collages created by individuals whose motivation is autonomous are likely to be rated as more creative by expert judges. The merits of autonomous motivation are numerous and varied.

### **Promoting Autonomous Motivation**

Many studies have shown that it is possible to enhance autonomous motivation. Research has indicated that when authority figures, such as parents, managers, teachers, coaches, or physicians are more autonomy supportive, their children, subordinates, students, athletes, or patients become more autonomously motivated. Being autonomy supportive means that authority figures consider and understand the other person's perspective and relate to that person with consideration of this perspective. For example, autonomy-supportive teachers relate to their students in terms of the students' skill levels and encourage them to move on from there. Furthermore, the autonomy-supportive authority figure offers choice, provides meaningful explanations for why requested behaviors are important, and encourages exploration and experimentation. In these ways, authority figures can facilitate autonomous motivation, basic psychological need satisfaction, and greater health and well-being.

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*See also* Autonomy; Control; Intrinsic Motivation; Self-Regulation

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## SELF-DISCLOSURE

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### Definition

Self-disclosure refers to the process of revealing personal, intimate information about oneself to others. Through self-disclosure, two individuals get to know one another. Self-disclosure is considered a key aspect of developing closeness and intimacy with others, including friends, romantic partners, and family members. However, self-disclosure also functions as a way for people to express their feelings about a situation, to give others their thoughts and opinions about a topic, to elicit reassurance about their feelings, or to get advice.

### Context and Importance

Self-disclosure varies by the level of intimacy. For example, information can range from being relatively superficial, such as disclosing where you are from and what your favorite flavor of ice cream is, to being more private, such as revealing that your parents are going through a divorce or that you once cheated on your boyfriend or girlfriend. Self-disclosure also varies in how many different topics that are disclosed. When individuals disclose private information, their disclosure is high in *depth*. When individuals disclose a wide range of topics about themselves, their disclosure is high in *breadth*. Most relationships begin with the exchange of superficial information, which gradually

turn into more meaningful disclosures when the superficial conversation is rewarding. That is, people are likely to move the conversation to a deeper level by increasing both the breadth and the depth of the conversation when they are enjoying a conversation they are having.

When a relationship is new, early conversations tend to involve self-disclosure reciprocity. Put another way, new acquaintances tend to match one another's disclosures; when one partner opens up and discloses, the other ends up disclosing as well. As one partner's disclosure increases in intimacy, so too does the other partner's disclosure. Because self-disclosure is reciprocal, it both influences and is influenced by the intimacy level between two people. Thus, if you want to get to know someone, one strategy is to disclose personal information about yourself to the person you want to get to know. Most likely, this person will open up to you in turn. Over time and over the course of a number of conversations, a relationship becomes increasingly more intimate.

Three important factors determine whether an interaction will be intimate. First is the content of the individual's disclosure. For example, the disclosure of personal desires, fantasies, anxieties, and emotions is more important for the development of intimacy than is the disclosure of facts. This is because the disclosure of emotions provides an opportunity for the partner to validate and demonstrate that he or she cares for, supports, and accepts the individual. The second is the partner's response to the disclosure. When the partner is responsive, feelings of closeness are increased and further communication is facilitated. When a partner is not responsive, he or she is indicating a lack of interest in further conversation and intimacy is decreased. Third is the individual's interpretation of and reaction to the partner's behavior. If the individual perceives the partner as supportive and understanding, the conversation is likely to become more intimate because the individual is likely to disclose again or prompt the partner to disclose. If the individual perceives the partner as unsupportive or intrusive, the conversation is not likely to become intimate. Thus, when disclosure is high, the partner is responsive and the individual perceives the partner as caring, the conversation will most likely become more intimate over time.

Pioneering research by Sidney Jourard revealed that self-disclosure and liking for another person are linked. Later research has demonstrated that people (a) like those who disclose, (b) disclose to those they like, and (c) after disclosing, like the person to whom

they disclosed even more. It feels good to disclose your inner feelings to another, and it is gratifying to be singled out for somebody else's disclosure because it is a signal that they like and trust you. Furthermore, it is rewarding to find out that someone has the same beliefs and values you do.

However, social norms govern appropriate self-disclosure. When people are just getting to know each other, a person who discloses at a medium level of intimacy is better liked than is a person who discloses at a too low or too high level. People like those who disclose at the same level as they do and are deterred by those who are too reserved or too revealing. In addition, a person who reciprocates an intimate self-disclosure is liked more than is a person who reciprocates an intimate disclosure with a superficial one. When a person reciprocates an intimate disclosure with a superficial disclosure, it is a signal that they do not want to get to know the other person and the conversation is not as rewarding. Typically, however, superficial information is disclosed to strangers and more intimate information is disclosed to close others. Revealing highly personal information to a stranger is perceived as inappropriate. For example, it is improper for somebody you barely know to come up to you and reveal the intimate details of his or her sex life. Yet in a close relationship, such a revelation could strengthen the relationship and make two people even closer. A person who reveals too much information early on is perceived by others as unbalanced.

Self-disclosure fosters love as well as liking. Couples who engage in more extensive and intimate self-disclosure to one another tend to have longer, more satisfying relationships. This is because disclosing personal information about yourself is one way to get your needs met, and having your needs met increases feelings of love and affection, companionship, and a sense of belonging. Partners believe that their relationship contains a high level of intimacy when they can express their thoughts, opinions, and feelings to their partners, and feel their partners are able to express themselves as well. This is why many researchers believe that experiencing intimacy through self-disclosure may be the most important factor that determines the health of a relationship.

### Gender and Individual Differences

We expect women to be more expressive than men. When a woman is not expressive, others perceive her as maladjusted. Likewise, men are expected to be

inexpressive, and when a man is expressive, he is perceived as unstable. And, in fact, women tend to disclose more than men do in general. However, although women disclose more to their female friends and to their romantic partners than men do, they do not disclose more to their male friends any more than men do. Furthermore, women tend to elicit self-disclosure from others, even from those who do not usually disclose very much about themselves. One reason for this is that women tend to be responsive listeners, which in turn promotes further disclosure by the speaker.

Traditional gender roles are changing, however, and men are becoming more expressive in the context of their close romantic relationships and view disclosure as an important part of the relationship. Therefore, couples nowadays are exhibiting patterns of full and equal self-disclosure, which has produced relationships that foster mutual respect and trust. Relationships that contain a high level of self-disclosure have been found to be both more intimate and more satisfying for both partners.

Some people are better able to self-disclose than others are. This is because self-disclosure can be threatening. Self-disclosure can leave you vulnerable to rejection, manipulation, and betrayal. Some individuals are so concerned about these dangers of self-disclosure that they have trouble opening up and revealing intimate details about themselves, even in the appropriate contexts. They worry about the impression they are making on others and readily perceive rejection in others' intentions. Consequently, these individuals frequently feel lonely and isolated from others and tend to have fewer close, satisfying relationships with others.

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*See also* Intimacy; Need to Belong; Social Support

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## SELF-DISCREPANCY THEORY

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Self-discrepancy theory was developed in an attempt to answer the following question: Why is it that when people are emotionally overwhelmed by tragedies or serious setbacks in their lives—such as the death of their child, the loss of their jobs, or the break-up of their marriages—some suffer from depression whereas others suffer from anxiety? Even when the tragic event is the same, people’s emotional reactions can be very different. The answer proposed by self-discrepancy theory is that even when people have the same specific goals, such as seniors in high school wanting to go to a good college or older adults wanting a good marriage, they often vary in how they represent these goals. Some individuals represent their goals (or standards), called self-guides in self-discrepancy theory, as hopes or aspirations: ideal self-guides. Other individuals represent their self-guides as duties or obligations: ought self-guides. According to self-discrepancy theory, this difference between ideals and oughts holds the answer to the mystery of people having different emotional reactions to the same negative life events.

### Self-Guides

Self-discrepancy theory proposes that people represent a negative life event as saying something about their current state, their *actual self* now. This actual self is compared with their self-guides, the kind of person they want or desire to be (e.g., going to a good college, having a good marriage). When there is a discrepancy between individuals’ actual self and their self-guides, a *self-discrepancy*, people suffer emotionally. When the actual self is discrepant from an ideal, people feel sad, disappointed, discouraged—dejection-related emotions that relate to depression. When the actual self is discrepant from an ought, people feel nervous, tense, and worried—agitation-related emotions that relate to anxiety. Thus, self-discrepancy theory proposes that people’s emotional vulnerabilities depend on the type of self-guide that motivates their lives: dejection/depression when ideals dominate and agitation/anxiety when oughts dominate.

The rationale behind these predictions is that different emotions are associated with different psychological situations that people experience: Success or failure to meet your ideals produce different psychological situations than success or failure to meet your oughts. Specifically, with an ideal (i.e., one of your hopes and aspirations), you experience success as the presence of a positive outcome (a gain), which is a happy experience, and you experience failure as the absence of positive outcomes (a nongain), which is a sad experience. In contrast, with an ought (i.e., one of your duties and obligations), you experience success as the absence of a negative outcome (a nonloss), which is a relaxing experience, and you experience failure as the presence of a negative outcome (a loss), which is a worrying experience.

Self-discrepancy theory also makes predictions about the kind of parenting that is likely to result in children having strong ideal self-guides and the kind that is likely to result in children having strong ought self-guides. Again, these predictions are based on the underlying idea that self-regulation in relation to ideals involves experiencing successes in the world as the presence of positive outcomes (gains) and failures as the absence of positive outcomes (nongains), whereas self-regulation in relation to oughts involves experiencing successes as the absence of negative outcomes (nonlosses) and failures as the presence of negative outcomes (losses). When children interact with their parents (or other caretakers), the parents respond to the children in ways that make the children experience one of these different kinds of psychological situations. Over time, the children respond to themselves as their parents respond to them, producing the same specific kinds of psychological situations, and this develops into the kind of self-guide (ideal or ought) that is associated with those psychological situations. The pattern of parenting that is predicted to create strong ideals in children is when parents combine bolstering (when managing success) and love withdrawal (when disciplining failure). Bolstering occurs, for instance, when parents encourage the child to overcome difficulties, hug and kiss the child when he or she succeeds, or set up opportunities for the child to engage in success activities; it creates an experience of the presence of positive outcomes in the child. Love withdrawal occurs, for instance, when parents end a meal when the child throws some food, take away a toy when the child refuses to share it, or stop a story when the child is not paying attention; this creates an experience of the absence of positive outcomes in the child.

The pattern of parenting that is predicted to create strong oughts in children is when parents combine prudence (when managing success) and punitive/critical (when disciplining failure). Prudence occurs, for instance, when parents childproof the house, train children to be alert to potential dangers, or teach children to mind their manners; this creates an experience of the absence of negative outcomes in the child. Punitive/critical occurs, for instance, when parents play roughly with children to get their attention, yell at children when they don't listen, or criticize children when they make mistakes; this creates an experience of the presence of negative outcomes.

Self-discrepancy theory makes another distinction: between when individuals' self-guides are from their own independent viewpoint or standpoint ("What are my own goals and standards for myself?") and when individuals' self-guides are from the standpoint of a significant person in their lives, such as their father or mother ("What are my mother's goals and standards for me?"). The theory proposes that there are individual differences in whether it is discrepancies from independent self-guides or discrepancies from significant other self-guides that most determine individuals' emotional vulnerabilities.

## Research

Research testing these predictions of self-discrepancy theory has been conducted with both clinical and non-clinical populations. A questionnaire has been developed that measures individuals' actual self-discrepancies from their ideals and from their oughts (for both their own independent self-guides and their significant others' guides for them). Research with clinically depressed and clinically anxious patients has found that discrepancies between patients' actual selves and their ideal self-guides predict their suffering from depression more than such discrepancies predict their suffering from anxiety disorders, whereas discrepancies between patients' actual selves and their ought self-guides predict their suffering from anxiety disorders more than such discrepancies predict their suffering from depression. Because some individuals have actual-self discrepancies from both their ideal and their ought self-guides, one or the other kind of discrepancy can be made temporarily more active by exposing them either to words related to an ideal they possess or to an ought they possess. When such priming of either an ideal or an ought occurs in an experiment, participants whose actual-ideal discrepancy is

activated suddenly feel sad and disappointed and fall into a depression-like state of low activity (e.g., talk slower). In contrast, participants whose actual-ought discrepancy is activated suddenly feel nervous and worried and fall into an anxiety-like state of high activity (e.g., talk quicker).

The results of many such studies support the predictions of self-discrepancy theory regarding the distinct emotional vulnerabilities from actual-self discrepancies to ideals versus oughts. Moreover, consistent with the underlying logic of the theory, several studies have found that individuals with strong ideals are especially sensitive to events reflecting the absence or the presence of positive outcomes (gains and non-gains), whereas individuals with strong oughts are especially sensitive to events reflecting the presence or absence of negative outcomes (nonlosses and losses). Evidence also supports the predicted parenting relations between bolstering plus love withdrawal parenting and developing strong ideals, and between prudence plus critical/punitive parenting and developing strong oughts. Finally, as predicted, individual differences have been found in whether discrepancies from independent self-guides or discrepancies from significant other self-guides that most determine emotional vulnerabilities. In particular, in North America at least, discrepancies from independent self-guides are a more important determinant of emotional vulnerabilities for males than for females, whereas discrepancies from significant other self-guides are more important for females than for males.

## Impact

Self-discrepancy theory has had both a practical and a theoretical impact. Practically, a new method of clinical treatment for depression and for anxiety, called *self-system therapy*, is based on the conceptual and empirical contributions of self-discrepancy theory. This new therapy has been shown to help some patients more than does standard drug treatment or cognitive-behavioral therapy. Studies have also found that actual-self discrepancies from ideals is a vulnerability factor for bulimic eating disorders, whereas discrepancies from oughts is a vulnerability factor for anorexic eating disorders. Theoretically, the psychological mechanisms identified by self-discrepancy theory were the foundation for another psychological theory, regulatory focus theory, which itself has increased understanding of the motivational underpinnings of decision making and performance. What self-discrepancy theory highlights

is that it is not the specific goals of people that are critical. Rather, the more general concerns, the viewpoints on how the world works—a world of gain and nongains or a world of nonlosses and losses—determine the quality of people’s emotional and motivational lives.

*E. Tory Higgins*

*See also* Anxiety; Bulimia; Depression; Goals; Emotion; Self-Awareness; Self-Concept

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## SELF-EFFICACY

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### Definition

Self-efficacy is defined as people’s beliefs in their capabilities to produce desired effects by their own actions. Self-efficacy theory maintains that self-efficacy beliefs are the most important determinants of the behaviors people choose to engage in and how much they persevere in their efforts in the face of obstacles and challenges. Self-efficacy theory also maintains that these self-efficacy beliefs play a crucial role in psychological adjustment, psychological problems, and physical health, as well as in professionally guided and self-guided behavioral change strategies.

Since the publication of Albert Bandura’s 1977 *Psychological Review* article titled “Self-Efficacy:

Toward a Unifying Theory of Behavior Change,” the term *self-efficacy* has become ubiquitous in psychology and related fields. Hundreds of articles on every imaginable aspect of self-efficacy have appeared in journals devoted to psychology, sociology, kinesiology, public health, medicine, nursing, and other fields. This article addresses three basic questions: What are self-efficacy beliefs? Where do they come from? Why are they important?

### History and Background

Although the term *self-efficacy* is recent, interest in beliefs about personal control has a long history in philosophy and psychology. Benedict Spinoza, David Hume, John Locke, William James, and (more recently) Gilbert Ryle have all struggled with understanding the role of volition and the will in human behavior. In the 20th century, the theories of effectance motivation, achievement motivation, social learning, and learned helplessness are just a few of the many theories that sought to explore relationships between perceptions of personal competence and human behavior and psychological well-being. Bandura’s 1977 article, however, both formalized the notion of perceived competence as self-efficacy and offered a theory of how it develops and how it influences human behavior and defined it in a way that made scientific research on it possible. The essential idea was not new; what was new and important was the empirical rigor with which this idea could now be examined. Bandura also has placed self-efficacy theory in the context of his broader social cognitive theory.

### What Are Self-Efficacy Beliefs?

One of the best ways to get a clear sense of how self-efficacy is defined and measured is to distinguish it from related concepts. Self-efficacy is not *perceived skill*; it is what one believes one can do with one’s skills under certain conditions. Self-efficacy beliefs are not simply *predictions* about behavior. Self-efficacy is concerned not with that one believes one *will* do but with what one believes one *can* do. Self-efficacy is not an *intention* to behave or an intention to attain a particular goal. An intention is what one says one will probably do, and research has shown that intentions are influenced by several factors, including, but not limited to, self-efficacy beliefs. A self-efficacy belief is

not the same as a *goal* but is a belief about one's ability to do what it takes to achieve one's own goals. Self-efficacy is not *self-esteem*. Self-esteem is what one generally believes about oneself, and how one generally feels about what one believes about oneself. Self-efficacy beliefs are specific beliefs about exercising specific abilities in specific domains. Self-efficacy is not a *motive*, *drive*, or *need for control*. One can have a strong need for control in a particular domain but still hold weak beliefs about one's self-efficacy for that domain. Self-efficacy beliefs are not *outcome expectancies* (or *behavior-outcome expectancies*). An outcome expectancy is one's belief that a specific behavior may lead to a specific outcome in a specific situation. A self-efficacy belief, simply put, is one's belief that one can perform the behavior that produces the outcome. Self-efficacy is not a *personality trait* but, rather, beliefs about one's own ability to coordinate skills and abilities to attain desired goals in particular domains and circumstances. Self-efficacy beliefs can generalize from one situation to another, but specific self-efficacy beliefs are not caused by a personality trait called *general self-efficacy*.

### Where Do Self-Efficacy Beliefs Come From?

Self-efficacy beliefs develop over time and through experience. The development of such beliefs begins in infancy and continues throughout life. The early development of self-efficacy is influenced primarily by two interacting factors: the development of the capacity for symbolic thought, particularly the capacity for understanding cause-effect relationships, and the capacity for self-observation and self-reflection. The development of a sense of personal agency begins in infancy and moves from the perception of the causal relationship between events to an understanding that actions produce results, to the recognition that one can produce actions that cause results. Children must learn that one event can cause another event, that they are separate from other things and people, and that they can be the origin of actions that effect their environments. As children's understanding of language increases, so does their capacity for symbolic thought and, therefore, their capacity for self-awareness and a sense of personal agency.

Second, the development of self-efficacy beliefs is influenced by the responsiveness of environments,

especially social environments, to the infant or child's attempt at manipulation and control. Environments that are responsive to the child's actions facilitate the development of self-efficacy beliefs, whereas nonresponsive environments retard this development. Parents can facilitate or hinder the development of this sense of agency by their responses to the infant or child's actions and by encouraging and enabling the child to explore and master his or her environment.

Self-efficacy beliefs and a sense of agency continue to develop throughout the life span as people continually integrate information from five primary sources, presented here in roughly their descending order of importance in shaping self-efficacy beliefs. People's own performance experiences—their own attempts to control their environments—are the most powerful source of self-efficacy information. Successful attempts at control that one attributes to one's own efforts will strengthen self-efficacy for that behavior or domain. Perceptions of failure at control attempts usually diminish self-efficacy. Self-efficacy beliefs are influenced also by observations of the behavior of others and the consequences of those behaviors—referred to as *vicarious experiences*. People use this information to form expectancies about their own behavior and its consequences. People also can influence self-efficacy beliefs by imagining themselves or others behaving effectively or ineffectively in hypothetical situations. Self-efficacy beliefs can be influenced by verbal persuasion—what others say to a person about what they believe the person can or cannot do. The potency of verbal persuasion as a source of self-efficacy expectancies will be influenced by such factors as the expertness, trustworthiness, and attractiveness of the source. Physiological and emotional states influence self-efficacy when a person learns to associate poor performance or perceived failure with aversive physiological arousal and success with pleasant feeling states. In activities involving strength and stamina, such as exercise and athletic performances, perceived self-efficacy is influenced by such experiences as fatigue and pain.

### Why Are Self-Efficacy Beliefs Important?

Self-efficacy beliefs influence everyday behavior in multiple and powerful ways. Most philosophers and psychological theorists agree that a sense of control over one's behavior, one's environment, and one's own

thoughts and feelings is essential for happiness and a sense of well-being. Feelings of loss of control are common among people who seek the help of psychotherapists and counselors. Self-efficacy beliefs play a major role in several common psychological problems, as well as in successful interventions for these problems. Low self-efficacy expectancies are an important feature of depression. Depressed people usually believe they are less capable than are other people of behaving effectively in many important areas of life. Dysfunctional anxiety and avoidant behavior are often the direct result of low self-efficacy expectancies for managing threatening situations. Self-efficacy beliefs play a powerful role in attempts to overcome substance abuse problems and eating disorders. For each of these problems, enhancing self-efficacy for overcoming the problem and for implementing self-control strategies in specific challenging situations is essential to the success of therapeutic interventions.

Self-efficacy beliefs influence physical health in two ways. First, they influence the adoption of healthy behaviors, the cessation of unhealthy behaviors, and the maintenance of behavioral changes in the face of challenge and difficulty. All the major psychological theories of health behavior, such as protection motivation theory, the health belief model, and the theory of reasoned action/planned behavior include self-efficacy as a key component. In addition, enhancing self-efficacy beliefs is crucial to successful change and maintenance of virtually every behavior crucial to health, including exercise, diet, stress management, safe sex, smoking cessation, overcoming alcohol abuse, compliance with treatment and prevention regimens, and disease detection behaviors such as breast self-examinations.

Second, self-efficacy beliefs influence a number of biological processes that, in turn, influence health and disease. Self-efficacy beliefs affect the body's physiological responses to stress, including the immune system. Lack of perceived control over environmental demands can increase susceptibility to infections and hasten the progression of disease. Self-efficacy beliefs also influence the activation of catecholamines, a family of neurotransmitters important to the management of stress and perceived threat, along with the endogenous painkillers referred to as endorphins.

Self-efficacy beliefs are also crucial to successful self-regulation. Self-regulation depends on three interacting components: goals or standards of performance, self-evaluative reactions to performance, and self-efficacy beliefs. Goals are essential to self-regulation because people attempt to regulate their actions,

thoughts, and emotions to achieve desired outcomes. Self-evaluative reactions are important in self-regulation because people's beliefs about the progress they are making (or not making) toward their goals are major determinants of their emotional reactions during goal-directed activity. These emotional reactions, in turn, can enhance or disrupt self-regulation. Self-efficacy beliefs influence self-regulation in several ways. First, self-efficacy influences the goals people set. The higher people's self-efficacy in a specific achievement domain, the loftier will be the goals that they set for themselves in that domain. Second, self-efficacy beliefs influence people's choice of goal-directed activities, expenditure of effort, persistence in the face of challenge and obstacles, and reactions to perceived discrepancies between goals and current performance. Strong self-efficacy beliefs make people more resistant to the disruptions in self-regulation that can result from difficulties and setbacks. As a result, strong self-efficacy beliefs lead people to persevere under difficult and challenging circumstances. Perseverance usually produces desired results, and this success then strengthens self-efficacy beliefs. Third, self-efficacy for solving problems and making decisions influences the efficiency and effectiveness of problem solving and decision making. When faced with complex decisions, people who have confidence in their abilities to solve problems use their cognitive resources more effectively than do those people who doubt their cognitive skills. Such self-efficacy usually leads to better solutions and greater achievement.

Self-efficacy beliefs are crucial to the success of psychotherapy and other interventions for psychological problems. Different interventions, or different components of an intervention, may be equally effective because they equally enhance self-efficacy beliefs for crucial behavioral and cognitive skills. Self-efficacy theory emphasizes the importance of arranging experiences designed to increase the person's sense of self-efficacy for specific behaviors in specific problematic and challenging situations. Self-efficacy theory suggests that formal interventions should not simply resolve specific problems, but should provide people with the skills and sense of self-efficacy for solving problems themselves.

The notion of self-efficacy can also be extended from the individual to the group through the concept of collective efficacy—the extent to which members of a group or organization believe that they can work together effectively to accomplish shared goals. Collective efficacy has been found to be important in several

domains. The more efficacious that spouses feel about their shared ability to accomplish important shared goals, the more satisfied they are with their marriages. The collective efficacy of an athletic team can be raised or lowered by false feedback about ability and can subsequently influence its success in competitions. The individual and collective efficacy of teachers for effective instruction seems to affect the academic achievement of school children. The effectiveness of work teams and group brainstorming also seems to be related to a collective sense of efficacy. Researchers also are beginning to understand the origins of collective efficacy for social and political change.

*James E. Maddux*

*See also* Achievement Motivation; Control; Depression; Learned Helplessness; Reasoned Action Theory; Self-Regulation; Social Learning; Stress and Coping

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## SELF-ENHANCEMENT

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### Definition

People engage in self-enhancement whenever they seek, interpret, or distort evidence about themselves in a way designed to maintain, create, or amplify a positive self-image. Self-enhancement is cognitive or interpersonal activity aimed at boosting beliefs that one is a lovable and capable human being. A related concept is *motivated reasoning*, which is thought that is expressly aimed at reaching congenial conclusions about one's self and place in the world.

Self-enhancement needs to be distinguished from other similar activities that people may engage in.

*Self-improvement* refers to the motive to become a better individual in reality; self-enhancement instead refers to the motive to create the perception that one is a competent and capable individual, regardless of reality. *Self-assessment* refers to the motive to obtain an accurate view of the self, whether that view be positive or negative; people engage in self-enhancement when they shade their treatment of the evidence toward creating positive perceptions of self. *Self-verification* refers to activity people engage in to confirm previously held notions about themselves, whether those perceptions be desirable or undesirable; people engaging in self-enhancement only want to confirm the desirable and deny the undesirable in themselves.

Self-enhancement is also related to a *self-protection* motive. People engage in self-protection when they strive to deny undesirable aspects of themselves. Self-enhancement refers to claiming as much good as one can about one's strengths and achievements. Self-enhancement is also related to, but different from, a *self-presentation* motive, which is creating a positive self-image to convince other people that one is competent and capable, regardless of what one believes about one's self.

### History and Evidence

The idea that people manage information about themselves to convince themselves that they are capable beings has a long history, at least in Western thought. Indeed, in ancient Greece, the Epicureans raised self-enhancement to a moral principle, asserting that people should entertain only those thoughts about themselves that gave them pleasure.

Scholars in Western thought and in psychology have long assumed that people gather and distort evidence about themselves to maintain positive self-images, and modern psychology has spent a good deal of effort cataloging many of the tactics that people use in the service of self-enhancement. A few of the major ones, all somewhat interrelated, are discussed here.

### *Biased Hypothesis Testing*

People frame the questions they ask themselves to bolster a perception of competence and success. For example, if students contemplate whether they will obtain a good job after they graduate, they usually frame the question as, "Will I get a good job?" Framing the question in this way tends to make people think about positive evidence of success (e.g., "Gee,

I've gotten good grades so far"). People do not adopt a frame that would pull for negative evidence, such as using a negative frame like "Will I fail to get a good job?" Asking the question this way tends to pull for negative and unpleasant evidence (e.g., "Gee, a lot of other people have good grades, too").

### ***Breadth of Categorization***

People adopt broad categorizations to describe their successes and narrow ones to characterize their failures. Suppose two people take a test of South American geography. The first does well and is likely to categorize the behavior broadly as indicating intelligence and worldliness. The second person does poorly and is likely to conclude narrowly that this performance only indicates that he or she does not know much about that particular continent.

### ***Self-Serving Attributions***

People reach self-serving conclusions about the causes of their successes and failures. People who succeed make internal attributions and give credit to themselves, thus enhancing their self-images as capable human beings. People who fail make external attributions and blame the failure on luck, difficulty of the task, or some outside agent, thus avoiding the conclusion that their failures indicate personal weakness.

### ***Differential Scrutinization of Good and Bad News***

People tend to accept good news at face value. They hold bad news to a higher standard and scrutinize it more closely. For example, if people take a medical test that shows that they are healthy, they accept the verdict and move on. However, if the test indicates they have a health problem, they are likely to search more carefully for reasons to accept or reject the test's verdict—or even ask to retake the test.

### ***Differential Discounting of Good and Bad News***

Whereas people take self-enhancing news at face value, and thus rarely question it, they try to find reasons to discount, dismiss, or belittle bad news. That is, the scrutiny that people give to bad news is often not even-handed but instead an attempt to find ways to discredit the evidence. If a student fails a course exam,

he or she might expressly look for reasons to suggest that his or her failure was an aberration. The student might conclude that he or she was ill the night before the test, or that the questions on the test were picky, or the professor unfair. The key for this student is that he or she is discounting the relevance of the test performance for predicting future outcomes.

### ***Re-Analyzation of Importance***

If people fail in their attempts to discount or dismiss bad news, they may then downplay the importance of the outcome. For example, if a pre-medical student unambiguously fails a math test, he or she might decide that knowing math is not all that important for being a good doctor. On the other hand, students excelling at a task may decide that it is an important one. A student who aces the same math test may decide that mathematical ability is an essential attribute for being a successful doctor.

### ***Definition of Success***

People may also define success in ways to ensure a positive image of self. People often want to claim positive traits, such as intelligent, for themselves. One easy route to do so is to define those traits in ways that ensure a positive self-concept. A person who is good at math, knows a foreign language, and can play the violin can guarantee a positive self-image by merely concluding that those skills are central to intelligence. Students who lack those skills can de-emphasize those skills in their definition of intelligence and instead emphasize those idiosyncratic skills that they possess.

## **Implications**

A lifetime of self-enhancement activity can leave one with significantly distorted and unrealistic views of self. And, indeed, a good deal of recent research suggests that people tend to hold positive views of themselves that simply cannot be true. These unrealistic self-views are exhibited in a number of ways. Here are some of the ones that have received the most attention in recent research.

### ***Above-Average Effects***

People on average think they are anything but average. The typical person, for example, thinks he or she

is more disciplined, socially skilled, idealistic, and moral than the average person, but this is impossible. It is impossible for the average person to be above average, given the logic of mathematics. People also think they are more likely to achieve positive outcomes (have a happy marriage, get a high-paying job) and less likely to face aversive ones (get fired, contract cancer) than are their peers, although, again, it is mathematically impossible for the average person to be more likely to achieve good outcomes and avoid bad ones than the mathematical average.

### **Overpredictions of Desirable Actions and Outcomes**

When forecasting the future, people overpredict the chance that they will take desirable actions and achieve favored outcomes. Business school students overpredict the likelihood that they will receive a high-paying offer. College students overpredict, for example, how likely they are to give to charity, vote, and maintain their romantic relationships. These types of overpredictions can have economic consequences: People often predict they will work out frequently when they buy gym memberships—and then fail to go to the gym on more than a sporadic basis. Indeed, often, they would have been better off financially if they had just paid for the few individual visits they actually did manage to make rather than buying the more expensive membership.

One caveat, however, must be made about the motive to self-enhance and the unrealistic self-images that the motive creates. Researchers have found ample evidence that people consistently engage in self-enhancement in North America and Western Europe, but there is increasing (albeit controversial) evidence that people in some other parts of the world do not engage in such activity. Namely, people in Far East Asia appear not to extol the positive in themselves and to deny the negative. Indeed, they show signs of attuning to failures and weaknesses so that they may improve upon them. They also show less evidence of the above-average effect described earlier. As such, the motive to self-enhance may be pervasive, but only within certain cultures.

*David Dunning*

**See also** Motivated Reasoning; Self-Affirmation Theory; Self-Evaluation Maintenance; Self-Presentation; Self-Serving Bias

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## **SELF-ESTEEM**

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### **Definition**

*Self-esteem* is such a commonly used term you probably already know what it is: thinking highly of yourself. You have probably heard self-esteem mentioned on talk shows, in magazine articles, and even in popular songs (the song “The Greatest Love of All” is about loving yourself, and there’s a song by the band The Offspring called “Self-Esteem.”) But social psychology research has discovered a lot of things about self-esteem that have not yet made it to popular culture, and this research might surprise you.

Academic psychologists recognize two types of self-esteem. The first is general self-esteem, often measured using the Rosenberg Self-Esteem Scale (which includes items such as “I take a positive attitude toward myself”). The second type of self-esteem is specific, often measuring self-esteem in a particular domain such as school, work, athletics, or appearance. These subdomains are then combined to form a complete self-esteem score (for example, in scales such as the Tennessee Self-Concept Scale or the Coopersmith Self-Esteem Inventory). Although nonpsychologists sometimes use the term *self-esteem* to refer to body and appearance concerns, a psychologist is more specific and instead calls these *body image* or *appearance self-esteem*.

People high in self-esteem seem to know more about themselves and their preferences. They can furnish longer lists of their likes and dislikes, and they are more confident about their self-ratings. They are also more self-serving; they are more likely to take credit for their successes and blame outside sources for their failure. Self-esteem is also correlated with emotional stability: People with low self-esteem experience negative moods more often and report more fluctuation in their moods.

## Differences and Predictors

Which groups of people are high in self-esteem, and which are low? You might have heard that teenage girls have very low self-esteem, but this is not true. Men and boys do score higher on self-esteem than women and girls, but the difference is small; gender explains only about 1% of the differences in self-esteem (this number tells you how much of the variation in self-esteem is caused by a specific variable—here, gender—rather than by other factors). The gap does widen a bit during adolescence, with gender explaining about 2.6% of the differences and boys scoring higher. But this doesn't happen because girls' self-esteem drops at adolescence; girls' self-esteem rises between middle school and high school, but just not as much as boys' does. Between high school and college, women's self-esteem increases sharply, and the gender difference shrinks back to 1% of the variance.

Are rich and well-educated people higher in self-esteem? Yes, but not by much—socioeconomic status explains less than 1% of the variance in self-esteem. The correlation between socioeconomic status and self-esteem peaks during middle age, but even then, it accounts for only 1.5% of the differences. So social status and money are only very weak predictors of self-esteem.

What about racial and ethnic differences—are racial minorities, many of whom experience prejudice, more likely to be low in self-esteem? The answers here are complex: Overall, racial differences in self-esteem seem to be caused more by cultural differences than by racial discrimination. Black Americans, who probably experience the most prejudice and discrimination in the United States, actually score higher in self-esteem than are White Americans (though this is yet another of those 1% of the variance small findings). This might occur because they protect their self-esteem by attributing criticism to prejudice (a theory called *stigma as self-protection*). However, Hispanic Americans score lower than Whites do in self-esteem (though this is a very small difference accounting for only about .2% of the variance), and they experience prejudice as well. So prejudice alone cannot explain why Blacks score higher on self-esteem measures. Cultural differences provide a more consistent explanation. Black American culture champions self-respect, whereas Asian cultures emphasize humility and self-criticism. Sure enough, Asian Americans score lower

on self-esteem than do Whites, a somewhat larger difference that explains 2.2% of the variance. Asians living in Asia score even lower compared with White Americans, a difference that explains about 4.5% of the variance. These differences are all consistent with the idea that cultural ideas about the self influence levels of self-esteem.

Cultural differences can happen over time and generations as well. The culture of 1950s America was very different from the culture of 1990s America, and one of the main differences is the increased emphasis on the self during recent decades. And indeed, 1990s college students scored higher on self-esteem measures than did 1960s college students, a difference that explains 9% of the variance in self-esteem scores. Overall, culture (of time and regions) is a stronger influence on self-esteem than is being a certain race, gender, or income level.

## Outcomes

So what does self-esteem cause? In psychological language, what are the outcomes of self-esteem? You might have heard that high self-esteem leads to better academic achievement and less bad behavior like aggression and teen pregnancy. However, a large body of research suggests that this is not the case. Self-esteem does explain about 5% of the variance in school achievement, a small but statistically significant effect. However, as in any correlational study, there are three possibilities: High self-esteem could cause school achievement, school achievement could cause high self-esteem, or a third variable (such as income level) could cause both. To use a common analogy, the horse could be pulling the cart, or things could be reversed and the cart has been put before the horse. A third variable resembles the horse and the cart being towed on a flatbed truck: Neither the cart nor the horse is causing the motion in the other even though they are moving together.

Most studies have found that achievement leads to self-esteem, not vice versa. Another set of studies finds that controlling for third variables (such as family income) eliminates the correlation. This occurs because rich kids are both higher in self-esteem and do better in school. Self-esteem is also not consistently correlated with alcohol and drug abuse or teen pregnancy. Some studies have found that high self-esteem actually predicts earlier intercourse among teens. Overall, self-esteem does not seem to cause good outcomes for kids; the two are unrelated.

Despite this research, numerous school programs aim to increase children's self-esteem. A 2006 Google search showed that more than 300,000 elementary schools mention self-esteem in their mission statements. Most of these say that they seek to encourage or develop children's self-esteem. Some of these programs promote self-esteem without rooting it in achievement, in the belief that children should feel good about themselves no matter what they do. Although the results of these programs are continuing to be debated, it seems likely that they will not have much impact if self-esteem does not cause achievement and good behavior (which appears to be the case).

There has recently been some debate about whether low self-esteem leads to antisocial behavior. Experimental lab studies consistently find no correlation between self-esteem and aggression. Two recent correlational studies, however, found that low self-esteem was correlated with delinquent behavior in a sample of adolescents, even after controlling for academic achievement, income, and parental support. Other variables, such as associating with delinquent friends, might explain the effect, which accounts for about 4% of the variance in delinquent behavior. Overall, the evidence suggests that self-esteem is not correlated with aggression, but that low self-esteem is linked to a slightly higher incidence of delinquent behavior.

Some evidence also indicates that low self-esteem is linked to eating disorders such as anorexia and bulimia. However, low self-esteem only predicts eating disorders when women are perfectionistic and feel overweight. Low self-esteem might also follow, rather than precede, eating disorders: People might start to feel badly about themselves after they develop an eating disorder.

One thing self-esteem does strongly predict is happiness. People who are high in self-esteem report being happy, and they are also less likely to be depressed. However, these studies have not proven causation and ruled out other third variable explanations, so further research needs to be done: It is not yet known if self-esteem causes happiness, happiness causes self-esteem, or if some other variable causes both. Self-esteem also leads to greater persistence on tasks, though the causation is not known here, either, and self-control is a better predictor of persistence. Self-esteem is also correlated with greater relationship confidence. High self-esteem people who experience a threat to their self-worth are subsequently more certain of their partners' regard for them; in contrast, low

self-esteem people began to doubt their partners' feelings, which can cause problems in the relationship.

The stability of self-esteem also plays a role. People whose self-esteem fluctuates wildly, or whose self-esteem heavily depends on a particular outcome, are more likely to be depressed and anxious. Stable self-esteem, and self-esteem that does not depend on certain things happening, is correlated with better mental health.

## Origins

Where does self-esteem come from, and how does it develop in a child? One theory proposes that self-esteem is a sociometer, or a gauge of how accepted people feel by other people. Thus, self-esteem arises from feeling loved by others and belonging to groups. This theory also helps explain the main difference between self-esteem and narcissism. Narcissism is an inflated sense of self, but it goes beyond simply having very high self-esteem. Narcissists believe that they are better than others in achievement realms such as intellectual ability and sports. However, they acknowledge that they are not particularly friendly or moral. Perhaps as a result, narcissism is correlated with poor relationship outcomes: Narcissists lack empathy, are more likely to derogate their partners, and are more likely to cheat. They are also more aggressive in response to threat.

## Implications

People are very motivated to preserve their self-esteem and good feelings about themselves, and this motive explains a surprising amount of human behavior. Many people tend to credit themselves when things go well, and blame others or luck when things go badly. This is called *self-serving bias*, and you can easily see how it preserves good self-feelings. Self-esteem boosting also explains ingroup bias, in which people believe that their own group is better than other groups. In other words, prejudice against people unlike ourselves may be rooted in our desire to feel good about ourselves. One set of researchers believes that the ultimate self-preservation—pushing away thoughts about death—explains patriotism and ingroup bias. They find that when people are reminded of death, they strongly defend their own worldviews. Another study found that when high self-esteem people are threatened, they respond by acting more boastful and rude.

Overall, self-esteem does not explain as many things as most people believe it does. Self-esteem is

good for relationships, but only if it does not cross over into narcissism. People with high self-esteem are happier, but their self-esteem does not cause good things to happen in their lives. Instead, the pursuit of self-esteem can sometimes lead people to behave in ways that they might later regret.

*Jean M. Twenge*

*See also* Contingencies of Self-Worth; Happiness; Narcissism; Self-Esteem Stability; Sociometric Status; Threatened Egotism Theory of Aggression

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## SELF-ESTEEM STABILITY

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### Definition

Some people possess immediate feelings of self-worth that fluctuate considerably from day to day or even within a given day. These people are said to have unstable self-esteem. Other people possess immediate feelings of self-worth that rarely, if ever, change. These people are said to have stable self-esteem. Consider Ashley who, when asked to consider the question “How worthy a person do you feel at this moment?” each morning and evening for 5 days, gives answers that vary considerably from “I feel very worthy” to “I feel useless.” Ashley possesses unstable self-esteem. In contrast, Heather’s responses to that same question remain essentially the same over the same period (“I feel very worthy”), as do Mark’s responses (“I feel pretty useless”). Both Heather and Mark possess stable self-esteem. Importantly, considerable research indicates that the degree to which one’s self-esteem is stable or unstable has important implications for one’s psychological health and well-being.

### Unstable Self-Esteem

Unstable self-esteem reflects fragile and vulnerable feelings of self-worth that are affected by positive and negative experiences that either are internally generated (i.e., a person’s own negative self-evaluations) or externally provided (e.g., getting an A+ on an exam). Moreover, people with unstable self-esteem are said to be highly ego-involved in their everyday activities, which means that they experience their self-esteem as continually *being on the line* as they go about their lives. For example, whereas someone with unstable self-esteem feels stupid and worthless (reactions that imply negative feelings of self-worth) after receiving a poor grade, someone with stable self-esteem feels badly (e.g., feels disappointed or frustrated) about his or her performance without implicating his or her overall feelings of self-worth. Researchers have examined a number of implications of the heightened self-esteem investment of individuals with unstable self-esteem.

First, daily negative events have a greater adverse impact on individuals with unstable as opposed to stable self-esteem. Researchers found that daily hassles (those irritating events that people experience at times, such as having too much work to do or not enough money to buy what they want), or doing poorly on an important exam, triggers greater increases in depressive symptoms among people with unstable as opposed to stable self-esteem.

Second, people with unstable self-esteem are especially concerned about, and responsive to, potential self-esteem threats. Among sixth-grade children, those with unstable self-esteem report that they are more likely to get angry because of the self-esteem threat (e.g., feeling weak) rather than the goal-thwarting aspect (e.g., having to be thirsty longer) of negative interpersonal events (e.g., someone butting ahead of you in line at the water fountain).

Third, everyday positive and negative events have a greater immediate impact on the self-feelings of people with unstable as opposed to stable self-esteem. When asked to rate the extent to which their most positive and negative daily events made them feel better or worse about themselves over a 2-week period, college students with unstable as opposed to stable self-esteem reported that positive events made them feel better about themselves and negative events made them feel worse about themselves to a greater extent.

Fourth, people with unstable self-esteem have a weaker sense of self (i.e., are less self-determining,

have relatively confused self-concepts) than do people with stable self-esteem. Possessing a strong sense of self is a marker of positive mental health. Research has shown that individuals who feel autonomous and self-determining (i.e., make choices about how to behave based on their own values and interests) have more positive mental health than do individuals who feel controlled and pressured about how to behave by outside people and events. The same is true for individuals who have a clear rather than confused sense of their identity. Researchers have shown that, compared with individuals with stable self-esteem, individuals with unstable self-esteem report feeling less autonomous and self-determining and have less clear self-concepts than do individuals with stable self-esteem.

### Childhood Factors

Of considerable importance is the role that family environments play in the development of children's self-esteem. Researchers asked 12- and 13-year-old children to report individually on how their mothers and fathers communicated with them. Importantly, children's perceptions of many aspects of parent-child communication patterns (especially with respect to fathers) related to the extent to which they possessed unstable self-esteem. For example, children who perceived their fathers to be highly critical, to engage in insulting name calling, and to use guilt arousal and love withdrawal as control techniques, had more unstable (as well as lower) self-esteem than did children who did not perceive their fathers in this manner. Moreover, compared with children with stable self-esteem, children with unstable self-esteem indicated that their fathers less frequently talked about the good things that they (the children) had done and were less likely to use value-affirming methods (e.g., hug or spend time with them) when they did show their approval. Still other findings indicated that, compared with fathers of children with low self-esteem, fathers of children with stable high self-esteem, but not unstable high self-esteem, were perceived as using better problem-solving methods to solve disagreements with their children. Perceptions of mothers' communication styles more consistently related to children's self-esteem level than to their self-esteem stability. The findings for self-esteem stability that did emerge, however, were largely consistent with those that emerged for fathers.

### Levels of Self-Esteem

Level of self-esteem refers to people's general or typical feelings of self-worth, whereas stability of self-esteem refers to whether people's immediate feelings of self-worth exhibit considerable short-term fluctuations. These two self-esteem components (level, stability) are relatively independent of each other. Thus, people can have high self-esteem that is stable or unstable, or low self-esteem that is stable or unstable. Considerable research indicates that whereas unstable high self-esteem is fragile, stable high self-esteem is secure. For example, people with unstable high self-esteem are more defensive and self-promoting than are their stable high self-esteem counterparts, yet they are lower in psychological health and well-being. Feelings of self-worth are more brittle among unstable as compared with stable high self-esteem individuals. Compared with individuals with stable high self-esteem, individuals with unstable high self-esteem are more (a) prone to anger and hostility, (b) likely to show increased depression in the face of daily hassles, (c) verbally defensive when interviewed about potentially threatening events in their past, (d) likely to report increased tendencies to get even in response to hypothetical romantic partner transgressions, and (e) likely to report lower quality romantic relationships. These and other findings indicate that stable high self-esteem is a healthy form of self-esteem whereas unstable high self-esteem is an unhealthy form of self-esteem. Thus, a more complete understanding of self-esteem requires taking into consideration both level and stability of self-esteem.

*Michael H. Kernis*

*See also* Contingencies of Self-Worth; Narcissism; Self-Esteem

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## SELF-EVALUATION MAINTENANCE

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Sometimes the success of others is a source of good feelings. People take pride in their friends' or their spouse's accomplishments, and this brings people closer to their friends or spouse. Sometimes the accomplishments of friends are threatening and may even disrupt the relationships. These kinds of complex interpersonal dynamics are the focus of the self-evaluation maintenance (SEM) model.

The SEM model is based on two broad assumptions: (1) People want to maintain a positive evaluation of the self. (2) The way people evaluate themselves is at least partially determined by the accomplishments of the people around them, particularly the people to whom they are close. These assumptions appear to be useful in understanding a variety of social and personal behaviors. The SEM model specifies two antagonistic processes: A comparison process in which a close other's achievements are threatening and could lead to changes in self-identity and negative consequences for the interpersonal relationship, and a reflection process in which a close other's good performance has positive personal and relational consequences.

### Reflection and Comparison Processes

Everyone has seen the reflection process in action. Imagine a conversation at a cocktail party. Inevitably someone casually lets it be known that he or she has some connection with someone who is notably rich, smart, creative, well connected, and so on. That person has not been instrumental in the accomplishments of those others, so it appears as if he or she points out these associations simply to bask in reflected glory. Such associations appear to raise the individual's self-evaluation and are associated with feelings such as pride in the other.

The reflection process has two distinct components: closeness and performance. The reflection process is not enabled by any successful other person.

To bask in reflected glory, one must have some connection to the other. Thus, closeness counts. Closeness is defined in very broad terms. Anything that psychologically connects one individual to another increases closeness. Closeness may be based on similarity, family relationships, geographic proximity, and so on.

The second component of the reflection process is the other's performance. If the other's performance is not particularly good, then regardless of how psychologically close he or she is, self will not gain in reflected glory. For example, it is difficult to imagine anyone basking in the reflected glory of a neighbor who tried out for the local orchestra but was not selected or a cousin who was the 25th out of 100 to be eliminated in a spelling bee.

According to the SEM model, the closeness and performance components combine multiplicatively. If there is no association between self and another, then even if that other's performance is superb, there is little potential for gains to the self via reflection. When closeness goes to zero, the level of performance ceases to matter—anything multiplied by zero is zero. In short, the reflection process will produce gains in self-evaluation to the extent that another is psychologically close and that his or her performance is good.

A close other's good performance can raise self-evaluation through the reflection process, but it can also lower self-evaluation through the comparison process. Self's own performance pales in comparison with that of someone who performs better, resulting in a lower self-evaluation and emotions such as envy and jealousy, and decreases in pride. Closeness and performance also play a leading role in the comparison process. If a person has nothing in common with another person, if a person is different with respect to age, gender, race, ethnicity, and so forth, he or she is unlikely to draw comparisons with the other person. However, if the other is psychologically close, comparison processes are more likely to be engaged. A performance that is better than one's own can be a blow to self-evaluation, whereas a mediocre performance is not threatening. Again, closeness and performance combine multiplicatively. If there is no connection to the other person, that is, closeness, then even if the other's performance is superb, there is little threat from comparison. If the others' performance is mediocre, not as good as one's own, then regardless of how close the other is, there is little threat from comparison.

### ***Weighting by Relevance***

The reflection and comparison processes have identical components but opposite effects on self-evaluation. However, these processes are generally not equally important. Sometimes self-evaluation will be more affected by the reflection process; other times self-evaluation will be more affected by the comparison process. Which process will be more or less important is determined by the relevance of the other's performance to one's self-definition.

People recognize and value good performance on any number of dimensions: marathon running, violin playing, and so on. One's own aspirations, however, exist only with respect to a small subset of these. A person wants to be a good cabinetmaker, or a good tennis player, or a physician. But almost no one aspires to all these things. Another's performance, then, is relevant to the extent that it is on one of those few dimensions that are self-defining for a person. (A performance dimension is any dimension that has a "good" pole and along which it is possible to rank order people. For example, even though beauty does not require the kind of skill we usually think of when we think of performance, it is better to be beautiful than ugly and it is possible to rank order people with respect to their looks.) Thus, if one aspires to be a good surfer, but does not play the piano, then another's surfing performance is high in relevance but his or her piano performance is not.

The relevance of another's performance increases the importance of the comparison process relative to the reflection process. When relevance is high, a good performance by another is threatening to self-evaluation (via comparison) and the closeness of that other increases the threat. When relevance is low, another's good performance will bolster one's self-evaluation (via reflection), especially when that other is close.

### **Understanding and Predicting Behavior**

The reflection and comparison processes are crucial to understanding and predicting behavior. However, only performance, closeness, and relevance actually manifest themselves in behavior, and the theory aspires to predict and understand performance, closeness, and relevance. The predictions derived from the SEM model regarding performance, closeness, and relevance have been confirmed in several studies.

### ***Predicting Performance***

When will a person help another do well? Who is most likely to receive such help? According to the SEM model, when relevance is high, the comparison process is important and another's good performance is threatening to self-evaluation, particularly the performance of a close other. Thus, to avoid the threat of being outperformed, when relevance is high, the model predicts interference rather than helping, particularly when the other person is close. When relevance is low, the reflection process is important. The good performance of another provides a potential gain to self-evaluation. To realize this gain, the model predicts helping, particularly when the other person is close. Contrary to common sense, these predictions suggest that people are sometimes kinder to strangers than to friends.

### ***Predicting Closeness***

When will a person try to spend more time with another? When less? When will a person initiate a relationship? When will a person terminate it? The predictions for closeness follow the SEM logic: When relevance is high, comparison is important and self will suffer by the better performance of another. Thus, when relevance is high, the better another's performance is, the more the self should distance himself or herself from the other. When relevance is low, however, the better another's performance is, the greater is the potential boost to self-evaluation via reflection. Closeness should intensify those positive self-feelings, so when relevance is low, the better the other's performance, the more the self should increase closeness. The SEM model suggests that the aphorism, "Everyone loves a winner," is only half true, that is, only when the performance dimension is low in personal relevance.

### ***Predicting Relevance***

Relevance refers to the importance of a performance domain to one's own self-definition. Related to relevance are questions such as, What should I major in? How will I spend my free time? What kind of work should I choose? Although common sense might suggest that people want to be like those closest to them, the SEM model reminds us that performance

differentials will play an important role in this. Again, relevance determines the relative importance of the comparison process over the reflection process. If another person outperforms the self, then comparisons would be threatening, particularly if the other person were close. Reducing relevance avoids the threat of comparison and increases the potential for reflection, particularly if the other is psychologically close. When self performs better than the other, however, there is little to be gained by reflection and the comparison may be flattering. Thus, self will be motivated to increase relevance, particularly with a close other.

*Abraham Tesser*

*See also* Basking in Reflected Glory; Close Relationships; Self

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## SELF-EXPANSION THEORY

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### Definition

Close relationships open up new worlds to people. As you interact with roommates, close friends, and relationship partners in college, you will probably start to notice small parts of yourself changing to become a little more like them and vice versa. For example, you might notice that you start taking more interest in sports if you have a partner who always watches basketball and football games on television. Before you know it, you might think of yourself as a sports buff!

Relationships can help shape our identities, and they can provide us with shared resources. If your partner owns a car and you do not, you will likely occasionally get a ride to get groceries or go out to dinner. Or if you have a nicer apartment than your partner's, he or she will likely benefit by spending more time at your place. Besides developing a sense of ourselves and receiving extra resources, we can also develop different perspectives from close relationships. For example, if your partner is from a small town in the Midwest and you are from a large East Coast city, you will likely learn a lot about each other's worldviews just by interacting and talking.

These changes to people's identities, resources, and perspectives that occur in relationships are described in and explained by *self-expansion theory*. This theory says that it is very important for people's sense of self to expand and grow throughout their lives for them to feel satisfied with their lives. Although close relationships can provide us with a rich source of potential expansion, people can experience this type of growth in other ways: through spirituality, creativity, and their interactions with valued objects.

People really enjoy the feeling of self-expansion, and as a result, they try very hard to look for self-expansive opportunities. People can do this in various ways. For example, some people might look for new relationships to keep the positive feeling of growth alive, whereas others might instead try new activities with current relationship partners as a way to increase their self-expansion.

What happens if your best friend bombs a chemistry midterm? Will you react to his or her failure as if it was your own, or will you suddenly want to shrink away from your friend? It makes sense that people include others' positive elements in their self-concepts when they grow. After all, it usually feels good to have successful friends. However, self-expansion is not necessarily selfish: People don't only include the good elements of others in themselves when they grow. The fact that some people might even include others' negative elements in themselves shows how strong the need to self-expand is; it might even be stronger than our need to make ourselves feel good! Finally, like other human motivations, self-expansion is not necessarily a conscious one; a person may not always be aware of why he or she wants to meet new people and try new things.

### Background and History

The motivation to self-expand is tied to people's ability to accomplish their goals, thus self-expansion is related to psychological models of self-efficacy, intrinsic motivation, self-actualization, and the self-improvement motivation. The idea that the self is created through relationships with close others goes back to Martin Buber's conception of the "Thou" and "I" uniting and is also related to George Herbert Mead's work on social interactions. Carl Jung believed that relationship partners could draw out otherwise hidden aspects of the self to create greater wholeness, and

Abraham Maslow thought that loved ones could be included in people's self-concepts. Within social psychology, Fritz Heider's concept of the unit relation that can form between close others comes closest to Art and Elaine Aron's recent idea of inclusion of others in the self.

### Research Evidence

One of the most common ways that humans self-expand is through their relationships with others. In relationships, people can feel distant and completely different from the other person, or they can feel a close sense of oneness called *psychological overlap*. Psychological overlap with close others is measured with the Inclusion of Other in the Self Scale, which is a set of seven pairs of circles with gradually increasing levels of overlap. Participants are asked to select the pair of circles that most represents their relationship.

This scale measures both feelings of closeness and behaviors related to closeness. Psychological overlap as measured by this scale is strongly related to relationship satisfaction, commitment, relationship investment and importance, and the percentage that dating partners use the pronouns *we* and *us* when discussing their relationship. This scale also predicts whether people stay in a relationship in a 3-month posttest.

According to research, the idea that the self expands through relationships can be taken literally. For example, people in close relationships describe their self-concepts with more complexity do than those who are not in close relationships. As well, people who report falling in love describe themselves with more different domains of self-content compared with their baseline "not in love" state and compared with those who are not in love.

Relationships high in self-other overlap are characterized by expanded identities, resources, and perspectives from the relationship partner. When the self expands to include another, people may even confuse their own personality traits and memories with close others' traits and memories. Identity and self-knowledge literally overlap with a highly overlapped other.

In a sense, there is also a literal overlap of resources and possessions with highly overlapped others, perhaps reflecting an awareness of shared outcomes. People treat close others as if they are indistinguishable from themselves: They allocate more resources to close others, giving approximately equal amounts to themselves and their partner when the partner in a

money allocation game is a close other but giving more to themselves when the partner is an acquaintance or stranger.

Self-expansion theory also suggests that people may make more situational and less dispositional attributions to explain the behavior of close others, an evaluation more consistent with how information is processed about the self. For example, when your best friend fails on a chemistry test, you will likely consider situational variables that affected your friend's performance (e.g., having a cold that day) in the same way that you would for yourself, rather than making trait-based attributions as you would for strangers or acquaintances (e.g., they are unmotivated or unintelligent).

### Implications

Self-expansion theory can help provide explanations for both people's initial attraction to others and the eventual decline in relationship satisfaction that occurs over time. It suggests that one of the main reasons people initially enter romantic relationships is because of the opportunity to self-expand and that attraction is the result of a nonconscious calculation of how much the potential partner can contribute to one's self-expansion. Extremely high levels of relationship satisfaction that typically occur at the beginning of a relationship are explained by positive feelings resulting from self-expansion, which quickly fade as the two people get to know each other better and opportunities for self-expansion decline. Importantly, the model specifies why relationship satisfaction declines over time and how to increase relationship satisfaction. This has been successfully done in the laboratory through inducing couples to participate in self-expanding activities together (e.g., completing a difficult maze) and in real life by asking couples to spend time doing exciting things together (e.g., learning to dance).

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*See also* Close Relationships; Interdependent Self-Construals; Romantic Love; Transactive Memory

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## SELF-FULFILLING PROPHECY

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### Definition

A self-fulfilling prophecy is a process through which someone's expectations about a situation or another person leads to the fulfillment of those expectations. Thus, the expectancy becomes a cause, so that what is expected comes true because it was expected. The process includes three steps: (1) A perceiver forms an expectation of a situation or target person, (2) the perceiver's expectations affects how he or she behaves in the situation or treats the target person, and (3) the situation or the target person is affected by the perceiver's behavior in a way that confirms the perceiver's initial expectation.

### Background and History

The concept of the self-fulfilling prophecy was initially introduced by a sociologist, Robert K. Merton. In Merton's conception, a self-fulfilling prophecy applied to social as well as nonsocial phenomena. For example, Merton discusses how a self-fulfilling prophecy could lead a stable bank to experience failure. Imagine that a group of individuals comes to believe that a bank is on the verge of bankruptcy. As a result, those individuals withdraw their savings from the bank. In turn, other depositors start to worry that their funds are not safe and consequently withdraw their funds. In the end, many depositors withdrawing their funds actually leads to the bank becoming bankrupt. Therefore, the individuals' expectations influenced their own behavior and ultimately the very situation about which they were concerned. The type of self-fulfilling prophecy that leads to a bank failure is one that depends on the beliefs and actions of many individuals. However, most of the social psychological research on self-fulfilling prophecies has focused on how one person's belief about another person leads to confirmation of that belief.

One of the best-known studies that demonstrates the effect of self-fulfilling prophecies at the interpersonal level was conducted by Robert Rosenthal and

Lenore Jacobson in the late 1960s. In this study, the researchers led classroom teachers to believe that some of their students were "potential bloomers," who would show substantial IQ gains during the school year. In actuality, the students labeled as "bloomers" were randomly chosen by the researchers and were not really different from their classmates. So the teachers' beliefs about the potential bloomers were initially false. Nonetheless, at the end of the school year, these bloomers had higher gains in their IQ compared with the other students. The teachers' expectations that bloomers would experience IQ gains caused them to treat these students differently. For example, teachers were more likely to give feedback to the bloomers and challenge them more than they did their other students. These differences in the teachers' behavior led these students to perform better. This study was important in demonstrating that individuals may unwittingly cause outcomes that they expect by changing their own behavior and thereby influencing the behavior of others.

The early research on the self-fulfilling nature of teacher expectations on student achievement faced criticism about the ethics of the research and the very existence of the self-fulfilling prophecy. Experimental laboratory research, however, convincingly demonstrated that people can subtly affect the behavior of others because of their own expectations and that these self-fulfilling prophecies do occur in many situations. The experimental studies on self-fulfilling prophecies typically led perceivers to expect something of a target and then measured the target's behavior. Because the expectations perceivers held for the targets were initially false, if the behavior of the target confirmed the expectation, this was taken as evidence of a self-fulfilling prophecy. For example, perceivers might be led to believe that a target person with whom they would interact was physically attractive by showing the perceiver a picture of an attractive person. Because people tend to believe that physically attractive individuals are friendly and outgoing, perceivers would expect an attractive interaction partner to be sociable. Perceivers would then interact with someone who was objectively physically attractive or not. In general, perceivers acted in ways that elicited the type of behavior they expected from their interaction partners. So, for example, perceivers were themselves more friendly and outgoing if they believed that they were interacting with an attractive person rather than if they thought they were interacting with an unattractive person. In turn, targets who experienced friendliness from the perceiver responded by

being warm and friendly, regardless of their objective levels of physical attractiveness. These types of laboratory studies were important in demonstrating that self-fulfilling prophecies do occur, even in situations in which people do not know each other very well or have repeated contact, as a teacher might have with students. Recent research has even demonstrated that perceivers' expectations may lead to self-fulfilling prophecies even when perceivers are unaware or not consciously thinking of their beliefs. Something in the environment may bring to mind a perceiver's expectation, and even if the perceiver is not actively thinking about the belief, it might influence his or her behavior, and the behavior of individuals with whom they interact, leading to self-fulfilling prophecies.

Although false expectations can lead to self-fulfilling prophecies, some researchers questioned whether these effects occur in the real world and how powerful they are. For example, do teacher expectations that have not been created by researchers influence student performance in real classrooms? Although self-fulfilling prophecies are not as powerful in the real world as they are in the laboratory, perceivers' expectations do have a small effect on targets' behaviors. But, in some situations perceivers' expectations are unlikely to lead to the target confirming those expectations. If a person knows that others have negative expectations about him or her, he or she may work hard to disconfirm, rather than confirm, the expectations. The result might thus be a self-defeating prophecy, the opposite of a self-fulfilling prophecy.

## Importance

Self-fulfilling prophecies demonstrate that people often play an active role in shaping, and even creating, their own social realities. Self-fulfilling prophecies can influence many interactions and situations, but the impact of these prophecies is particularly evident in two major areas: (1) stereotyping and perceptions of members of groups that are negatively viewed in society and (2) the effects of teacher expectations on student achievement.

Stereotypes are beliefs about the traits, personalities, and abilities that characterize the typical individual of a group, and these beliefs are often difficult to change. Self-fulfilling prophecies may be one reason that this is the case. As an example, consider the case of women. One component of the stereotype of women is that the typical group member is dependent. A perceiver who expects women to be dependent may

be especially likely to treat women in ways that elicit dependence. For example, a perceiver may offer help to a woman with a flat tire (even if help is not requested, or is unnecessary), and the woman may respond by accepting the offer. In such an interaction, the woman depended on another person for help, and therefore the perceiver's stereotype of the group is confirmed. Because stereotypes are usually widely shared within a society, these types of stereotype confirming interactions are likely to occur repeatedly in the society and thus have a much stronger impact than the idiosyncratic expectations that one individual has about another individual. But the influence of self-fulfilling prophecy on stereotypes is even more pernicious when one considers that individuals do not need to be actively or consciously thinking about a stereotype for it to affect their behavior. Just being aware of a stereotype may lead the belief to automatically come to mind and influence the behavior of the perceiver when he or she interacts with members of the stereotyped group.

The second application of research on self-fulfilling prophecies harkens back to the original research of Rosenthal and Jacobson on the effect of teachers' expectation on student achievement. Rosenthal and Jacobson showed that high expectations from teachers can improve student performance, but the converse is also true; teachers' negative expectations may impair student performance. Students from some ethnic minority groups and those with low socioeconomic status tend to achieve less academically than do their White and more economically advantaged students. These outcome differences may be partly due to teachers' expectations. Teachers' expectations do affect performance in real classrooms. Research has shown that self-fulfilling prophecies have stronger effects on poor and ethnic minority students, about whom teachers are likely to have the most negative expectations. So, it is important for teachers to think about their expectations for their students because these expectations have real consequences for important outcomes.

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*See also* Expectations; Experimenter Effects; Stereotypes and Stereotyping

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## SELF-HANDICAPPING

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### Definition

Self-handicapping was first defined in 1978 by Steven Berglas and Edward Jones as “any action or choice of performance setting that enhances the opportunity to externalize (or excuse) failure and to internalize (reasonably accept credit for) success.” Self-handicapping involves putting a barrier or handicap in the way of one’s own success. If one fails, then the failure can be blamed on the handicap rather than on (the lack of) one’s innate ability. If one succeeds despite the handicap, then one can claim extra credit for success because one succeeded despite the impediment to success. Thus, self-handicapping both protects the person from the implications of failure and enhances the success if one should succeed despite the handicap. Self-handicapping may be used to protect or enhance a person’s own self-image and public reputation. Although self-handicapping may protect one from implications of failure, self-handicapping is a trade-off, and there are both short and long-term consequences of self-handicapping. Self-handicapping limits success and increases the probability for failure, both immediately and in the future. Chronic self-handicappers also exhibit poorer achievement and poorer adjustment over time.

### Examples

One example of self-handicapping is staying out and partying the night before a big exam. If the person does poorly on the exam, he or she can blame it on partying all night. If the person does well on the exam, he or she can take credit for doing well on the exam despite partying the night before. Researchers have cited many other examples of self-handicapping,

which include procrastination, underachievement (or low effort), alcohol or drug use or abuse, test anxiety, getting too little sleep, underpreparing or inadequate practice before evaluation, exaggerating the effects of an injury or illness, complaints of physical symptoms or hypochondriacal complaints, traumatic life events, shyness, and choosing extremely difficult or unattainable goals.

### Causes and Purpose

Researchers believe that self-handicapping is caused by feelings of uncertainty about future performance, especially when others have high expectations of success. Self-handicapping appears to be a self-protective mechanism, protecting one’s self-esteem from the potentially damaging effects of failure while enhancing attributions for success. If one fails, a self-handicapper can blame failure on external causes and can thus maintain and protect self-esteem. If one succeeds, a self-handicapper can take credit for succeeding despite external obstacles, increasing self-esteem.

There has been debate about whether one engages in self-handicapping to protect and enhance one’s own self-image or to protect and enhance one’s public reputation. Berglas and Jones’s original self-handicapping construct defined self-handicapping as a strategy to protect both a person’s self and public images and presented evidence consistent with both the public and private functions of the attributions. Other research has suggested, however, that self-handicapping only protects a person’s public reputation. For instance, one study found that self-handicapping was reduced when others were not present to evaluate the person’s performance on a task. Current consensus is that self-handicapping sometimes may occur for the protection of private self-image, but it is even more common in public circumstances.

If a person self-handicaps to protect his or her public image, however, the strategy may backfire and may not improve a person’s reputation. Research has found that people do not like those who self-handicap. Self-handicappers are disliked more and rated more negatively on several variables by others evaluating them than are those who do not self-handicap.

### Costs and Benefits

Self-handicapping has both immediate costs and benefits, thus representing a trade-off. Self-handicapping

involves constructing a barrier to one's own success. The self-handicapper reduces his or her chances for success, but also protects himself or herself from the implications of failure. Self-handicapping, however, also appears to have long-term costs. For instance, research has shown that chronic self-handicappers do more poorly academically and have poorer adjustment over time. In addition, as mentioned previously, there may be several interpersonal consequences for a person who engages in self-handicapping. Furthermore, some researchers believe that frequent self-handicapping may lead to the development of chronic self-destructive patterns, such as alcoholism or drug abuse.

A person's self-esteem affects the motivation for self-handicapping. People with high self-esteem self-handicap for self-enhancement motives (or to enhance their success). People with low self-esteem, however, self-handicap for self-protective motives (or to protect themselves from the esteem-threatening implications of failure). Research has also suggested that high self-handicappers actually enjoy an activity more when they engage in self-handicapping strategies, supposedly decreasing worries about failure and increasing the intrinsic motivation for engaging in or completing the activity.

### Gender Differences

Gender differences in self-handicapping have been studied extensively. Some research has shown that men are more likely to self-handicap than women are. Other research has shown that men and women self-handicap differently, with men being more likely to engage in behavioral self-handicapping, such as using alcohol or underpreparing, and women being more likely to engage in self-reported handicapping, such as complaining of illness or traumatic life events. Other research, however, has found no sex differences in the incidence of self-handicapping. Research has found, however, that women are more critical of those who self-handicap, evaluating self-handicappers more negatively than men do. Women were also less likely to excuse self-handicapping than were men.

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**See also** Anxiety; Procrastination; Self-Defeating Behavior; Self-Enhancement; Self-Esteem; Self-Fulfilling Prophecy; Self-Serving Bias

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## SELF-MONITORING

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### Definition

Self-monitoring is a personality trait that captures differences in the extent to which people control the image they present to others in social situations. High self-monitors are motivated and skilled at altering their behavior to influence the impressions others have of them. In contrast, low self-monitors tend to focus on remaining true to their inner attitudes by presenting a relatively consistent image of themselves to others regardless of the situation.

### Background and History

The theory of self-monitoring was introduced by Mark Snyder in 1974 at a time when personality and social psychologists were grappling with two fundamental debates. First, the impact of personality traits versus the situation on behavior was a source of contention between personality and social psychologists. Second, the disconnect between inner attitudes and external behavior was also perplexing researchers at that time. Self-monitoring offered a partial resolution to these debates by introducing an individual difference variable that addressed both sides of the debate;

self-monitoring emphasized the power of the situation on high self-monitors' behavior and the power of personality traits on low self-monitors' behavior. Moreover, self-monitoring partly addressed the attitude-behavior consistency debate because such consistency could be expected among low but not high self-monitors.

### **Measurement Issues**

Perhaps because it dealt with such contentious issues, the theory and measurement of self-monitoring have been subject to much scrutiny and debate. Individual differences in self-monitoring are typically measured using a version of Snyder's paper-and-pencil Self-Monitoring Scale that was revised and shortened by Snyder and Steve Gangestad in 1986. There has been some debate about whether three or four components make up the self-monitoring scale. This debate prompted researchers to clearly distinguish the concept of self-monitoring from other similar concepts, most notably the Big Five trait Extraversion. Currently, the three most commonly accepted components measured by the self-monitoring scale are acting, extraversion, and other-directedness. The role of each component is generally recognized as vital for identifying and measuring self-monitoring.

Another long-standing debate in the measurement of self-monitoring concerns whether there are two distinct categories of people, high and low self-monitors, or whether there is a self-monitoring continuum. This debate reaches beyond the trait of self-monitoring to the theoretical foundations of personality psychology, and so is mentioned only briefly here. Researchers investigating self-monitoring tend to follow Snyder's original method of creating and comparing dichotomous categories of high and low self-monitoring.

Much of the work on self-monitoring was conducted in the 1980s when researchers were first identifying the implications and limitations of this trait. Research continues, further refining and applying our understanding of self-monitoring in light of modern developments in both social and personality psychology.

### **Importance and Implications**

Self-monitoring is important for understanding how people behave in social situations. Research has examined the influence of self-monitoring in many ways, including but not limited to how people behave over

time, express their attitudes, perceive social cues and others' behavior, approach interpersonal relationships, behave nonverbally, and make consumer judgments.

Because of their sensitivity to the situation, high self-monitors behave less consistently across different situations than do low self-monitors and, hence, have relatively weaker correspondence between their attitudes and behavior. In addition, high self-monitors tend to tailor the attitudes they express to correspond with those of their audience and to appreciate the effect of the social context on others' behavior. Self-monitoring also influences the types of situations people select for themselves. High self-monitors prefer to engage in situations that are clearly defined to facilitate their behavior adaptation, whereas low self-monitors select situations that converge with their personal dispositions.

### ***Interpersonal Relationships***

The social worlds of high and low self-monitors are characterized distinctly. The social groups of high self-monitors tend to differ depending on the context; they have different friends in different situations. Conversely, low self-monitors tend to have a stable group of friends who are similar to them in a global way.

Commitment and relationship longevity differ between high and low self-monitors in a way that corresponds to the contextually driven versus constant approaches to their social networks. Both friendships and romantic relationships tend to be approached with greater sense of commitment and intimacy among low self-monitors relative to high self-monitors. High self-monitors tend to report having more casual friendships and sexual partners, having greater quantities of shorter romantic liaisons, and relying on outward appearances when judging others to a greater degree than do low self-monitors.

### ***Nonverbal Cues***

The tendency to use nonverbal displays of behavior strategically is also influenced by self-monitoring, at both conscious and nonconscious levels, stemming from differences in attempts to control images presented to others. High self-monitors are better able to expressively convey internal states and to actively conceal socially inappropriate emotional displays than are low self-monitors.

In general, people will nonconsciously mimic the nonverbal behavior (e.g., foot shaking) of others. Mimicry is a strategy used nonconsciously to achieve social connection. The mimicry of high self-monitors is context dependent. They mimic especially when the other person is affiliated with them in some way (e.g., has power over them in an upcoming task, or is a member of a peer group instead of a more senior or junior group). Thus, the process of regulating behavior to accord with social cues may operate outside of conscious awareness among high self-monitors. Low self-monitors do not show this sensitivity to affiliation with others when nonconsciously mimicking behavior.

### **Application to Consumer Behavior**

The study of consumer behavior is one area to which researchers have applied knowledge of self-monitoring. In line with their propensity toward managing outward appearances, high self-monitors tend to prefer advertisements that appeal to a particular image and will select products that will help them convey an image in a certain situation. Low self-monitors prefer advertisements that focus on a product's quality and are less swayed by attractive packaging than are high self-monitors.

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*See also* Impression Management; Mimicry; Self-Presentation; Traits

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## **SELF-PERCEPTION THEORY**

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In everyday life, people observe other people's actions and behaviors and make inferences about others' attitudes based on what they observe. When people see how another person acts in a particular situation, they often attribute the behavior to the person's traits and attitudes. For example, if you view someone in a park

recycling a plastic water bottle rather than throwing it in the garbage, you might infer that the individual is concerned about the environment. Similarly, if you witness a school child scowling at her teacher, you might infer that she is upset or angry with the teacher. Interestingly, sometimes people also observe their own behavior, much as an outsider might do, and make similar inferences about their own attitudes based on their behavior. According to self-perception theory, when people are unsure of their own attitudes, one way to infer them is by looking at their behaviors. Daryl Bem proposed self-perception theory in 1967 when he argued that people sometimes analyze their own behavior in the same fashion as they would analyze someone else's behavior.

At the time, Bem was proposing something that was counter to how people's attitudes and behaviors were thought of. Most people would agree, for example, that a person who perceives himself or herself as interested in road biking may, as a result of that interest, buy bicycling equipment and go on long cycling rides. That is, the person's attitudes and self-perception influence his or her behavior. Bem, however, reversed this relation by suggesting that it is also possible that people understand their attitudes and interests because they have made inferences based on their behavior. Thus, this person could infer that he or she is interested in road biking on the basis of frequent cycling trips and lavish spending on a nice road bike.

Self-perception theory provides a similar explanation for emotion by suggesting that people infer their emotions by observing their bodies and their behaviors. In other words, people's emotions and other feelings come from such actions as facial expressions, postures, level of arousal and behaviors. In this way, feelings are consequences of behavior rather than the other way around. People are angry because they scowl and are happy because they smile—this is the self-perception effect.

Everyone has experienced the self-perception effect. Imagine for a moment that you have had a terrible day—several things have gone wrong and you feel very irritable and grouchy. However, you have made previous plans to meet up with some friends for a small social gathering that evening. When you arrive, you smile and elicit warm, polite behavior. When others at the gathering greet you with “Hi, how's it going?” you respond with “Fine, how are you?” It is challenging to scowl and maintain your irritability at a party with friends. So, you smile

instead and—in effect—pretend to be happy. For most of us, our original feelings of irritability decrease after smiling and exhibiting “happy” behavior. Our behavior changes our attitude.

Even the way people walk can affect the way they feel. Test this with yourself. When you get up, walk back and forth across the room, shuffling with your shoulders hunched and your eyes looking down at the floor. What do you feel? Similarly, imagine sitting slouched over all day, sighing when people speak to you and talking in a really low voice. You probably feel a bit down or depressed. Now try walking across the room taking long strides, swinging your arms high, and smiling. These different behaviors can elicit a different emotional experience.

### Research Support

Several studies have been done since the proposal of self-perception theory that support Bem’s hypothesis. As self-perception theory predicts, research has demonstrated that people who are induced to act as if they feel something, such as happiness, report actually feeling it, even when they are unaware of how their feelings arose. This effect has been demonstrated for a wide variety of feelings and with an even wider variety of behaviors.

For example, in a simple study designed to demonstrate whether facial expression influenced affective responses—a phenomenon closely related to self-perception—psychologists examined whether facial expressions influenced individuals’ emotion responses to cartoons. To manipulate facial expressions or facial activity, subjects were asked to hold a pen in their mouth in one of two ways: (1) between their teeth with their lips open to facilitate the muscles typically associated with smiling or (2) pursed between their lips because it inhibited the muscles used during smiling. (Try this to see if you can get a sense of what your facial expressions would have been if you were in the experiment.) The task for the participants was to read a series of cartoons, with the pen in their mouth, and rate them for their degree of funniness. As self-perception theory would predict, the psychologists found that those who were holding the pen in between their teeth (facilitating a smile) reported higher levels of humor based on the cartoons than did the participants who were holding the pen between their lips. The researchers concluded that the perceived funniness of the cartoons depended on producing the muscle action involved in smiling.

The self-perception effect might also carry over to later behavior. For example, imagine that ordinarily you are shy at parties but have recently decided that you want to make new friends. You have decided that at the next party, you will make an effort to be especially talkative to meet new people and it goes well. This behavior influences your attitude about social behavior and leads you to perceive a greater outgoingness in yourself. The next time you are at a party, you exhibit outgoing social behavior without nearly as much effort. Act as if you are outgoing and you might become more so.

In a study demonstrating this carryover effect, researchers looked at the impact of a community service experience on adolescent volunteers’ levels of empathy, social responsibility, and concern for others. The findings from this study suggest that community service positively influences sympathy and compassion for others, sense of concern for society at large, and a willingness to take action to help others and the community. This demonstrates that the behavior—engaging in volunteer helping experience—can create a shift toward more caring and helping attitudes *and* sustained action in service.

In another interesting investigation of how behaviors affect attitudes, Mark Lepper and colleagues found giving people external reasons (e.g., monetary rewards) for performing a behavior they already enjoy decreases their intrinsic motivation to do it—a phenomenon called *overjustification effect*. For example, in a study testing this effect, children who were initially interested in a drawing activity reported significantly lower intrinsic interest in drawing after two weeks of receiving extrinsic reward, whereas children who did not receive external reward for engaging in the activity did not report a reduction in interest after the two weeks. According to self-perception theory, people undergo overjustification effect when their actions can no longer be attributed to their intrinsic motivation but, rather, to the anticipation of an extrinsic reward. In the previous example, the principles of self-perception theory would argue that the children’s initial interest in the activity was undermined by creating a situation in which activity was an explicit means to an extrinsic goal—in other words, the extrinsic rewards turned “play” (i.e., an activity engaged in for its own sake) into “work” (i.e., an activity engaged in only when extrinsic incentives are present).

In the decades following Bem’s original article, a great deal of research was aimed at trying to distinguish self-perception theory from the widely accepted

cognitive dissonance theory, which argues that the inconsistency presented by believing one thing and doing another generates emotional discomfort that directs behavior toward the goal of reducing the inconsistency or dissonance. However, dissonance arises when there is inconsistency or hypocrisy between attitudes, beliefs, or behaviors. Thus, attitudes or beliefs in these situations are known. Years of research in this area have led to the conclusion that cognitive dissonance and self-perception theories have different applications: Self-perception theory is more applicable in situations in which people's attitudes are initially vague, ambiguous, or weak.

### Importance and Implications

Because self-perception theory suggests that when people's internal awareness of their attitudes or emotions is weak or ambiguous they can view themselves in much the same way as an outside observer, it is possible to rely upon external cues or behaviors to infer people's inner states. You may be able to relate to the following experiences: "This is my second sandwich; I guess I was hungrier than I thought," or, "I've been biting my nails all day; something must be bugging me." In both cases, attitudes or emotions are inferred from the behavior. Thus, even if people are generally self-aware, they cannot always be accurate about why they feel the way they do. The self-perception effect allows people to gather important cues from their external environment and apply them to understand what attitudes or emotions they are experiencing internally.

The self-perception effect also may have an important application when attitudes and behaviors are incongruent or when behavior change is desired. For example, therapists working with individuals with alcohol addiction have reported that the principles of self-perception theory assist in creating change. Individuals who begin to consciously observe the amount they are drinking might infer from their behavior that they are tense or anxious and then do something about it other than drinking. Similarly, behavior change might inform individuals of their internal attitudes about drinking. For example, individuals who communicate their intentions about drinking out loud may infer their attitudes about drinking from hearing themselves speak. In other words, the behavior of telling others, "I am going to cut down on my drinking" may allow individuals to infer the attitude or internal awareness that their

drinking has created problems for themselves or others. In sum, researchers in psychology have applied the self-perception theory to a wide variety of attitudes and behaviors with very interesting and important implications.

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*See also* Attitude Change; Attitudes; Cognitive Dissonance Theory; Emotion; Facial Expression of Emotion; Facial-Feedback Hypothesis; Introspection; Looking-Glass Self; Overjustification Effect

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## SELF-PRESENTATION

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### Definition

Self-presentation refers to how people attempt to present themselves to control or shape how others (called the audience) view them. It involves expressing oneself and behaving in ways that create a desired impression. Self-presentation is part of a broader set of behaviors called *impression management*. Impression management refers to the controlled presentation of information about all sorts of things, including information about other people or events. Self-presentation refers specifically to information about the self.

### History and Modern Usage

Early work on impression management focused on its manipulative, inauthentic uses that might typify a used car salesperson who lies to sell a car, or someone at a job interview who embellishes accomplishments to get a job. However, researchers now think of self-presentation more broadly as a pervasive aspect of

life. Although some aspects of self-presentation are deliberate and effortful (and at times deceitful), other aspects are automatic and done with little or no conscious thought. For example, a woman may interact with many people during the day and may make different impressions on each person. When she starts her day at her apartment, she chats with her roommates and cleans up after breakfast, thereby presenting the image of being a good friend and responsible roommate. During classes, she responds to her professor's questions and carefully takes notes, presenting the image of being a good student. Later that day, she calls her parents and tells them about her classes and other activities (although likely leaving out information about some activities), presenting the image of being a loving and responsible daughter. That night, she might go to a party or dancing with friends, presenting the image of being fun and easygoing. Although some aspects of these self-presentations may be deliberate and conscious, other aspects are not. For example, chatting with her roommates and cleaning up after breakfast may be habitual behaviors that are done with little conscious thought. Likewise, she may automatically hold the door open for an acquaintance or buy a cup of coffee for a friend. These behaviors, although perhaps not done consciously or with self-presentation in mind, nevertheless convey an image of the self to others.

Although people have the ability to present images that are false, self-presentations are often genuine; they reflect an attempt by the person to have others perceive him or her accurately, or at least consistent with how the person perceives himself or herself. Self-presentations can vary as a function of the audience; people present different aspects of themselves to different audiences or under different conditions. A man likely presents different aspects of himself to his close friends than he does to his elderly grandmother, and a woman may present a different image to her spouse than she does to her employer. This is not to say that these different images are false. Rather, they represent different aspects of the self. The self is much like a gem with multiple facets. The gem likely appears differently depending on the angle at which it is viewed. However, the various appearances are all genuine. Even if people present a self-image that they know to be false, they may begin to internalize the self-image and thereby eventually come to believe the self-presentation. For example, a man may initially present an image of being a good student without believing it to be genuine, but after

attending all his classes for several weeks, visiting the professor during office hours, and asking questions during class, he may come to see himself as truly being a good student. This internalization process is most likely to occur when people make a public commitment to the self-image, when the behavior is at least somewhat consistent with their self-image, and when they receive positive feedback or other rewards for presenting the self-image.

Self-presentation is often directed to external audiences such as friends, lovers, employers, teachers, children, and even strangers. Self-presentation is more likely to be conscious when the presenter depends on the audience for some reward, expects to interact with the audience in the future, wants something from the audience, or values the audience's approval. Yet self-presentation extends beyond audiences that are physically present to imagined audiences, and these imagined audiences can have distinct effects on behavior. A young man at a party might suddenly think about his parents and change his behavior from rambunctious to reserved. People sometimes even make self-presentations only for themselves. For instance, people want to claim certain identities, such as being fun, intelligent, kind, moral, and they may behave in line with these identities even in private.

## Goals

Self-presentation is inherently goal-directed; people present certain images because they benefit from the images in some way. The most obvious benefits are interpersonal, arising from getting others to do what one wants. A job candidate may convey an image of being hardworking and dependable to get a job; a salesperson may convey an image of being trustworthy and honest to achieve a sale. People may also benefit from their self-presentations by gaining respect, power, liking, or other desirable social rewards. Finally, people make certain impressions on others to maintain a sense of who they are, or their self-concept. For example, a man who wants to think of himself as a voracious reader might join a book club or volunteer at a library, or a woman who wishes to perceive herself as generous may contribute lavishly to a charitable cause. Even when there are few or no obvious benefits of a particular self-presentation, people may simply present an image that is consistent with the way they like to think about themselves, or at least the way they are accustomed to thinking about themselves.

Much of self-presentation is directed toward achieving one of two desirable images. First, people want to appear likeable. People like others who are attractive, interesting, and fun to be with. Thus, a sizable proportion of self-presentation revolves around developing, maintaining, and enhancing appearance and conveying and emphasizing characteristics that others desire, admire, and enjoy. Second, people want to appear competent. People like others who are skilled and able, and thus another sizable proportion of self-presentation revolves around conveying an image of competence. Yet, self-presentation is not so much about presenting desirable images as it is about presenting desired images, and some desired images are not necessarily desirable. For example, schoolyard bullies may present an image of being dangerous or intimidating to gain or maintain power over others. Some people present themselves as weak or infirmed (or exaggerate their weaknesses) to gain help from others. For instance, a member of a group project may display incompetence in the hope that other members will do more of the work, or a child may exaggerate illness to avoid going to school.

### Avenues

People self-present in a variety of ways. Perhaps most obviously, people self-present in what they say. These verbalizations can be direct claims of a particular image, such as when a person claims to be altruistic. They also can be indirect, such as when a person discloses personal behaviors or standards (e.g., “I volunteer at a hospital”). Other verbal presentations emerge when people express attitudes or beliefs. Divulging that one enjoys backpacking through Europe conveys the image that one is a world-traveler. Second, people self-present nonverbally in their physical appearance, body language, and other behavior. Smiling, eye contact, and nods of agreement can convey a wealth of information. Third, people self-present through the props they surround themselves with and through their associations. Driving an expensive car or flying first class conveys an image of having wealth, whereas an array of diplomas and certificates on one’s office walls conveys an image of education and expertise. Likewise, people judge others based on their associations. For example, being in the company of politicians or movie stars conveys an image of importance, and not surprisingly, many people display photographs of themselves with famous people. In a similar vein, high

school students concerned with their status are often careful about which classmates they are seen and not seen with publicly. Being seen by others in the company of someone from a member of a disreputable group can raise questions about one’s own social standing.

### Pitfalls

Self-presentation is most successful when the image presented is consistent with what the audience thinks or knows to be true. The more the image presented differs from the image believed or anticipated by the audience, the less willing the audience will be to accept the image. For example, the lower a student’s grade is on the first exam, the more difficulty he or she will have in convincing a professor that he or she will earn an A on the next exam. Self-presentations are constrained by audience knowledge. The more the audience knows about a person, the less freedom the person has in claiming a particular identity. An audience that knows very little about a person will be more accepting of whatever identity the person conveys, whereas an audience that knows a great deal about a person will be less accepting.

People engaging in self-presentation sometimes encounter difficulties that undermine their ability to convey a desired image. First, people occasionally encounter the *multiple audience problem*, in which they must simultaneously present two conflicting images. For example, a student while walking with friends who know only her rebellious, impetuous side may run into her professor who knows only her serious, conscientious side. The student faces the dilemma of conveying the conflicting images of rebellious friend and serious student. When both audiences are present, the student must try to behave in a way that is consistent with how her friends view her, but also in a way that is consistent with how her professor views her. Second, people occasionally encounter challenges to their self-presentations. The audience may not believe the image the person presents. Challenges are most likely to arise when people are managing impressions through self-descriptions and the self-descriptions are inconsistent with other evidence. For example, a man who claims to be good driver faces a self-presentational dilemma if he is ticketed or gets in an automobile accident. Third, self-presentations can fail when people lack the cognitive resources to present effectively because, for example,

they are tired, anxious, or distracted. For instance, a woman may yawn uncontrollably or reflexively check her watch while talking to a boring classmate, unintentionally conveying an image of disinterest.

Some of the most important images for people to convey are also the hardest. As noted earlier, among the most important images people want to communicate are likeability and competence. Perhaps because these images are so important and are often rewarded, audiences may be skeptical of accepting direct claims of likeability and competence from presenters, thinking that the person is seeking personal gain. Thus, people must resort to indirect routes to create these images, and the indirect routes can be misinterpreted. For example, the student who sits in the front row of the class and asks a lot of questions may be trying to project an image of being a competent student but may be perceived negatively as a teacher's pet by fellow students.

Finally, there is a dark side to self-presentation. In some instances, the priority people place on their appearances or images can threaten their health. People who excessively tan are putting a higher priority on their appearance (e.g., being tan) than on their health (e.g., taking precautions to avoid skin cancer). Similarly, although condoms help protect against sexually transmitted diseases and unwanted pregnancy, self-presentational concerns may dissuade partners or potential partners from discussing, carrying, or using condoms. Women may fear that carrying condoms makes them seem promiscuous or easy, whereas men may fear that carrying condoms makes them seem presumptuous, as if they are expecting to have sex. Self-presentational concerns may also influence interactions with health care providers and may lead people to delay or avoid embarrassing medical tests and procedures or treatments for conditions that are embarrassing. For example, people may be reluctant to seek tests or treatment for sexually transmitted diseases, loss of bladder control, mental disorders, mental decline, or other conditions associated with weakness or incompetence. Finally, concerns with social acceptance may prompt young people to engage in risky behaviors such as excessive alcohol consumption, sexual promiscuity, or juvenile delinquency.

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*See also* Deception (Lying); Ego Depletion; Goals; Impression Management; Phenomenal Self; Self-Defeating Behaviors; Self-Perception Theory; Social Desirability Bias

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## SELF-PROMOTION

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### Definition

Self-promotion refers to the practice of purposefully trying to present oneself as highly competent to other people. When people self-promote, their primary motivation is to be perceived by others as capable, intelligent, or talented (even at the expense of being liked). Self-promotion becomes especially useful and prominent when a person competes against others for desirable—often scarce—resources, such as a good job or an attractive partner. People can self-promote their abilities in general or in a specific domain.

### Context

Self-promotion exists as part of a general yet extremely pervasive human motivation: to be perceived favorably by others. In the case of self-promotion, people want to be perceived by others as being competent. Not surprisingly, then, people generally only self-promote in public, and around people they want to impress, such as superiors at work. For example, someone completing a self-evaluation at work would be much less likely to self-promote if a supervisor would never read the self-evaluation, or if the self-evaluation was anonymous.

## How Do People Self-Promote?

Researchers have identified several tactics people use to self-promote. First, people may self-promote by speaking of themselves in flattering terms: They may highlight their leadership skills, prowess at school or work, or adeptness at overcoming obstacles. Second, if they are personally involved in a positive event, they may claim more responsibility for the event than they objectively deserve, or they may exaggerate the importance of the event in the hopes it will sound more impressive. People can self-promote more tactfully by (1) guiding the course of a conversation to a point where it is fitting to mention prior achievements and honors, (2) trying to avoid conversation topics in which others may be experts, or (3) providing opportunities for other people to promote them, such as by covertly making a substantial salary raise known to gossipy coworkers.

## The Problem of Integrating Self-Promotion and Likeability

When self-promoting, people face an important problem: Their behavior might come across as conceited, if not fraudulent. Although the key motivation underlying self-promotion is to be perceived as competent, situations arise where self-promotion must be successfully integrated with likeability, even though these two motivations may conflict. Probably the most prominent example of this concern is the classic job interview. Applicants interviewing for a job need to appear both competent and likeable to impress their potential supervisor, but expressing both of these qualities during the interview may be tricky! For example, to convey confidence and competence, applicants know they must highlight their relevant experience and accomplishments. At the same time, applicants do not want to appear conceited or arrogant to the interviewer.

## Evidence: Does Self-Promotion Work?

Researchers have examined quite extensively whether self-promotion actually helps people appear more competent. By far the biggest research arena for self-promotion has been in business settings, especially in the interview process, for reasons mentioned previously. Specifically, researchers have studied whether self-promotion helps people secure jobs and promotions.

In a typical study, researchers will ask both the applicant and the interviewer to complete post-interview surveys that ask about instances of self-promotion used by the applicant throughout the interview; researchers might also ask permission to film the interview. The researchers then either contact the participants later to see if they secured the job for which they interviewed or subsequently ask the interviewers which applicants they might consider hiring. With this information, the researchers can then examine whether self-promotion during the interview influenced hiring decisions.

Results from these studies are mixed. Overall, researchers often conclude self-promotion has little effect on hiring decisions (though studies certainly exist that find either positive or negative effects). Unfortunately, researchers have not offered conclusive reasons to account for these null findings, but they probably reflect the interviewers' expectation that most people will self-promote in some way during the interview, thus negating the self-promotion attempt.

The effect of self-promotion on job promotions is largely inconclusive as well. Self-promoting at work can sometimes result in promotion, but plenty of studies demonstrate self-promotion really has no effect on being promoted. These conflicting results probably reflect the intricacies of the individual job environments, as well as personal characteristics and preferences of the people involved.

## The Added Problem of Gender

Self-promotion poses a unique problem for women because women have been traditionally perceived as less competent and competitive than men. To counteract such stereotypes, women probably need to highlight their skills and talents more than men do, especially when competing for the same job. Unfortunately, self-promotion by women is generally received more poorly than is self-promotion by men. In fact, studies have shown women themselves rate other women who self-promote less favorably than men who self-promote! This discrepancy may stem from culturally ingrained stereotypes, wherein women have been traditionally socialized to adopt more passive, subservient, and modest roles compared with men. Therefore, self-promotion may enhance how others perceive a woman's qualifications, but at the expense of social appeal. Indeed, women who self-promote are often perceived as competent, yet socially unattractive.

## Implications

Self-promotion is an extremely common strategy people employ to create and maintain an impression of competence. Sometimes self-promotion works, but other times it fails. The factors underlying successful self-promotion have not been conclusively determined, but it seems likely that tactful self-promotion would work best. Unfortunately, women shoulder the additional burden of battling ingrained social stereotypes that prescribe female modesty. Historically, these stereotypes may have contributed both to the disproportionate rates of hiring men over women for certain positions, as well as fewer opportunities for women to be promoted. However, the ever-changing role of women in present-day society may eventually help lessen these disparities.

*Scott J. Moeller  
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*See also* Impression Management; Self-Enhancement; Self-Presentation

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## SELF-REFERENCE EFFECT

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### Definition

The self-reference effect refers to people's tendency to better remember information when that information has been linked to the self than when it has not been linked to the self. In research on the self-reference effect, people are presented with a list of adjectives (e.g., intelligent, shy) and are asked to judge each word given a particular instruction. Some people are told to decide whether each word describes them. In this case, people make a decision about each word in relation to their knowledge of themselves—a self-referent comparison. Other people are instructed

to decide whether each word is long—a nonself-referent comparison that requires making a decision about each word that does not use information about the self. According to the self-reference effect, if people are later asked to remember the words they rated in a memory task that they do not expect, they will be more likely to remember the words if they thought about them in relation to the self (Does the word describe them?) than if they thought about them without reference to the self (Is the word long?). Although some studies have failed to support the self-reference effect, a recent meta-analysis supports that, overall, the self-reference effect is robust.

The different instructions are thought to lead to differences in the likelihood of self-referent encoding. Encoding is the process putting information into memory, of taking a stimulus from the environment and processing it in a way that leads to storage of that stimulus in a person's mind. In the case of the self-reference effect, the stimulus is encoded or processed with information about the self. Information about the self is highly organized in memory because people frequently use and add to their information about themselves. Therefore, information encoded with respect to self becomes part of a highly organized knowledge structure. The benefit of encoding something with respect to an organized knowledge structure is that new information is encoded more efficiently and effectively, which can lead to easier retrieval and recall. People also tend to think deeply about concepts that relate to the self. Therefore, when people are asked to think about words in relation to the self, those words benefit from deeper encoding and are better elaborated, connected, and integrated in memory. Because people habitually use the self to process information in their daily lives, they are particularly practiced at encoding information in a self-referent way. More elaborated encoding provides additional cues for words to be later retrieved from memory.

One extension of the self-reference effect examined whether memory after self-referent judgments differed from other-referent judgments (Does this word describe someone else?). Self-referent memory is superior to other-referent memory when people are asked to rate whether words describe a person who is not well known (Does this word describe the study experimenter?). The memory advantage of self-referent encoding decreases, but is not eliminated, if people rate whether the words describe an intimate other (Does this word describe your mother?) whose characteristics may also be well-organized and elaborated in memory.

## Background and History

The first research on the self-reference effect was published by T. B. Rogers and colleagues in 1977. Research at that time was particularly interested in how personality information was organized in people's minds, and Rogers and his colleagues set out to extend Fergus I. M. Craik's and Endel Tulving's research on depth of processing. The depth of processing perspective suggests that certain types of information are processed more deeply, or in a more elaborated way, than are other types of information. For example, words are better remembered when people are asked to think about them in a semantic way (Does the word mean the same thing as another word?) than when people are asked to think about them phonemically (Does the word rhyme with another word?), and are remembered least if people are asked to think about them in a structural way (Is the word written in capital letters?). These three instructions differ in the depth of processing required to make the judgment (it requires more processing to make judgments of meaning of the word compared with the sound or the structure of the word). Memory for words is weaker when depth of processing is lower. Rogers and colleagues hypothesized that self-referent encoding would involve even deeper processing than semantic encoding and would result in better memory for the words. Research supported this hypothesis, thereby supporting the idea that self-knowledge was uniquely represented in memory.

## Individual Differences

Among people given the self-referent instructions, research consistently shows a memory bias for words that they rate as like themselves (This word describes me) compared with words that people rate as unlike themselves (This word doesn't describe me). This suggests that the self-reference effect is strongest for traits that people actually endorse about themselves. Follow-up studies confirm this bias in various groups and situations in which the self-reference effect is observed. For example, depressed individuals show increased memory for depressed traits, and non-depressed individuals showed increased memory for nondepressed traits. People given failure feedback show a greater self-reference effect for negative traits, whereas those who are given success feedback show a greater self-reference effect for positive traits. People also differ in the degree to which they chronically think about the world in self-referent ways. People

who are high in private self-consciousness are more likely than are those low in private self-consciousness to think about the world in terms of self, and low private self-conscious people are less likely to show the self-reference effect compared with high private self-conscious people. Similarly, situations in which people experience low self-awareness (e.g., people who are intoxicated) reduce the likelihood of self-referent encoding and thus the self-reference effect.

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*See also* Encoding; Memory; Salience; Self; Self-Awareness

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# SELF-REGULATION

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## Definition

Self-regulation refers to the self exerting control over itself. In particular, self-regulation consists of deliberate efforts by the self to alter its own states and responses, including behavior, thoughts, impulses or appetites, emotions, and task performance. The concept of self-regulation is close to the colloquial terms *self-control* and *self-discipline*, and many social psychologists use the terms interchangeably.

## History and Background

Early social psychologists did not use the term *self-regulation* and, if they thought about it at all, regarded it as a minor, obscure, technical problem. However, as the study of the self expanded and researchers became more interested in inner processes, interest in self-regulation expanded. By the 1990s, self-regulation had become widely recognized as a central function of the self, with both practical and theoretical importance, and a broad range of research sought to contribute to the rapidly expanding research literature on self-regulation.

Modern self-regulation theory has several roots. One is in the study of animal learning. Skinnerian behaviorists taught that animals learn behaviors based on past rewards and punishments. In that way, behavior patterns are molded by the external environment. Recognizing that human behavior was more complex and internally guided than much animal behavior, thoughtful behaviorists such as Albert Bandura proposed that people self-regulate by administering rewards and punishments to themselves. For example, a person might say, “If I can get this task done by 7 o’clock, I will treat myself to ice cream,” or “If I don’t get this paper written today, I won’t go to the movies.”

A second root is in research on delay of gratification. In the 1960s, researchers such as Walter Mischel began to study how people would choose between a small immediate reward and a larger, delayed one. For example, a child might be told, “You can have one cookie now, but if you can wait for 20 minutes without eating it, you can have three cookies.” In adult life, most work and study activities depend on the capacity to delay gratification, insofar as work and studying bring delayed rewards but are often not immediately satisfying (as compared with relaxing or engaging in hobbies). This line of research found that successful delaying of gratification depended on overriding immediate impulses and focusing attention away from the immediate gratification. The immediate response to a tempting stimulus is to enjoy it now, so it requires self-regulation to override that response to wait for the delayed but better reward.

A third root is in the study of self-awareness. During the 1970s, researchers began studying how behavior changes when people focus attention on themselves. In 1981, the book *Attention and Self-Regulation* by Charles Carver and Michael Scheier proposed that one main function of self-awareness is to aid in self-regulation. That is, you reflect on yourself as a way of deciding how and whether improvement would be desirable.

The fourth root of self-regulation theory is in research on human personal problems, many of which revolve around failures at self-control. Across recent decades, research has steadily accumulated to reveal the importance of self-regulation in many spheres of behavior. Eating disorders and obesity partly reflect failures to regulate one’s food intake. Alcohol and drug addiction likewise indicate poor regulation of use of these substances. Research on these and related issues has provided much information that self-regulation theorists could use.

## Importance

Self-regulation has implications for both psychological theory and for practical, applied issues. In terms of theory, self-regulation has come to be seen as one of the most important operations of the human self. Indeed, the human capacity for self-regulation appears to be far more advanced and powerful than is self-regulation in most other animals, and it helps set the human self apart from selfhood in other species. Some theorists believe that the capacity for self-regulation was one decisive key to human evolution.

Self-regulation depicts the self as an active controller. Social psychology’s early theories and research on the self focused mainly on issues such as self-concept and self-knowledge, and in that sense, the self was treated as an accumulated set of ideas. In contrast, self-regulation theory recognizes the self as an active agent that measures, decides, and intervenes in its own processes to change them. Some psychologists link self-regulation to the philosophical notion of free will, understood as the ability to determine one’s actions from inside oneself rather than being driven by external forces.

The practical importance of self-regulation can scarcely be understated. Most personal and social problems that plague modern society have some degree of self-regulation failure at their core. These include addiction and alcoholism, obesity and binge eating, anger management, and other emotional control problems. Crime and violence are often linked to poor self-regulation (especially of aggressive and antisocial impulses). Sexual problems, including unwanted pregnancy and sexually transmitted diseases, can be avoided with effective self-regulation. Underachievement in school and work often reflects inadequate self-regulation. Money problems, whether in the form of gambling losses, failure to save for the future, or impulsive shopping and credit card debt, can also indicate inadequate self-regulation. Many health problems could be prevented by self-regulation, such as to ensure that one exercises regularly, brushes and flosses teeth, takes vitamins, and eats a proper diet.

More broadly, self-regulation appears to be an important predictor of success in life. People with good self-regulation have been shown to be more popular and have better, more stable relationships, to get better grades in school and college, to have fewer personal pathologies, and to have better adjustment.

Self-regulation is also a key to moral behavior, and some theorists have argued that it is the master virtue that underlies most or all virtuous behavior because such behavior typically requires overcoming an anti-social or immoral impulse (e.g., to cheat, harm, or betray someone) to do what is morally valued.

### Standards and Goals

Effective self-regulation requires standards, which are concepts of how something ideally should be. Researchers on self-awareness noted very early that when people reflect on themselves, they do not simply notice how they are. Rather, they compare how they are with some standard, such as their personal ideals, other people's expectations, how they were previously, or the average person. Self-regulation begins by noting discrepancies between how you are and how you want to be. For example, a diet often begins by noting that the person weighs more than his or her ideal weight, and the diet is intended to bring the weight down to the desired weight (the standard).

Self-regulation can be impaired if standards conflict, such as if two parents make inconsistent demands on the child. A lack of clear standards also makes self-regulation difficult.

Self-regulation goals can be sorted into prevention and promotion. Preventive self-regulation focuses on some undesirable outcome and seeks to avoid it. In contrast, promotional self-regulation focuses on some desirable outcome and seeks to approach it. A related distinction is between *ideal* and *ought* standards. Ideals are positive concepts of how one would like to be. Ought standards, such as moral rules, typically emphasize some bad or undesired possibility and center on the importance of not performing such actions.

Standards do not automatically activate self-regulation. People must be motivated to change. How people choose their goals and standards, and why they sometimes abandon these, is an important topic for further study.

### Monitoring and Feedback Loops

Monitoring refers to keeping track of particular behaviors. It is almost impossible to regulate a behavior effectively without monitoring it. (Imagine trying to have a successful diet without ever weighing yourself or keeping track of what you eat.) As stated earlier, many experts believe that a main functional purpose of

self-awareness is to serve self-regulation by enabling people to monitor their behavior. Monitoring is more than noticing the behavior itself, though, because it also compares the behavior to standards.

Poor monitoring is an important cause of self-regulation failure. People lose control when they stop keeping track of their behavior. Alcohol intoxication leads to many kinds of self-regulation failure (including overeating, violent activity, overspending, and further drinking), partly because intoxicated people cease to monitor their actions. In contrast, the simplest way to improve self-regulation is to improve monitoring, such as by using external records. For example, people who want to control their spending can often benefit by keeping a written record of each time they spend money.

Self-regulation theory has incorporated the concept of feedback loops from cybernetic theory (that is, a theory originally designed for guided missiles and other mechanical control devices). The feedback loop is represented by the acronym TOTE, which stands for test, operate, test, exit. One commonly invoked example is the thermostat that controls indoor room temperature. The test phase compares the present status with the standard (thus, is the room as warm as the temperature setting?). If there is a discrepancy, then the operate phase begins, which initiates some effort to resolve the problem and bring the reality in line with the standard, just as a thermostat will turn on the furnace to heat the room when it is too cold. As the operate phase continues, additional tests are performed. These will indicate whether progress is being made and, if so, whether the goal or standard has been reached. As long as the reality is still short of the standard, the operations are continued. At some point, the reality reaches the standard, and the test will reveal this. There is then no need for further operations, and the loop is exited (the exit phase).

Unlike machines, humans often feel emotions during self-regulation. Noticing a discrepancy between self and standard can produce negative emotions, such as guilt or sadness or disappointment. Reaching a goal or standard after a successful operate phase can produce positive emotions such as joy, satisfaction, and relief. However, it is not necessary to reach the goal entirely to feel good. Many people experience positive emotions simply because they note that they are making progress toward the standard. In these ways, emotions can sustain and promote effective self-regulation.

## Strength and Depletion

Successful self-regulation depends on the capacity to bring about the desired changes. It is not enough to have goals or standards and to keep track of behavior, if one lacks the willpower or other capacity to make the necessary changes. Some people knowingly do things that are bad for them or that violate their values.

As the colloquial term *willpower* implies, the capacity to regulate oneself seems to depend on a psychological resource that operates like strength or energy. Exerting self-regulation uses up some of this resource, leaving the person in a weakened state called *ego depletion*. In that state, people tend to be less effective at further acts of self-control. Moreover, the same resource is used for many different kinds of self-regulation and even for making difficult decisions. For example, when a person is using self-regulation to try to cope with stress or meet deadlines, there will be less available for regulating other habits, and the person may resume smoking or have atypical emotional outbursts. Some evidence indicates that strength can be increased with regular exercise (just like with a normal muscle). That is, if people regularly perform acts of self-regulation, such as trying to maintain good posture or speaking carefully, their capacity for successful self-regulation in other spheres may improve.

## Trait Differences

Different people are successful at self-regulation to different degrees, though each person's ability to self-regulate may fluctuate across time and circumstances. Some research has shown that children who were more successful at a delay of gratification task at age 4 years grew up to be more successful academically and socially, and this suggests that there is an important element of stability in people's self-regulation. (That is, if someone is good at self-regulation early in life, he or she is likely to remain good at it for many years.)

June Tangney and colleagues have reviewed some of the scales designed to measure the capacity for self-regulation. It does appear to be quite possible to rely on a self-report measure to distinguish people by how good at self-regulation they are, although some responses may be tainted by boastfulness, self-report bias, and social desirability bias.

## Other Issues

Although self-regulation offers human beings a powerful psychological tool for controlling and altering their

responses, its effectiveness has important limits. As already noted, consecutive efforts at self-regulation can deplete the capability for further regulation. Another important limit is that not all behaviors can be regulated. Many responses are automatic or otherwise strongly activated. The popular term *impulse control* (referring to self-regulation of impulsive behaviors such as alcohol and substance abuse, or violence, or sex, or eating) may be a misnomer because usually the impulse itself is not controlled but only the behavior stemming from it. That is, a reformed smoker usually cannot refrain from wanting a cigarette and has to be content with refusing to act on that impulse and to smoke.

Controlling emotions, or affect regulation, is an important category of self-regulation that confronts limited power. Most people cannot alter their emotional states simply by deciding to do so. Put another way, emotions tend to be beyond conscious control. Affect regulation typically proceeds by indirect means, such as by distracting oneself, inducing a different emotion, or calming oneself down.

An ongoing debate concerns the extent to which self-regulation failure stems from irresistible impulses, rather than simply acquiescing. Many people say that they couldn't resist, such as when they spent too much money shopping or ate something fattening (or indeed engaged in proscribed acts of sex or violence). However, some research suggests that people could resist most of the time if they were sufficiently motivated. Self-deception may be involved in the process by which people allow themselves to fail at self-regulation. Undoubtedly, however, there are some irresistible impulses, such as to breathe, or go to sleep, or urinate.

Once self-regulation begins to break down, additional psychological processes may accelerate the failure. These have been called *lapse-activated patterns* or, in the case of alcohol and drug abuse, *abstinence violation effects*. A recovering alcoholic may be very careful and scrupulous about avoiding all alcohol, but after taking a drink or two on one occasion may cease to keep track and hence drink more, or may even decide that because the zero-tolerance pattern has been broken, he or she might as well enjoy more. Dieters seem particularly vulnerable to the fallacy that if a caloric indulgence has spoiled one's diet for the day, one might as well eat more forbidden foods and then resume the diet tomorrow. Such spiraling processes can turn a minor failure at self-regulation into a destructive binge.

Roy F. Baumeister

See also Ego Depletion; Goals; Self-Control Measures

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## SELF-REPORTS

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### Definition

The term *self-reports* refers to information that is collected from an individual’s own description of the events, sensations, or beliefs under scrutiny. Self-reports may be collected with any of several different methods: for example, surveys and questionnaires, electronic diaries, and clinical interviews. Self-reports are distinguished from other methods of data collection because their only source is the respondent’s personal account.

### Issues Surrounding the Use of Self-Reports

Most researchers agree that it is naive to believe that all self-reports are fully accurate. However, it is also simplistic to assume that because self-reports can be erroneous, they are not valuable or informative. A better approach is to attend closely to the various cognitive and motivational factors that influence people’s ability and willingness to report on their beliefs, feelings, and activities. Numerous such factors have been identified. Although some of these factors concern outright deception (e.g., when accurate self-reports would be embarrassing or harmful), more commonly self-reports are distorted by the limits of people’s ability to store, save, recall, and summarize information. For example, research has shown that when asked to describe events from their past, people are prone to report whatever information is most accessible at that moment, regardless of whether that information is correct or was made accessible by an experimental manipulation.

Self-reports are also known to be biased by an individual’s motives, goals, and personality. For example, people high in the personality trait of neuroticism tend to experience and describe events in their lives (for example, everyday stressors, pain symptoms) as more distressing than do people low in neuroticism.

Whenever possible, it is useful to corroborate self-reports through other sources, such as historical records, reports by informed friends and family members, psychophysiological recording, or behavioral observation. Systematic comparison of self-reports with these other sources of data can provide valuable insights into the processes that contribute to accuracy and inaccuracy in self-reports. Nevertheless, many important concepts are either intrinsically subjective and internal, and therefore measurable only through self-reports (for instance, pain, momentary mood, attitudes, feelings about of another person), or are for pragmatic reasons impossible to appraise otherwise (for instance, behavior over a month’s time, events in the distant past). For this reason, substantial effort has gone into developing instruments and procedures that maximize the validity of self-reports.

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*See also* Motivated Cognition; Neuroticism; Self-Deception; Self-Presentation; Social Cognition

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## SELF-SCHEMAS

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*See* SCHEMAS

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## SELF-SERVING BIAS

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### Definition

The self-serving bias refers to the tendency to take credit for successful outcomes in life, but to blame the

situation or other people for failing outcomes. For example, when an individual gets a promotion at work, he or she will explain this by citing an internal cause, such as his or her ability or diligence. In contrast, when the same individual is fired from a job, he or she will explain this by pointing to an external cause, such as an unfair boss or bad luck. In general, the self-serving bias allows individuals to feel positively about themselves and to protect themselves from the negative psychological consequences of failure.

## Background and History

The self-serving bias is part of a larger area in social psychology known as causal attributions, or the way individuals explain events in the social world. Fritz Heider, a social psychologist, argued in his classic work on attribution theory that four basic types of attributions can be made regarding an individual's behavior. These include two internal attributions, ability and effort, and two external attributions, difficulty and luck. Internal attributions apply to something about the person and external attributions apply to something about the situation. For example, if a person successfully rows a boat across a lake, his or her success could be attributed to internal factors: the person's ability (e.g., strength or rowing skill) or effort (e.g., the person was motivated because he or she had a good friend on the other side or was being chased). The person's success could also be attributed to external factors: the difficulty of the task (e.g., it was a small lake) or luck (e.g., an unexpected breeze blew him or her across). Bernard Weiner, who played a central role in creating modern attribution theory, later expanded on these ideas.

The self-serving bias occurs when individuals make attributions for their own (rather than others') behavior. When the outcome is positive, individuals make more internal attributions; when the outcome is negative, individuals make more external attributions. This difference in attributions for positive and for negative outcomes is why the self-serving bias is considered a bias. This bias is readily apparent when you think about a group situation. Imagine a classroom of students who have just gotten grades back on a test. The students who get A's are likely to explain their success by ascribing it to their intelligence and work ethic; the students who failed are likely to explain their failure by ascribing it to the fact that the test was too hard or unfair, or only asked questions about the one area they didn't study. Both groups of students

cannot be correct in their attributions. Either the test was fair and the students who failed were not smart enough or did not study sufficiently, or the test was truly unfair and the students who received A's really just got lucky. Importantly, although the self-serving bias in this example leads to a distortion of reality by many students, it also leads to all students feeling as good about themselves as possible. The students with A's think they are smart, and the students with F's think it was not a reflection of their ability or effort.

## Situations and Measurement

The self-serving bias can be observed in a wide range of situations. Individual situations are the most commonly studied. These simply involve a person engaging in a task by himself or herself, and then receiving positive or negative feedback about the performance. Taking an exam would be an example of an individual task. Dyadic tasks and group tasks involve more than one person. In a dyadic task, a person and a partner work together on a task, and feedback is directed toward their combined efforts. For example, if two students worked together on a class project, they would only receive a single grade for their combined effort. A group task is similar, but involves more than two people. For example, a team playing a soccer game would be an example of a group task. Finally, there are situations that involve two or more people, but in which the performance feedback is given to a single person whom the other directs. For example, in a teacher-student task, a teacher who has a failing student might be asked how personally responsible the student is, relative to the teacher, for the failure. Likewise, a therapist might be asked how personally responsible the client is, relative to the therapist, for the failure to get well.

There are two basic strategies for assessing the self-serving bias. The first is to ask someone to complete a task, give that person success or failure feedback, and then ask him or her to attribute responsibility for the performance to internal or external factors. When this strategy is completed in a psychology lab, the participant usually completes a task, such as a novel creativity test, and then is given randomly determined success or failure feedback. In other words, the experimenter will tell the participants at random that half of them succeeded and half of them failed. When this strategy is used in a classroom setting and the participants are students, the students simply take a test and are given accurate results. They are then asked to attribute the results to internal or external causes.

The second basic strategy for assessing the self-serving bias is to use paper and pencil questionnaires. Participants are presented with a series of hypothetical situations that have positive or negative outcomes and then are asked to what they would attribute each outcome. The most used questionnaire of this type is the Attributional Style Questionnaire.

### Causes, Consequences, and Contexts

The primary cause underlying the self-serving bias is the desire to protect or enhance the positivity of the self. The self-serving bias allows individuals to maintain positive feelings about themselves in the face of failure (“it wasn’t my fault”) or to feel particularly good about themselves following success (“I am a genius!”). This means that the self-serving bias will be most evident in those individuals or in those situations in which the desire to protect or enhance the self is the strongest.

Certain individuals or groups are more likely to show the self-serving bias than are others. Individuals who feel particularly good about themselves, such as those who are narcissistic or in happy moods are more likely to show the self-serving bias. In contrast, depressed individuals are less likely to show the self-serving bias. Individuals who care more about achievement and success also report a greater self-serving bias.

At a group level, men show a greater self-serving bias than do women. This is because men, on average, are more narcissistic and have higher self-esteem than do women. Similarly, U.S. citizens and Westerners more generally show a greater self-serving bias than do East Asians. Again, this parallels the great narcissism and higher self-esteem found in the West.

Certain situations also can increase or reduce the self-serving bias. If the task is important, such as a major exam, individuals are more likely to show the self-serving bias than they are on unimportant tasks. Likewise, moderately challenging tasks are more likely to elicit the self-serving bias than very easy tasks. Individuals also show the self-serving bias more when they choose the task they are participating in rather than being told what task to complete. For example, if an individual wants to play tennis in school, he or she is more likely to show the self-serving bias than if his or her parents force the individual to play. Furthermore, the self-serving bias will be greater when the individual expects to do well on a task than when he or she expects to perform poorly.

Finally, any situation that makes an individual more self-aware is likely to increase the self-serving bias. This is because self-awareness makes people think about their own internal goals and standards. For example, if someone completes a musical performance while being filmed (a simple way to increase self-awareness), the self-serving bias will increase.

One particularly interesting situation is when the self-serving bias is reported publicly. In public, individuals are less likely to show the self-serving bias. The reason for this is that it often looks better to take responsibility for failure and share credit for success. For example, imagine if a quarterback after a winning football game said at an interview: “I won this game single-handedly!” The fans would think he was an arrogant jerk and his teammates would stop supporting him. This is why most athletes on a winning team will readily share the credit with other players and even the fans.

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*See also* Attribution Theory; Narcissism; Self-Enhancement; Self-Presentation

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## SELF-STEREOTYPING

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### Definition

Self-stereotyping occurs when individuals' beliefs about their own characteristics correspond to common beliefs about the characteristics of a group they belong to. This is generally measured in one of two ways. The first involves measuring the degree to which individuals describe themselves using characteristics that are commonly thought to describe members of their group in general. For example, it is a common belief that women in general are poor at math. Assessing whether individual women feel as if they are poor at math would be consistent with this way of measuring self-stereotyping. The second way researchers measure self-stereotyping is by determining the amount of similarity between how individual group members see their group (or a typical group member) and how they see themselves. For example, researchers may ask individual members of a fraternity how similar they are to a typical member of their fraternity. Some researchers use the term *self-stereotyping* to describe when being a member of a group that is viewed negatively decreases self-esteem, when members of a group endorse stereotypic beliefs about their group, or when the behaviors of individual group members are consistent with stereotypes about their group. However, these uses of the term do not fit the prevailing definition.

### Importance

Historically, self-stereotyping has been important in social psychology because prominent theorists thought that it was an unavoidable consequence of group membership. Conceptualizing self-stereotyping more broadly than is done today, they argued that being viewed a certain way because of one's group membership undoubtedly should affect how individual group members see themselves. The modern importance of self-stereotyping stems from the functions it is thought to serve. Some researchers argue that self-stereotyping can translate into beliefs and behaviors that help support existing inequalities between groups in society. Other researchers argue that self-stereotyping fulfills the need to feel close to other group members. From this perspective, self-stereotyping is beneficial in that it creates a sense of

group unity and solidarity. Research documenting other functions of self-stereotyping needs to be done.

### When and Why

Although early theorists thought self-stereotyping was virtually unavoidable, modern researchers show that the occurrence of self-stereotyping depends on several things. One is how easily one's group membership comes to mind. The more easily this occurs, the more likely an individual is to self-stereotype in line with beliefs about that group. How easily a group membership comes to mind increases as a function of how unusual it is within a given social environment. For example, being the only woman or African American at a board meeting will bring these group memberships to mind and, therefore, enhance the likelihood of self-stereotyping. A group membership will also come to mind more easily if divisions between different groups are made noticeable. For example, if two men and two women engage in a discussion and tend to find agreement, then their respective gender identities will remain largely in the background. However, if a disagreement along gender lines emerges, then their gender identities will become more noticeable and self-stereotyping will be more likely to occur.

Self-stereotyping is also determined by efforts to maintain an optimal level of closeness to the group. The closer individuals feel to the group, the more likely they are to see themselves as possessing characteristics associated with the group. Conversely, when group members perceive themselves as distinctly different from other members of their group, they engage in self-stereotyping to lessen this feeling.

Feelings as if one's group is threatened also increase self-stereotyping. Threat can come in the form of being a low-status or minority group, as well as feeling that the group is not sufficiently different from other groups. Response to threat, however, depends on how close a person feels to the group. People who feel very close to their groups are more likely to respond to temporary and chronic threats to status with increased self-stereotyping than are people who feel less close to their group. People who feel very close to the group are motivated to maintain ties to the group and thus cope with the threat in ways that protect the group and their place within it.

Finally, interpersonal relationships act as pathways through which individuals come to self-stereotype.

People who think close others, or a new person with whom they want to affiliate, hold stereotypic beliefs about their group, are more likely to see themselves in a stereotypic manner.

### Future Directions

The understanding of self-stereotyping has evolved over time. Researchers are now in a better position to describe how and when it will emerge. However, several important unanswered questions remain. One question is whether self-stereotyping occurs for both positive and negative group characteristics. Some research has found that self-stereotyping only occurs for positive traits, whereas other research has found self-stereotyping on positive and negative traits. Another question concerns the consequences of self-stereotyping. For example, it would be useful to know when self-stereotyping does and does not lead to corresponding behavior.

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*See also* Self; Self-Categorization Theory; Self-Concept; Stereotypes and Stereotyping

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too do those who see themselves as relatively introverted want others to recognize them as introverts. The theory grew out of the writings of the symbolic interactionists, who held that people form self-views so that they can predict the responses of others and know how to act toward them. For example, a person's belief that he or she is intelligent allows the person to predict that others will notice his or her insightfulness. This prediction, in turn, may motivate the person to pursue higher education at a premier university. Because people's self-views play such a critical role in their lives, they become invested in maintaining them by obtaining self-verifying information.

Among people with positive self-views, the desire for self-verification works hand-in-hand with another important motive, the desire for self-enhancing or positive evaluations. For example, those who view themselves as organized will find that their desires for both self-verification and self-enhancement compel them to seek feedback that others perceive them as organized. In contrast, people with negative self-views will find that the two motives push them in opposite directions. Those who see themselves as disorganized, for example, will find that whereas their desire for self-verification compels them to seek evidence that others perceive them as disorganized, their desire for self-enhancement compels them to seek evidence that others perceive them as organized. Self-verification theory suggests that under some conditions people with negative self-views will resolve this conflict by seeking self-enhancement, but that under other conditions they will resolve it by seeking self-verification.

### Seeking Self-Verifying Settings and Partners

Considerable evidence supports self-verification theory. In one study, researchers asked participants with positive and negative self-views whether they would prefer to interact with evaluators who had favorable or unfavorable impressions of them. Not surprisingly, those with positive self-views preferred favorable partners, but contrary to self-enhancement theory, those with negative self-views preferred unfavorable partners.

Many replications of this effect using diverse methods have confirmed that people prefer self-verifying evaluations and interaction partners. Both men and women display this propensity, even if their self-views

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## SELF-VERIFICATION THEORY

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The self-verification theory proposes that people want others to see them as they see themselves. For example, just as those who see themselves as relatively extraverted want others to see them as extraverted, so

happen to be negative. Moreover, it does not matter whether the self-views refer to characteristics that are relatively immutable (e.g., intelligence) or changeable (e.g., diligence), whether the self-views happen to be highly specific (e.g., athletic) or global (e.g., low self-esteem, worthless), or whether the self-views refer to the individual's personal qualities (e.g., assertive) or group memberships (e.g., Democrat). Furthermore, when people choose negative partners over positive ones, they do not do so merely to avoid positive evaluators (out of a concern that they might disappoint them). To the contrary, people choose negative partners even when the alternative is participating in a different experiment.

Just as self-verification strivings influence the contexts people enter initially, so too do they influence whether or not people remain in particular contexts. Research on married couples, college roommates, and dating partners show that people gravitate toward partners who provide verification and drift away from those who do not. For instance, just as people with positive self-views withdraw (either psychologically or through divorce or separation) from spouses who perceive them unfavorably, people with negative self-views withdraw from spouses who perceive them favorably. Similarly, the more positively college students with firmly held negative self-views are perceived by their roommates, the more inclined they are to plan to find a new roommate (students with positive self-views displayed the opposite pattern). Finally, self-views determine how people react to the implicit evaluations conveyed by the salaries they receive. In one study examining self-esteem and job turnover, among people with high self-esteem, turnover was greatest among those who failed to receive raises; for people with low self-esteem, turnover was greatest among people who did receive raises. Apparently, people gravitate toward relationships and settings that provide them with evaluations that confirm their self-views.

### **Bringing Others to See Them as They See Themselves**

Even if people wind up with partners who do not see them in a self-verifying manner, they may correct the situation by changing their partners' minds. One way they may do this is by judiciously displaying identity cues. The most effective identity cues are readily controlled and reliably evoke self-verifying responses from others. Physical appearances represent a particularly salient class of identity cues. The

clothes one wears, for instance, can advertise numerous self-views, including those associated with everything from political leanings to income level and religious convictions. Similarly, people routinely display company or school logos, buttons, and bumper stickers, and wear uniforms to evoke reactions that verify their self-views. Consistent with this, one set of researchers discovered that dress, style, and fabric revealed a great deal about individuals' jobs, roles, and self-concepts. Even body posture and demeanor communicate identities to others. Take, for example, the CEO who projects importance in his bearing or the new employee who exudes naïveté. Such identity cues announce their bearer's self-views to all who are paying attention. Moreover, self-verification theory predicts that people should display identity cues to communicate socially valued and devalued identities. Some highly visible examples include skinheads and members of the Ku Klux Klan.

Even if people fail to gain self-verifying reactions through their choice of environments or through the display of identity cues, they may still acquire such evaluations by the way they act toward other people. One group of researchers, for example, found that college students who were mildly depressed as compared with nondepressed were more likely to solicit negative evaluations from their roommates. Moreover, students' efforts to acquire negative feedback appear to have borne fruit in the form of interpersonal rejection: The more unfavorable feedback they solicited in the middle of the semester, the more apt their roommates were to derogate them and plan to find another roommate at the semester's end.

If people are motivated to bring others to verify their self-conceptions, they should intensify their efforts to elicit self-confirmatory reactions when they suspect that others might be misconstruing them. Researchers tested this idea by informing participants who perceived themselves as either likable or dislikable that they would be interacting with people who probably found them likable or dislikable. Participants tended to elicit reactions that confirmed their self-views, especially if they suspected that evaluators' appraisals might disconfirm their self-conceptions. Therefore, participants intensified their efforts to obtain self-verification when they suspected that evaluators' appraisals challenged their self-views.

People will even go so far as to cease working on tasks that they have been assigned if they sense that continuing to do so will bring them nonverifying feedback. One researcher recruited participants with

positive or negative self-views to work on a proof-reading task. He then informed some participants that they would be receiving more money than they deserved (i.e., positive expectancies) or exactly what they deserved (i.e., neutral expectancies). Self-verification theory predicts that people's self-views will influence how they respond to positive compared with neutral feedback. This is precisely what happened. Whereas participants with positive self-views worked the most when they had positive expectancies, participants with negative self-views worked the least when they had positive expectancies. Apparently, people with negative self-views withdrew effort when expecting positive outcomes because, unlike those with positive self-views, they felt undeserving.

### **Seeing More Self-Confirming Evidence Than Actually Exists**

The research literature provides abundant evidence that expectancies (including self-conceptions) channel information processing. This suggests that self-conceptions may systematically channel people's perceptions of their experiences to make their experiences seem more self-verifying than they actually are.

Self-views may guide at least three distinct aspects of information processing. One research team focused on selective attention. Their results showed that participants with positive self-views spent longer scrutinizing evaluations when they anticipated that the evaluations would be positive, and people with negative self-views spent longer scrutinizing evaluations when they anticipated that the evaluations would be negative.

In a second study, the researchers examined biases in what people remembered about an evaluation that they had received. They found that participants who perceived themselves positively remembered more positive than negative statements. In contrast, those who perceived themselves negatively remembered more negative than positive statements.

Finally, numerous investigators have shown that people tend to interpret information in ways that reinforce their self-views. For example, one investigator found that people endorsed the perceptiveness of an evaluator who confirmed their self-conceptions but derogated the perceptiveness of an evaluator who disconfirmed their self-views. Similarly, another researcher reported that just as people with high self-esteem remembered feedback as being more favorable

than it actually was, people with low self-esteem remembered the feedback as being more negative than it actually was.

In summary, evidence suggests that people may strive to verify their self-views by gravitating toward self-confirming partners, by systematically eliciting self-confirming reactions from others, and by processing information in ways that exaggerate the extent to which it appears that others perceive them in a self-confirming manner. Although these forms of self-verification may be implemented more or less simultaneously, people may often deploy them sequentially (although probably not consciously). For example, people may first strive to locate partners who verify one or more self-views. If this fails, they may redouble their efforts to elicit verification for the self-views in question or strive to elicit verification for a different self-view. Failing this, they may strive to see more self-verification than actually exists. And, failing this, they may withdraw from the relationship, either psychologically or in actuality. Through the creative use of such strategies, people may dramatically increase their chances of attaining self-verification.

## **Self-Verification and Related Processes**

### ***Self-Verification and Desire for Novelty***

Too much predictability can be oppressive. No matter how much we like something at first—a scrumptious meal, a beautiful ballad, or a lovely sunset—eventually it may become too familiar. In fact, researchers have shown that people dislike highly predictable phenomena almost as much as they dislike highly unpredictable ones. People seem to prefer modest levels of novelty; they want phenomena that are new enough to be interesting, but not so new as to be frightening.

This does not mean that people like their relationship partners to treat them in a novel (i.e., nonverifying) manner, however. Evidence that people desire novelty comes primarily from studies of people's reactions to art objects and the like. If novel art objects become overly stimulating, people can simply shift their attention elsewhere. This is not a viable option should their spouse suddenly begin treating them as if they were someone else, for such treatment would pose serious questions about the integrity of their belief systems. In the final analysis, people probably finesse their competing desires for predictability and novelty by indulging their desire for novelty within contexts in

which surprises are not threatening (e.g., leisure activities), while seeking coherence and predictability where it really counts—within their enduring relationships.

### ***Self-Verification and Self-Enhancement***

People's self-verification strivings are apt to be most influential when the relevant identities and behaviors matter to them. Thus, for example, the self-view should be firmly held, the relationship should be enduring, and the behavior itself should be consequential. When these conditions are not met, identity issues will be of little concern and people will self-enhance, that is, prefer and seek positive evaluations.

That self-verification strivings trump self-enhancement strivings when people have firmly held negative self-views does not mean that people with negative self-views are masochistic or have no desire to be loved. Even people with very low self-esteem want to be loved. What sets people with negative self-views apart is their ambivalence about praise and acceptance; although positive evaluations initially foster joy and warmth, these feelings are later chilled by incredulity. Tragically, people with negative self-views are also ambivalent about negative evaluations; although such evaluations may reassure them that they know themselves, their feelings of reassurance are tempered by sadness that the truth is not kinder.

Happily, people with negative self-views are the exception rather than the rule. That is, on the balance, most people tend to view themselves positively. Although this is beneficial for people themselves, it presents a challenge to the researchers who study them. That is, for theorists interested in determining whether behavior is driven by self-verification or self-enhancement, participants with positive self-views will reveal nothing because both motives encourage them to seek positive evaluations.

### ***Self-Verification and Self-Concept Change***

Although self-verification strivings tend to stabilize people's self-views, change may still occur. Perhaps the most common source of change is set in motion when the community recognizes a significant change in a person's age (e.g., when adolescents become adults), status (e.g., when students become teachers), or social role (e.g., when singles get married). The community may abruptly change the way that it treats the person. Eventually, the target of such differential

treatment will bring the person's self-view into accord with the treatment he or she receives.

Alternatively, people may themselves initiate a change in a self-view when they conclude that the self-view is blocking an important goal. Consider, for example, a person who decides that his or her negative self-views have led the person to tolerate neglectful and irresponsible relationship partners. When he or she realizes that such partners are unlikely to facilitate the goal of raising a family, the person seeks therapy. In the hands of a skilled therapist, the person may develop more favorable self-views, which, in turn, steer him or her toward relationship partners who support those goals.

### **Implications**

Self-verification strivings bring stability to people's lives, making their experiences more coherent, orderly, and comprehensible than they would be otherwise. These processes are adaptive for most people because most people have positive self-views and self-verification processes enable them to preserve these positive self-views. Because self-verification processes facilitate social interaction, it is not surprising that they seem to be particularly beneficial to members of groups. Research indicates that when members of small groups receive self-verification from other group members, their commitment to the group increases and their performance improves. Self-verification processes seem to be especially useful in small groups composed of people from diverse backgrounds because it tends to make people feel understood, which encourages them to open up to their coworkers. Opening up, in turn, fosters superior performance.

Yet, for people with negative self-views, self-verification strivings may have undesirable consequences. Such strivings may, for example, cause them to gravitate toward partners who undermine their feelings of self-worth, break their hearts, or even abuse them. And if people with negative self-views seek therapy, returning home to a self-verifying partner may undo the progress that was made there. Finally, in the workplace, the feelings of worthlessness that plague people with low self-esteem may foster feelings of ambivalence about receiving raises or even being treated fairly, feelings that may undercut their propensity to insist that they get what they deserve from their employers.

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*See also* Expectations; Self; Self-Concept; Self-Enhancement; Self-Esteem; Symbolic Interactionism

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## SEMANTIC DIFFERENTIAL

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### Definition

The semantic differential is a method of measurement that uses subjective ratings of a concept or an object by means of scaling opposite adjectives to study connotative meaning of the concept or object. For example, the first level meaning of a car is that of a transportation device; the second level meaning of a car can also be its value as a status symbol. The semantic differential is designed to measure these second levels—in other words, connotative meanings of an object. The semantic differential is mostly used for measuring attitudes toward social and nonsocial objects, but also to assess quality and type of interactions between people. The method was developed by Charles Osgood in the 1950s and has been broadly used in and outside of psychology.

The semantic differential usually consists of 20 to 30 bipolar rating scales (i.e., the scale is anchored by an adjective on each side, for example *warm–cold*) on which the target object or concept is judged. Basis for the judgment is not so much the denotative or objective relation of the object and the adjective anchors of

the bipolar scales (because it may not be given at first glance given our car example earlier and the rugged *warm–cold* adjective pair) but, rather, the metaphoric or connotative closeness of the object and the anchors of the bipolar scales. For example, on a metaphorical or connotative level, a family car might be judged as warm, whereas a delivery truck might be judged as more cold. The denotative meaning, that is, firsthand meaning, might be quite similar, in terms of being an adequate transportation device in both cases.

### Background

Social psychologists, but also market researchers or public pollsters, are often interested in the subjective (i.e., somewhat hidden and varying between individuals) definition of meaning that an object or concept has beyond its mere brute facts, as well as in the attitude of a certain group of people concerning a certain object or concept.

Meaning can be divided into four different dimensions: structural (a possible higher-level similarity to other objects, e.g., a sports car and a truck are different, but structurally similar because they are both means of transportation), contextual (depending on the current context, e.g., a truck serves as a transportation device, but can also be a vintage car later on), denotative (objective, brute facts of the car, such as horsepower), and connotative (more metaphoric, second-level associations). Osgood was particularly interested in this fourth dimension of meaning. His scaling method was meant to measure individual differences in the connotation of a word describing an object or a concept.

### Construction and Use of Semantic Differentials

The actual questionnaire consists of a set of bipolar scales with contrasting adjectives at each end. The positions on the scale in between can be numbered or labeled. Note that the neutral middle position is usually marked by zero and the other positions by numbers increasing equally in both directions. Thus, each scale measures the directionality of a reaction (e.g., good vs. bad) and its intensity (from neutral via slight to extreme). In most cases, the universal adjective pairs are used because translations in many languages are available. Besides universal semantic differentials, object- or concept-specific sets of adjective pairs can

be used. For the latter, great care while constructing the respective semantic differentials is necessary to avoid problems (outlined in the next section). For the universal semantic differential, cross-cultural comparisons revealed that three basic dimensions of response account for most of the covariation. These three dimensions have been labeled “evaluation, potency, and activity” (EPA) and constitute the semantic space (i.e., the set of descriptive attributes) of the target to be judged. Some of the adjective pairs are direct measures of the dimensions (e.g., *good–bad* for evaluation, *powerful–powerless* for potency, and *fast–slow* for activity); others rather indirectly relate to the single dimensions of the EPA structure. Given the research conducted, for each new case meaning of the scales should not just be inferred from previous results. Dimensionality should be checked so that scales that do not represent a unidimensional factor are not summed up.

### Analysis of Data

At first glance, analysis of semantic differential data seems easy, but actually, it is a rather complex procedure. It is not sufficient to simply average scale ratings for each individual and to use mean differences on a judged object or concept. In fact, the underlying factor structure must be determined and correlations of similarity between the profiles must be computed. Data from semantic differentials contain three levels or modes: the target objects or concepts, the scales themselves, and the responding individuals. Thus, before factor analysis, these three-mode data need to be collapsed into a two-mode structure. This can be done either by summing over targets for each individual and scale or by averaging over individuals for each scale-concept combination. Also, one can deal with target objects separately, likewise with individuals. Finally, each individual target object–concept response can be transferred in a new matrix and inter-scale correlations can be computed. Note that different methods of collapsing modes can produce rather different correlation patterns.

The original semantic differential is currently rarely used in social psychology (but widely outside this field). Yet, a lot of related measurement methods in social psychology have been influenced by it. Almost every stereotype rating using, for example, competence or warmth as its basic dimensions follows

the idea of the original concept. The use of the original concept is not without pitfalls and problems. This is especially crucial because many researchers outside of social psychology are not aware of these issues. First, the method is partly self-contradictory: For some words (in this case, the concepts to be measured), people’s connotations are assumed to differ, but for other words (in this case the adjectives used as endpoints of the single scales), this assumption should not hold. Second, scales may be relevant to the target objects or concepts to a different degree. These concept-scale interactions are to be treated carefully by determining the structure of the dimensions by using a factor analysis instead of the blind adoption of the EPA structure. Third, a number of problems arise during the administration itself. For some individuals, judging objects on the given scales is hard because the adjective pairs seem unrelated to the target object. In addition, respondents may give socially desirable answers, or can develop a so-called response set, meaning that they would consistently give moderate or very extreme answers. Some of these problems can be overcome by anonymity of the respondents, inclusion of irrelevant target words to disguise the true purpose of the semantic differential, or by checking for response sets. Finally, some problems with the semantic differential arise from a thoughtless use, administration of the method, and analysis of its data. Not every set of bipolar scales and given adjective pairs constitute a semantic differential. The underlying dimensions and possible overlap of the adjective pairs are not assessed in many cases and consequences resulting from it are ignored.

The semantic differential can be an informative and economic measure for the connotation of objects or concepts. However, the user should be fully aware of the complexity of the method and reflect its value carefully.

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*See also* Attitudes; Research Methods; Social Desirability Bias

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## SENSATION SEEKING

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### Definition

Sensation seeking is a personality trait defined by the degree to which an individual seeks novel and highly stimulating activities and experiences. People who are high in sensation seeking are attracted to the unknown and as a result consistently seek the new, varied, and unpredictable. Examples of such behaviors are varied, but sensation seekers may be attracted to extreme sports, frequent travel, diverse foods and music, new sexual partners and experiences, and challenging existing viewpoints. Often, sensation seekers are likely to be impulsive and engage in behaviors that others would find too risky. The risks may be physical (e.g., skydiving), social (e.g., risking embarrassment by dressing unusually), financial (e.g., gambling), or legal (e.g., vandalism). Because sensation seekers are easily bored, they actively avoid situations and activities likely to be overly repetitive and predictable.

### Theory

Marvin Zuckerman originally developed the concept of sensation seeking and has contributed the most important research and relevant theory. Zuckerman's work is especially noteworthy because of his firm and long-standing emphasis on the biological and evolutionary bases of sensation seeking (and personality more generally). Specifically, Zuckerman's basic proposition is that sensation seeking is based on individual differences in the optimal level of sensation caused by biological nervous-system differences. People who are high in sensation seeking are individuals who have relatively low-level nervous system activation and therefore seek arousal from their external environment by looking for novel stimuli and engaging in varied experiences. In contrast, individuals who are low in sensation seeking have a naturally higher level of internal activation and thus do not tend to seek sensation from external sources. Zuckerman posits that sensation seeking is genetically influenced because it is evolutionary adaptive. Across the animal

kingdom, engaging in a certain degree of risky behaviors will increase the likelihood of survival and reproductive success (e.g., seeking new territories for food and new potential mates).

### Measurement

Zuckerman first created the Sensation Seeking Scale in 1964 to measure an individual's overall level of susceptibility to excitement or boredom in the context of sensory deprivation experiments. Current versions of the self-report measure include four subscales: (1) Thrill and Adventure Seeking—the extent to which individuals engage in or are interested in participating in risky activities such as parachuting or skiing; (2) Experience Seeking—the degree to which one seeks excitement through the mind, such as from music, art, and travel; (3) Disinhibition—seeking sensations through social stimulation and disinhibitory behaviors such as drinking and sex; and (4) Boredom Susceptibility—avoiding monotonous, repetitive, and boring situations, people, and activities.

### Research Findings

Zuckerman has generated an impressive amount of research on sensation seeking, and his biologically based approach to understanding personality and social behavior likely influences the current emphasis on behavioral genetics and neuroscience in social psychology. Research supports Zuckerman's biologically based theory and has revealed that sensation seeking plays an important role in many social behaviors.

High sensation seekers have a stronger orienting response to new stimuli, and their physiological response is indicative of sensation seeking rather than avoidance (e.g., decreasing heart rate and increasing brain activity in the visual cortex). In addition, sensation seeking has been found to be related to levels of important brain neurotransmitters (e.g., monoamine oxidase, norepinephrine, and dopamine), which in turn have been found to be genetically influenced. Furthermore, studies of identical and fraternal twins have found sensation seeking to be one of the personality traits most likely to be genetically influenced, with a high degree of heritability (nearly 60%) for the trait. Evidence also indicates that men tend to score higher than women in sensation seeking, which is likely related to the finding that sensation seeking is

positively correlated with testosterone levels. In addition, sensation seeking appears to peak during late adolescence and then decrease with age.

Sensation seeking has been found to be related to a wide range of overt social behaviors, some of which are likely caused by the tendency for sensation seekers to perceive less risk in a given situation than do low sensation seekers. For example, sensation seekers more frequently engage in adventure sports (e.g., scuba diving); are more likely to work in dangerous occupations (e.g., firefighter); and have a preference for rock music, entertainment that portrays humor, and “warm” paintings with red, orange, and yellow colors over “cold” paintings with green and blue colors. Sensation seeking has been suggested as a disease-prone personality because many of the behaviors associated with sensation seeking are potentially harmful to health whereas others concern social problems. For example, sensation seeking has been found predictive of reckless driving, sexual activity, adolescent delinquency, aggression, hostility, anger, personality disorders, criminal behavior, alcohol abuse, and illicit drug use. Not all studies, however, have found sensation seeking to be a strong predictor of such behaviors, likely because research also indicates that the environment and experiences play important roles in the expression of behaviors such as aggression.

*Michael J. Tagler*

*See also* Evolutionary Psychology; Genetic Influences on Social Behavior; Individual Differences; Personality and Social Behavior; Risk Taking; Social Neuroscience; Traits; Twin Studies

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example, when selecting a set of snacks to be consumed one per day during the next week. Sequential choice refers to choosing a single product at a time and consuming this product before selecting the next one (e.g., selecting one of the snacks on the day of its consumption). In contrast, simultaneous choice is the selection of several items all at once for consumption one after another over time (e.g., selecting all snacks simultaneously before or on the first day of its consumption).

### Explanation and Details

The concepts of sequential and simultaneous choice are used primarily in consumer psychology. Research shows that the two strategies lead to different decision outcomes. A person who is choosing products sequentially makes less diverse decisions than does a person who is choosing products simultaneously. For example, a person making a sequential choice often chooses identical products (e.g., the same chocolate bar) rather than different ones, whereas a person making choices simultaneously often chooses a greater variety of products (e.g., chocolate bars of different tastes). Explanations for this difference have been studied experimentally: When making a simultaneous choice, a person has to think simultaneously about various consumption situations in the future; that is, in one situation a person has to select several products that will be consumed later in several different occasions. This process requires a lot of time and effort. People also overestimate the possibility that their preference for a product will change in the future. Consequently, people choose a greater variety of products to simplify their decision. These aspects have no or only little influence when making choices sequentially. Compared with a simultaneous choice, sequential choice is the easier task: A person only has to select the most preferred product out of several products. Consequently, experiments show that people making decisions sequentially feel more confident about their decisions than making decisions simultaneously.

Which strategy yields a better outcome depends on the situation: Studies show that especially in situations when independent products have to be selected (e.g., music CDs, snacks), the chosen product is liked more when choices are made sequentially instead of simultaneously. The reason is that people who make sequential choices focus on their needs in a given situation disregarding any irrelevant information (e.g., product preferences in the future). Instead, in situations when interdependent items have to be selected (e.g., furniture

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## SEQUENTIAL CHOICE

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### Definition

The term *sequential choice* is mostly used in contrast to *simultaneous choice*. Both terms refer to the selection of a series of items for subsequent consumption, for

for an apartment), the outcomes of simultaneous choices are favored over those of sequential choices because the products will be used together.

Examples of products that have been used to investigate sequential and simultaneous choices are food (e.g., snacks, yogurt, meals), drinks (e.g., soft drinks, juices), music songs, and gambles.

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*Anke Görzig*

*See also* Consumer Behavior; Decision Making; Satisficing; Simultaneous Choice

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## SEX DRIVE

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### Definition

Sex drive represents a basic motivation to pursue and initiate sexual activity and gratification and is tightly regulated by sex hormones—testosterone in men and both testosterone and estrogen in women. In other words, sex drive can be thought of as a person's general urge to have sex.

### History and Modern Usage

Sex drive is thought to have evolved to ensure the survival of the species by motivating sexual behavior and hence reproduction. This is consistent with the fact that children who have not yet reached puberty, who have low levels of sex hormones and are incapable of reproduction, do not typically report strong urges for sex (although they are capable of sexual arousal). The importance of sex hormones (such as testosterone) to sex drive has been demonstrated by studies showing that individuals with abnormally low levels of these hormones report very weak sexual urges and that these urges can be increased by administering corrective doses of such hormones.

Much research has focused on gender differences in sex drive, specifically the fact that women typically report weaker motivations for sexual activity than do

men and fewer spontaneous sexual urges and fantasies. Considerable debate exists about whether such gender differences reflect cultural repression of female sexuality or biological differences between men and women. Both factors likely play a role, but it is not clear whether one factor is uniformly more important than the other. Some researchers have argued that instead of viewing women as having *weaker* sex drives, it is more appropriate to view the female sex drive as more *periodic* than men's—that is, showing notable peaks and valleys over time—because of fluctuations in women's hormone levels across the menstrual cycle. Whereas men have fairly high and constant levels of testosterone, women's estrogen levels peak around the time of ovulation (when pregnancy is most likely to occur), and this surge corresponds to an increase in sexual motivation. When estrogen levels subsequently fall, so does sexual motivation. This may be an evolved mechanism ensuring that women are most likely to pursue sexual activity when such activity is most likely to produce offspring.

Although sex drive is regulated by sex hormones, it can also be influenced by social, psychological, and cultural factors. Psychological stress, for example, is commonly associated with decreased sex drive. Finally, it is important to distinguish between sex drive and sexual orientation. Although there have long been stereotypes that individuals with lesbian, gay, or bisexual orientations are more sexual in general than are heterosexuals, and thus have stronger sex drives, there is no evidence that this is the case. Rather, the strength of one's overall sexual motivation appears to be independent of the object of one's sexual motivation.

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*See also* Erotic Plasticity; Sexual Desire; Testosterone

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## SEXISM

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### Definition

Sexism refers to prejudice or bias toward people based on their gender; it encompasses beliefs (e.g., in different roles for men and women), emotions (e.g., disliking powerful women), and behavior (e.g., sexual harassment) that support gender inequality. Although originally conceived as antipathy toward women, sexism includes subjectively positive but patronizing beliefs (e.g., that men ought to provide for women). There can also be sexism against men, insofar as people believe women are superior to men.

### History and Current Usage

Research on sexism developed rapidly in the 1970s. Initially, researchers assumed that sexism, like other prejudices, represents an antipathy (dislike or hatred) toward an oppressed group (specifically women, who have historically had less power than men). The Attitudes toward Women Scale, which measured whether respondents thought that women ought to remain in traditional gender roles (e.g., raising children rather than working outside the home), became the most prominent measure of sexist attitudes.

Sexist attitudes, however, inherently involve comparisons between the sexes. In the late 1980s, Alice H. Eagly and Antonio Mladinic contrasted attitudes toward each sex, finding the *women are wonderful effect*: As a group, women are rated more favorably than men (by both women and men). This effect challenged the idea of sexism as antipathy toward women because subjectively positive views of women can nevertheless support gender inequality.

Specifically, women are viewed favorably because they are perceived as more *communal* (nice, nurturing,

empathetic), whereas men are viewed as more *agentic* (competent, competitive, ambitious). Although women are likeable, their assigned traits suit them to domestic, lower status roles (which require nurturing others), whereas men's stereotypical traits suit them for high status, leadership roles. In short, women are better liked but less well respected than men. Recent research measuring implicit attitudes (what people automatically and nonconsciously think) supports this conclusion.

In the 1990s, Peter Glick and Susan T. Fiske coined the term *benevolent sexism* to refer to subjectively favorable but patronizing attitudes toward women (e.g., that women, though wonderful, are weak and need men's help). Sexists tend to endorse both benevolent sexism and hostile sexism (negative attitudes toward women who seek equality or powerful roles in society). Benevolent sexism rewards women for staying in traditional (e.g., domestic) roles, whereas hostile sexism punishes women who attempt to break out of those roles. The two forms of sexism work together to maintain gender inequality. Cross-cultural comparisons reveal that nations in which people most strongly endorse benevolent sexism also exhibit the most hostile sexism and the least gender equality (e.g., lower living standards for women relative to men).

*Peter Glick*

*See also* Benevolent Sexism; Prejudice, Racism; Stereotypes and Stereotyping

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## SEX ROLES

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### Definition

Sex roles, or gender roles, consist of the social expectations about the typical and appropriate behavior of

men and women. Generally, the female gender role includes the expectation that women and girls exhibit communal traits and behaviors, which focus on interpersonal skill, expressivity, and emotional sensitivity. In contrast, the male gender role includes the expectation that men and boys exhibit agentic traits and behaviors, which focus on self-orientation, independence, and assertiveness. In addition, gender roles include expectations about other elements, such as cognitive skills, hobbies and interests, and occupational choice. Because gender roles transcend many different situations, they can exert considerable influence, and thus studying them is critical to understanding the psychology of men and women.

Gender roles include both descriptive norms, which describe the behavior that is typically observed in men and women, and injunctive or prescriptive norms, which mandate the behavior that is socially approved for men and women. These beliefs are often consensually held: Studies of gender stereotypes, or beliefs about men and women, across a wide range of cultures have found that although some variability exists, people of different cultures generally agree about what men and women are like. In general, people believe that women tend to be more communal than men, and men tend to be more agentic than women. Regardless of the accuracy of such beliefs, this widespread consensus lends them considerable power. Moreover, gender roles tend to be socially approved; not only do people agree that men and women differ, but they also agree that such differences are good.

Writers and philosophers have long considered the impact of different expectations for men and women (for example, Mary Wollstonecraft's *Vindication of the Rights of Woman*, published in 1792). The scientific study of sex roles began in earnest during the second wave of feminism in the 1970s, when psychologists began to document and explain sex differences in behavior and cognitive skills. Explanations of sex-related differences include a wide range of social and biological causes. Although the general convention is to use the term *gender* to describe the social and cultural systems (e.g., socialization) and *sex* to describe the biological groupings of men and women, growing consensus suggests that these causes may not be easily separated. For instance, biological differences (e.g., pregnancy) can assume greater or lesser meaning in cultures with different social or economic demands.

## Roots of Gender Roles

Gender roles are closely intertwined with the social roles of men and women. In the traditional division of labor, men occupy high status or leadership roles more than women do, and women occupy caretaking and domestic roles more than men do. When a group of people occupies a particular type of social role, observers infer that the group possesses the internal qualities suited to such roles, thereby failing to account for the power of the role to affect behavior. In the case of the gender groups, the observation that men occupy leadership roles and women occupy caretaking roles leads to the assumption that each group possesses role-congruent personality traits. Initial evidence supporting this inferential process came from a series of experiments in which respondents read brief scenarios about individuals who were described as (a) male, female, or sex-unspecified, and (b) an employee, homemaker, or occupation-unspecified. When no occupation was specified, inferences followed traditional gender stereotypes (i.e., that women were more communal and that men were more agentic). However, when the target individual was described as a homemaker, the respondents inferred that the individual was highly communal and not very agentic—whether the target individual was male or female. Conversely, when the target individual was described as an employee, the respondents inferred that the individual was highly agentic and not very communal—again, regardless of the sex of the target individual. Thus, gender stereotypes stem from the assumption that men and women occupy different types of social roles. The expectation that men and women possess gender-stereotypic traits is then elaborated into broader gender roles, including beliefs that men and women are especially suited for their social roles and approval for gender-stereotypic traits.

## Effects of Gender Roles

Because of the consensual and widely approved nature of gender roles, they have considerable impact on behavior. Expectations related to gender may begin to exert an influence extremely early in life. Indeed, within 24 hours of birth, parents have been found to describe male and female infants in gender-stereotypic terms, although the infants did not differ on any objective measures. Such expectations elicit confirming behavior, as demonstrated in several experiments

studying the self-fulfilling prophecy. In a classic experiment, each participant was asked to complete a set of male- and female-stereotypic tasks along with a partner, whom they did not meet. The experimenters varied whether participants *believed* they were interacting with a male or female partner. Task assignments followed gender-stereotypic lines: When participants believed they were interacting with a partner of the other sex, they negotiated a more traditional division of labor. Importantly, this gender-stereotypic division of labor occurred regardless of the actual sex of the partner. The simple belief that someone is a man or a woman—even if incorrect—can elicit behavior that conforms to gender role expectations.

The power of expectations to elicit confirming behavior within one specific situation is compelling, but even more so is the consideration of the power of expectations culminated over a lifetime. A wide variety of sources, including parents, teachers, peers, and the media, convey these expectations, which can have considerable impact on life choices. For example, the Eccles model of achievement choices has explicated how parent and teacher expectations about gender differences in ability lead to boys' greater tendency to excel in achievement-related domains. Moreover, repeated experience in certain activities may lead to the development of congruent personality characteristics, which then may guide behaviors across different situations.

An important element of the power of gender roles is that people are rewarded for compliance and punished for transgressions. Those who violate gender-stereotypic expectations, whether because of sexual preference, occupational choice, or personality characteristics, often meet with derogation in their social environment. Such negativity has been documented in experimental findings that women who adopt dominant or self-promoting speech and behavior are penalized compared with similar men. This derogation can include sexism, heterosexism, and discrimination.

Sex-role expectations also contribute to differences in men and women's behavior. For example, the tendency for men to aggress more than women is exacerbated for male-stereotypic behaviors, such as physical aggression, compared with psychological or verbal aggression. In contrast, the sex difference decreases or reverses for relational aggression, in which elements of relationships are used to harm others. Similarly, men's greater tendency to help others especially appears in unfamiliar or potentially dangerous situations. Analyses of heroic behavior suggest that women

tend to help in contexts that require long-term commitment (e.g., kidney donation), whereas men tend to help in physically demanding or immediate-response contexts. These patterns of behavior cohere with gender role expectations that emphasize women's close relationships and men's physicality.

## Implications

Despite widespread persistence, gender roles have also shown malleability. Since the mid-20th century, these expectations have changed a great deal in the United States and many other cultures. Women's entry into the paid labor force, and especially into formerly male-dominated professions, has resulted in the relaxation of many restrictions placed on women's behavior. People generally believe that women have adopted many male-stereotypic qualities from the past to present, and they expect women to continue to adopt these qualities in the future. Men's roles also reveal some signs of change, although less so than women's roles. Time-use data suggest that men have increased their time spent caring for children since the 1960s, and expectations of more involved fatherhood continue to grow. Even so, men or women who transcend the boundaries of their gender roles still meet with resistance in many domains. Nonetheless, the belief that gender roles are changing may ultimately provide more men and women with the opportunity to follow their individual preferences and desires, rather than be bound by societal expectations.

Amanda B. Diekman

*See also* Gender Differences; Norms, Prescriptive and Descriptive; Roles and Role Theory; Sexism

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## SEXUAL DESIRE

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### Definition

Sexual desire is typically viewed as an interest in sexual objects or activities. More precisely, it is the subjective feeling of wanting to engage in sex. Sexual desire is sometimes, but not always, accompanied by genital arousal (such as penile erection in men and vaginal lubrication in women). Sexual desire can be triggered by a large variety of cues and situations, including private thoughts, feelings, and fantasies; erotic materials (such as books, movies, photographs); and a variety of erotic environments, situations, or social interactions.

### Background and History

Sexual desire is often confused with sex drive, but these are fundamentally different constructs. Sex drive represents a basic, biologically mediated motivation to seek sexual activity or sexual gratification. In contrast, sexual desire represents a more complex psychological experience that is not dependent on hormonal factors. One useful way to think about the distinction between sex drive and sexual desire comes from research on nonhuman primates. This research distinguishes between *proceptivity* and *receptivity*. Proceptivity refers to a basic urge to seek and initiate sexual activity and is regulated by hormones (for example, testosterone in men and estrogen in women). Receptivity, sometimes called *arousability*, represents the capacity to become sexually interested or aroused upon exposure to certain stimuli. Unlike proceptivity, arousability is not hormone-dependent; in fact, even individuals with no circulating gonadal hormones show arousability to erotic stimuli, although they are not typically motivated to seek sexual gratification.

Proceptive desire and arousability are probably experienced differently (for example, proceptive desire feeling more like a strong, motivating craving or hunger for sex), although no research has directly addressed this question.

### Evidence Regarding Hormonal and Physiological Aspects

Although the capacity to experience sexual desire is not hormone-dependent, developmental research suggests that it might be facilitated or intensified by hormones. For example, children typically report their first awareness of sexual desires and attractions as early as 9 years of age, and some researchers have linked this transition to the development of the adrenal gland and the corresponding secretion of adrenal hormones (which are considered weaker than gonadal hormones). Notably, however, these experiences do not typically involve a motivation to seek sexual gratification or activity. Such a motivation does not typically develop until after age 12, when the maturational changes of puberty produce notable surges in levels of gonadal hormones.

Sexual desire is often accompanied by physiological sexual arousal, most notably increased blood flow to the genitals. Yet, this is not always the case. Some individuals report feeling sexual desire even when their genitals show no signs of arousal, whereas others show genital arousal in the absence of psychological feelings of desire. Thus, physiological arousal is not a necessary element of sexual desire and should not be considered a more valid marker of sexual desire than individuals' own self-reported feelings. Researchers do not yet understand why some individuals, in some situations, show differences between their psychological and physiological experiences of sexual desire. These differences are likely influenced by the large variety of psychological, emotional, cultural, social, and political factors that can affect individuals' experiences of sexual desire. In particular, an individual's immediate social and interpersonal context can have a profound affect on how he or she experiences and interprets moments of desire.

### Evidence Regarding Gender Differences

Cultural, social, and political factors are also thought to influence the notable gender differences that have been documented regarding sexual desire. One of the

most consistent gender differences is that women tend to place greater emphasis on interpersonal relationships as a context for the experience of sexual desire. This may be because women have been historically socialized to restrict their sexual feelings and behaviors to intimate emotional relationships, ideally marital relationships, whereas males have enjoyed more social freedom regarding casual sexual behavior. Another consistent gender difference is that women typically report less frequent and less intense sexual desires than do men. In fact, among adult women, the most common form of sexual disorder is low or absent sexual desire, which is reported by nearly one third of American women. Some adolescent and adult women have difficulty even identifying their own experiences of desire or find that sexual desires are always accompanied by feelings of anxiety, shame, fear, or guilt. This may reflect the fact that women's sexuality has historically faced stricter social regulation and repression than has been the case for men, and that women have always faced greater danger of sexual violence and violation than have men. In addition, however, some researchers have attributed gender differences in sexual desire to the different evolutionary pressures that have faced women and men over the course of human evolution. Specifically, these researchers have argued that the different strategies associated with maximum male versus female reproductive success—respectively, multiple matings with different females versus selective mating with a few, carefully chosen males—may have favored the evolution of stronger sexual desires in men than in women.

### **Broader Implications and Importance**

There has been much interest in sexual desire as an index of sexual orientation, typically defined as an individual's general sexual disposition toward partners of the same sex, the opposite sex, or both sexes. Historically, researchers have considered same-sex sexual desires to be the most important indicator of a same-sex (i.e., gay, lesbian, or bisexual) orientation. In recent years, however, scientific understanding of same-sex desire and sexual orientation has become more complicated. It used to be thought that gay, lesbian, and bisexual individuals were the only people who ever experienced same-sex sexual desires. We now know that many individuals who are otherwise completely heterosexual periodically experience same-sex sexual desires, even if they have little motivation to act

on those desires. These periodic same-sex desires might occur at any stage of the life course and can be triggered by a variety of different stimuli, situations, or relationships. Having such an experience does not appear to indicate that an individual will eventually want to pursue same-sex sexual behavior or will eventually consider himself or herself lesbian, gay, or bisexual. Thus, researchers now generally believe that lesbian, gay, and bisexual orientations are characterized by persistent and intense experiences of same-sex desire that are stable over time.

Some individuals' desires appear to be more plastic, meaning flexible, changeable, and sensitive to external influence than are other individuals' desires. In particular, research increasingly suggests that women's desires are more plastic than men's. This is reflected in the fact that women are more likely than men to report patterns of bisexual desire (i.e., desires for partners of both sexes) and more likely to report desires that run contrary to their general sexual orientation (i.e., periodic same-sex attractions among heterosexuals and periodic opposite-sex attractions among lesbians). For example, recent research has found that gay men report strong feelings of sexual desire, accompanied by genital arousal, when shown sexual depictions of men, but not of women. Correspondingly, heterosexual men report strong feelings of sexual desire, accompanied by genital arousal, when shown sexual depictions of women but not of men. Very different patterns, however, were found among women. Specifically, both lesbian and heterosexual women reported some degree of sexual desire and genital sexual arousal to both men and women. Women's sexual desires also appear to be more sensitive than do men's to experiences of emotional bonding. Some heterosexual women, for example, report having experienced periodic same-sex desires for close female friends with whom they share an intense emotional attachment.

Researchers do not fully understand why this occurs, nor do they understand how feelings of romantic affection are linked to, although distinct from, sexual desire. This is one of the most interesting directions for future research on sexual desire. Other promising areas for future research include how the experiential quality of sexual desire develops and changes over the entire life course, from childhood to late life, and how various biological and cultural factors interact to shape individuals' experiences of desire.

*See also* Erotic Plasticity; Hormones and Behavior; Pornography; Sex Drive

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## SEXUAL ECONOMICS THEORY

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### Definition

Sexual economics theory is an idea about how men and women think, feel, respond, and behave in a sexual context. More specifically, this theory says that men's and women's sexual thoughts, feelings, preferences, and behavior follow fundamental economic principles.

The basic premise is that sex is something that women have and men want. Sex is therefore a female resource that is precious, and hence, women hold on to it until they are given enough incentive to give it up. Men's role is to offer resources that will entice women into sex. The resources that men give women include commitment, affection, attention, time, respect, and money. Note that in this theory, the term *sex* is used rather broadly, to refer to not only intercourse but also touching, kissing, fondling, talking about sex, and other aspects of sexual behavior.

### Sex as a Female Resource

Sexual economics theory uses as a starting point social exchange theory, which is an idea about how

each person in a dyad gives up something that he or she holds to get something of greater benefit in return. For instance, if a person owns a puppy and a family wants to buy it, then the family has to want the puppy more than the money it will give to the person and the person has to want the money more than the puppy he or she will give up. If both parties want what the other has more than what they themselves hold, then the exchange takes place.

Sometimes one party wants the exchange to take place more than does the other. This situation gives rise to an imbalance in power: The party who wants the exchange less has more control over the relationship because he or she can hold out until a highly tantalizing offer is made. In the context of sexual exchange, men are eager to get sex whereas women are less interested. Women have more power when men want sex, and therefore women should be able to get something valuable in return for giving up sex.

Do men really want sex more than women? The answer is a definite yes. When researchers have reviewed all the findings on men's and women's sexual responses, they have observed a strong and consistent difference, with men (as a group) uniformly liking and wanting sex more than women do. This gap means that men have a stronger motivation to obtain sex than do women, and therefore, they must attempt to persuade potential sexual partners. According to sexual economics theory, men give women resources so that women will allow sex to take place.

This trade of resources in the context of sex has happened consistently enough through eras and cultures that societies recognize that female sexuality has value, whereas male sexuality has no value. Ample evidence supports the idea that female sexuality is perceived as having value. For instance, men's and women's feelings about their own virginity are vastly different, and in line with sexual economic theory. Far more women than men think of their virginity as a precious gift to be given only at the most ideal time. Men, in contrast, far more than women see their virginity as a shameful condition from which they want to escape. Society places positive value on female virginity but not on male virginity.

Another piece of evidence comes from violent relationships. A woman with a violent partner apparently would offer sex to distract or soothe her partner if he seemed to be heading for abuse. In this way, women traded sex with their partners to lower their risk for being beaten. Men with violent partners cannot usually escape victimization by offering sex.

In one international study of the reasons why marriages are allowed to dissolve, wives' adultery was punished far more severely than was husbands' adultery. In fact, in many places wives' adultery was a viable reason for husbands to be granted a divorce, whereas husbands' adultery did not justify divorce. These findings fit the idea that sex is a female resource that, in this case, is traded in exchange for being married. When a woman has sex outside her marriage, she is in effect giving away something that the husband considers his.

In one graphic illustration, women prisoners in Australia who had to endure public floggings could have the amount of punishment cut in half if they agreed to be whipped naked to please the male onlookers. Male prisoners were not given any sex-related options as trade for a reduced punishment.

Last, and more germane to the current analysis, recent research reveals that being around sexual cues prompts men to give up monetary resources. When men saw photos of scantily clad women (versus landscape scenes) or they felt bras (versus T-shirts), they were willing to part with monetary resources.

Hence, psychological experiments and historical records show that men trade resources to convince women to be sexual. These patterns spring from men's stronger motivation to obtain sex than women's, which leads men to offer women resources in the hope that they will respond favorably and offer sex.

### At What Price?

Women, in general, want to obtain many, high-quality resources in exchange for providing sex. Men, on the other hand, want to get sex without having to give up much. So, in other language, women want to set a high price, but men only want to pay a low price. The actual price, the going rate, is influenced by what others in a given community are doing. For instance, if women in a given community wait until they receive an engagement ring before they have any sexual interactions with their partners, then a specific woman has a good chance of getting her partner to give her a ring before she agrees to sex. However, if the women in the area collectively give sex away cheaply, then any one woman who wants to receive a marriage proposal and ring before having sex will likely be unable to ask such a high price. Seen this way, women are sellers, and according to basic economic principles, sellers compete with each other. The more competition

among women, the lower the prices for the men. However, to curb this downward trend in prices, women exert pressure on each other to keep the price of sex high. Women do this mainly through social punishment (via rumors, interpersonal exclusion, etc.) of women who offer cheap sex.

Men want the opposite of what women want: They want low-cost sex. Men would prefer to get sex without giving up money, commitment, affection, or time—or at least, to give up these resources when they want to, not only when they want sex. Just like bidders in an online auction, men as buyers at times compete with other men to get sex from a specific woman. In an opposite fashion to what happens with female competition, male competition results in the woman being able to command a higher price.

How do people know what others in the local market are doing and for what price? Often, they do not know, although gossip about the sex acts of one's neighbors and friends are key determinants of what people think is going on. Because people often do not have direct knowledge of the going rate for sex in their community, perceptions of norms become important. Men attempt to convince women that sex occurs quite frequently and at a low price, and women claim that sex happens much less frequently and only after appropriate resources have been exchanged. This amounts to each partner portraying sexual norms in line with a price level they prefer.

In sum, sexual economics theory is a way of explaining heterosexual sexual interactions. Women sell sex (so to speak) and men buy sex, and in doing so they are exchanging valuable resources. Women give sexual access to men after men have given them money, commitment, affection, respect, or time. It seems crude to think about sexual relations in this way, but sexual economics theory demonstrates that basic economic tenets can explain men's and women's negotiations about whether to have sex.

*Kathleen D. Vohs*

*See also* Sex Drive; Sexual Desire; Social Exchange Theory

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## SEXUAL HARASSMENT

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### Definition

The term *sexual harassment* came into use in the U.S. federal courts in the 1970s to describe a form of gender-based discrimination in the workplace. There are two legally recognized forms of workplace sexual harassment: *quid pro quo* and hostile environment sexual harassment. In *quid pro quo*, unwanted sex or gender-related behavior constitutes a term or condition of employment or advancement at work. For example, an employer might require employees to tolerate the employer's sexual advances to maintain employment or gain promotions. In hostile environment, unwelcome sex or gender-related behavior creates an intimidating, hostile, or offensive work environment. For example, employees might be offended by their coworkers' displays of pornography in the workplace. U.S. law also recognizes sexual harassment as a form of discrimination in academic settings and in obtaining fair housing. Although U.S. law does not stipulate the gender of either perpetrator or target of sexual harassment, most perpetrators historically have been male and most targets have been female. Central to the legal definition of sexual harassment is the notion that sexual harassment is unwelcome or unwanted behavior. Whether a behavior is deemed unwelcome ultimately depends on the interpretations made by the target of the behavior. In discerning whether something constitutes sexual harassment, U.S. courts consider whether a reasonable person similar to the target would judge such a behavior to be unwelcome under similar circumstances. Internationally, there are variations in both the legal and lay understanding of sexual harassment across countries. However, since the term was first coined in the United States, the meaning of sexual harassment in other countries has generally been influenced by its roots in the U.S. legal system.

### Research

Most of the early studies of sexual harassment within social science were primarily aimed at capturing the sexually harassing experiences of women in the workplace. Although different survey researchers have devised different ways of operationally defining sexual harassment, the most common experience of sexually harassing behavior reported by women in the workplace is generally called *gender harassment*.

Gender harassment is essentially the overt sexist treatment of women at work. It may include such things as being told that women are incapable of performing a job because they are women, having to endure a litany of offensive and sexist epithets from coworkers or supervisors, or being inundated with offensive pornographic images at work. The aim of gender harassment is not to gain sexual access to the target; rather, it is to express hostile attitudes based on a target's gender. The next most common experience reported by working women in surveys is called *unwanted sexual attention*. This type of sexual harassment may include verbal behavior such as persistent requests for dates despite rejection and nonverbal behavior such as unwelcome sexual touching, conspicuous leering, and sexually suggestive gestures. The third and rarest type of sexually harassing behavior documented from surveys of female workers is called *sexual coercion*. Sexual coercion is essentially synonymous with the legal term *quid pro quo* sexual harassment. It is attempting to use threats or bribes to gain sexual access to a target. As research began to explore men as well as women as the potential targets of sexually harassing behavior, it became clear that even though men were less often targeted, a significant portion of men also experienced such behavior. In addition, a form of gender harassment sometimes called *gender role enforcement* or *challenges to sexual identity* was identified as an experience for men. This form of sexually harassing behavior includes ridiculing men who do not conform to masculine stereotypes. More recent studies have found that women may also experience similar harassment and find it just as emotionally upsetting as men do.

Social scientists have devoted a great deal of attention to the study of factors that influence interpretations of behaviors as sexual harassment. Although women and men more often agree than disagree on what should be considered sexual harassment, women have been found to interpret a broader range of behaviors as potentially sexual harassment. Women and men are less likely to disagree when it comes to more severe behaviors like sexual coercion and more likely to show some disagreement when it comes to less severe behaviors like unwanted sexual attention and gender harassment. Labeling one's experiences as sexual harassment is related in part to their frequency and the severity of the consequences of these experiences. Many people who do not label their experiences as sexual harassment nevertheless suffer from

negative psychological effects as the result of having been subjected to sexually harassing behavior. Experiencing sexually harassing behavior at work may be considered a form of work-related stress and has negative consequences on the personal and professional lives of men and women.

Research has found that sexually harassing behavior is more likely to occur in organizational settings where such behavior is tolerated or condoned. Traditionally masculine jobs where men dominate in numbers are settings in which sexually harassing behavior is also more likely to occur. As mentioned earlier, most perpetrators are men, but researchers have found that men vary widely in their proclivities for sexually harassing behavior. Individual differences in basic social cognition processes, such as associating ideas about sexuality with ideas about social power, seem to be correlated with male proclivities for some forms of sexually harassing behavior.

### Interventions

Research on interventions designed to reduce sexually harassing behavior has produced mixed results. Although participants in training and educational programs conducted in organizational contexts generally report that such experiences are useful, there is little evidence that the mere experience or even the thoroughness of training actually reduces sexual harassment rates in organizations. In fact, some studies have found increased reporting of sexual harassment following training, perhaps attributable to enhancements of awareness. One possible way that training in an organization can have a positive effect is simply by communicating to employees that management takes the topic seriously and providing awareness of mechanisms for targets to report complaints.

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*See also* Bullying; Discrimination; Sexism

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## SEXUAL SELECTION

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### Definition

Evolution is driven not just by the survival of the fittest (natural selection) but also by the reproduction of the sexiest (sexual selection). If an animal finds food and avoids predators but can't find a mate, the animal is an evolutionary dead end. Its genes will die out when it dies. This is why sexual selection is so important: It is the evolutionary gateway to genetic immortality. Every one of your ancestors managed not just to survive to adulthood but also to attract a willing sexual partner. Every one of your 30,000 genes has passed through thousands of generations of successful courtship, mating, and parenting. *Sexual selection* is another term for *reproductive competition*, competition to attract more high-quality mates than one's sexual rivals, to have more high-quality offspring.

### History and Background

Charles Darwin discovered sexual selection and published a massive book about it in 1871, but sexual selection was usually ignored in biology until the 1970s and in psychology until the 1990s. Since then, biologists have realized that many traits in animals have been shaped by sexual selection, either as sexual ornaments to attract mates (e.g., the peacock's tail, the nightingale's song, the female baboon's bright red bottom) or as weapons for sexual competition against rivals (e.g., deer antlers, gorilla muscles, big male baboon teeth). Since about 1990, evolutionary psychologists have also realized that many human traits have been shaped by sexual selection. These sexually selected traits include (a) socially salient physical traits such as female breasts and buttocks, and male beards, upper-body muscles, and penises; (b) person-perception abilities to judge the attractiveness of potential mates, including their beauty, kindness, intelligence, and status; (c) self-presentation abilities (ways of showing off in courtship) such as language, art, music, and humor; and (d) social emotions such as lust, love, jealousy, anger, and ambition.

## Importance

Sex differences in bodies and brains are usually the result of sexual selection. Male mammals can produce offspring just by having sex for a few minutes if they find a willing female, whereas female mammals can only produce offspring if they get pregnant for a long time and produce milk for their offspring. Thus, males can potentially have a lot more offspring than females can. This makes fertile females a much more precious, limited resource than fertile males are. For these reasons, male mammals typically compete much more intensely to attract mates than females do, and females are typically much more choosy about their mates than males are. This leads to many human sex differences that appear across all known cultures, including stronger male motivations to seek status, kill rivals, seduce multiple partners, and take conspicuously heroic risks for the public good.

Yet, sexual selection is not restricted to explaining sex differences. Sexual selection can also explain mating-related traits that are shared by both sexes, including many uniquely human physical traits (e.g., long head hair, everted lips, smooth hairless skin) and mental traits (e.g., creativity, language, social intelligence, moral virtues). Humans can feel lust for other people's bodies, but humans typically fall in love with other people for their impressive minds, great personalities, and social virtues. Or, humans fall out of love with other people because they realize the other people are stupid, boring, selfish, or violent. Thus, human mate choice (choice of sexual partners) depends a lot on the social psychology shared by both sexes, the way people perceive what others are thinking and feeling.

Sexual selection can also explain sexual maturation, the changes from puberty through adolescence and young adulthood, as male and female bodies and brains get ready to enter the mating market. Sexual selection may also be important in explaining individual differences in personality (such as the Big Five personality traits: Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism), which can be understood as different mating strategies that have different strengths and weaknesses. Finally, sexual selection is important in understanding many social psychology topics related to sexual competition, such as aggression, status, self-presentation, prejudice, and prosocial behavior.

Sexual selection is especially good at explaining weird social behavior. If someone is doing something that seems irrational, foolish, bizarre, or risky, it's

probably because that person is producing some sort of courtship display to attract a mate, by trying to attain higher sexual status in some subculture that you don't understand. Just as different animal species have very different sexual ornaments, different human cultures develop different ways to compete for sexual status, to attract mates, and to derogate rivals. But underneath this cultural variability, a few key traits are always displayed and considered attractive: physical health and fertility, mental health, intelligence, kindness, charisma, social popularity, and social status.

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*See also* Big Five Personality Traits; Evolutionary Psychology; Sexual Economics Theory

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## SEXUAL STRATEGIES THEORY

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### Definition

Strategies are the means people use to achieve goals. If the goal is to obtain food, for example, one strategy might be to hunt, another strategy to gather, and a third strategy to scavenge. Sexual strategies are the means people use to achieve sexual or mating goals. Humans have evolved a menu of sexual strategies that includes, at a minimum, short-term and long-term mating. The sexes differ sharply in the adaptive problems they must solve to carry out each strategy successfully and so have evolved profoundly different sexual psychologies. Nonetheless, they share a universal emotion of love, which unites their reproductive interests in mutually produced children and reveals a feature of human sexual strategies that they profoundly share.

## Critical Variables

The sexual strategies theory begins with two critical variables that heavily influence sexual or mating behavior. The first is the temporal variable (time span), which ranges from short-term at one end to long-term mating at the other. Short-term mating has been given many names: one-night stands, hooking up, brief affairs, temporary liaisons. Long-term mating typically involves a prolonged commitment to one mate during a period of years, decades, or a lifetime. The ends of this temporal dimension are anchored using the descriptively neutral terms *short-term mating* and *long-term mating*. Matings of intermediate duration, such as dating, going steady, brief marriages, and intermediate-length affairs, fall between these points. Before the advent of sexual strategies theory in 1993, theories designed to explain human mating focused nearly exclusively on long-term mating and neglected the fact that short-term mating is a common sexual strategy across most cultures.

The second critical variable that forms the foundation of sexual strategies theory is biological sex—whether one is male or female. Biological sex becomes critical to human mating because men and women have recurrently faced profoundly different adaptive mating problems. These recurrently different problems stem from sexual asymmetries in human reproductive biology. Fertilization occurs internally within women, not within men; this has created an adaptive problem for men that no woman has ever faced—the problem of paternity uncertainty. Men never know if they are the biological fathers of their children. Women always know that they are the biological mothers.

Internal female fertilization also creates a critical adaptive problem for women: the selection of which male will fertilize her eggs. Women, not men, bear the metabolic costs of pregnancy and breast-feeding. This has rendered women, the high-investing sex, an extraordinarily valuable reproductive resource for men, the lower investing sex.

As a rule, across thousands of species, the higher investing sex (often, but not always the female) tends to be choosy or discriminating about its choice of a mate. The reasons center on the costs of making a poor mate choice and the benefits of making a wise mate choice. The higher investing sex suffers greater costs of making a poor mate choice. A woman who makes a poor mate choice, for example, risks becoming

pregnant with a man who will not stay around to help her and invest in her child. She also risks passing on genes to her children that are inferior (e.g., genes for poor health) to those that would occur if she were to make a wiser choice (e.g., genes for good health). The lower-investing sex, in contrast, suffers fewer costs of making a poor mate choice—he can go on to reproduce with other partners, an option the higher investing sex is less free to do.

Another general rule of mating is that the lower investing sex tends to be more competitive with members of its own sex for sexual access to members of the valuable members of the high-investing sex. In summary, considering only the obligatory investment, one could predict that women would be generally more choosy and discriminating than men in their mate choices, whereas men more than women would be more competitive with their own sex for sexual access.

## Adaptive Problems and Evidence

According to sexual strategies theory, however, both men and women have evolved to pursue both short-term (sometimes purely sexual) and long-term mating strategies. Sexual strategies theory provides a theory of the different adaptive problems men and women confront when pursuing short-term and long-term mating strategies. This entry describes a few of these adaptive problems and a few pieces of evidence supporting hypotheses about how they evolved to solve those problems.

### Short-Term Mating

Consider first the adaptive problems men must solve when pursuing a short-term mating strategy. One is identifying women who are potentially sexually accessible. A second is identifying women who are fertile. A third adaptive problem is providing the motivational impetus for pursuing a variety of different sexual partners. A fourth is deploying successful strategies of seduction. A fifth is minimizing the time that elapses before seeking sexual intercourse. A sixth is avoiding becoming encumbered in high-investment, high-commitment relationships that would interfere with the successful pursuit of short-term mating.

Empirical studies support several hypothesized evolved solutions to these problems. Men pursuing a short-term mating strategy, for example, avoid women who are prudish and are not deterred by women who

show signs of promiscuity (sexual accessibility problem). Men typically express a desire for a variety of different sex partners, have frequent sexual fantasies involving different women, and let less time elapse before seeking sexual intercourse (compared with women). Men are more likely than women to lie about the depth of their emotional commitment to seduce a woman. Men who pursue short-term mating experience a psychological shift, such that they find their sex partners less attractive immediately after intercourse—a possible adaptation to motivate these men to seek a hasty postcopulatory departure. The success of short-term mating requires not becoming entangled in a relationship with heavy commitment. In short, men show many psychological, emotional, and behavioral characteristics that suggest that short-term mating has evolved as one strategy within their mating menu.

Women confront a somewhat different suite of adaptive problems when pursuing a short-term mating strategy. For men, the adaptive function of short-term mating is straightforward, a direct increase in reproductive success as a consequence of successfully inseminating a variety of women. Women, in contrast, cannot increase their offspring production directly through short-term mating. Adding an additional sex partner does not directly translate into additional offspring, given their heavy metabolic investment to produce a single child (a 9-month pregnancy). Instead, women can potentially benefit, in the currency of reproductive success, by obtaining at least three potential benefits from short-term mating: (1) obtaining superior genes from a man who is high in desirability; (2) obtaining additional resources for herself or her children, which could be critical in lean times, food shortages, or other evolutionary bottlenecks; and (3) using short-term mating as a mate-switching strategy, either to provide a means for exiting one relationship or as a means of trading up to a better mating relationship.

Empirical studies support the hypothesis that women pursue short-term matings to obtain each of these benefits. For example, women pursuing short-term mating place a greater premium on physically symmetrical, masculine-looking, and physically attractive men, markers of good genes. They also state that obtaining economic and material resources are one of the reliable benefits they obtain from short-term mating. And women dissatisfied with their existing long-term relationship are more likely than are satisfied women to have short-term sexual affairs, using them as

a means of exiting an existing relationship or exploring whether they can locate better mates.

### **Long-Term Mating**

Short-term mating, of course, is not the only strategy in the menu of human mating strategies. Both sexes also pursue long-term mating: forming an emotional bond with one partner and committing sexual, psychological, and economic resources to that partner over the long term. When pursuing a long-term mating strategy, however, women and men still differ in several important respects. The sexes differ in their mate selection criteria, what they want in a long-term mate.

Men seeking a long-term mate historically have had to solve the problem of identifying a fertile woman. Men mating with infertile women failed to become ancestors. All modern humans are descendants of men who mated with fertile women. As their descendants, modern men carry with them the psychological desires that led to the success of their ancestors.

How did men solve the problem of selecting a fertile woman? They focused on two important classes of cues known to be linked to fertility: cues to youth and cues to health. Physical appearance provides a wealth of information about youth and health status, and hence fertility status. A study of 10,047 individuals from six continents and five islands discovered that men in all cultures on average place a greater premium on physical attractiveness when seeking a long-term mate, compared with women. Men universally also desire women who are young, and typically younger than they are; in contrast, women desire men who are a bit older than they are. In summary, men's desires in long-term mating center heavily on cues to youth and health, and hence fertility.

Ancestral women faced a different adaptive problem: securing resources for herself and her offspring to increase the odds that she would survive through pregnancy and breast-feeding, and that her children would survive and thrive. Ancestral women who were indifferent to a man's ability and willingness to commit resources to her and her children suffered in survival and reproductive success. Modern women have inherited the mate preferences of their successful ancestral mothers. In the 37-culture study, women indeed placed a greater value on a man's financial status, social status, and cues known to lead to resources: ambition, hard work, and intelligence.

## Love

Although there are universal sex differences in what women and men want in a long-term mate, both sexes universally want love. Love is a powerful evolved emotion that helped men and women remain committed to each other through thick and thin. Love helped bond ancestral men and women together, unite their reproductive interests in mutually produced offspring, and is powerfully linked to long-term mating.

*David M. Buss*

*See also* Evolutionary Psychology; Love; Romantic Love; Sexual Selection

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## SHAME

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### Definition

Shame is one of the most overlooked emotions, at least among individuals residing in Western cultures. Feelings of shame can have a profound effect on one's level of psychological adjustment and one's relationships with others, but these feelings nonetheless often go undetected. People rarely speak of their shame experiences. Denial and a desire for concealment are part of the phenomenology of shame itself. People shrink from their own feelings of shame, just as they recoil from others in the midst of a shame experience. To further complicate matters, shame can masquerade

as other emotions, hiding behind guilt, lurking behind anger, fueling despair and depression.

People's tendency to confuse shame with guilt has helped relegate shame to a footnote in psychology's first century. In professional writings and in everyday conversation, *shame* and *guilt* are mentioned in the same breath as emotion synonyms, or (perhaps more often) *guilt* is used as a catchall term for elements of both emotions. Even the father of psychoanalysis, Sigmund Freud, rarely distinguished between shame and guilt.

### Difference Between Shame and Guilt

Numerous psychologists and anthropologists have attempted to differentiate between these moral emotions. Accounts of the difference between shame and guilt fall into three categories: (1) a distinction based on the types of events that give rise to the emotions, (2) a distinction based on the public versus private nature of the transgression, and (3) a distinction based on the degree to which the person views the emotion-eliciting event as a failure of self or behavior.

Theorists who focus on types of events assume that certain kinds of situations lead to shame, whereas other kinds of situations lead to guilt. For example, behaviors that cause harm to others elicit guilt, whereas behaviors that violate social conventions (e.g., burping in public, poor table manners, unusual sexual behavior) elicit shame. Social psychological research, however, indicates that the type of event has surprisingly little to do with the distinction between shame and guilt. When people are asked to describe personal shame and personal guilt experiences, most types of events (e.g., lying, cheating, stealing, sex, failing to help another, disobeying parents) are cited by some people in connection with feelings of shame and by other people in connection with guilt. Some evidence indicates that shame is evoked by a broader range of situations including both moral and nonmoral failures and transgressions (e.g., harming others and violating social conventions) whereas guilt is more specifically linked to transgressions in the moral realm, as traditionally defined. But on balance, the types of situations that cause shame and guilt are remarkably similar.

Another frequently cited distinction between shame and guilt is the long-standing notion that shame is a more public emotion than guilt is, arising from public exposure and disapproval, whereas guilt is a more private experience arising from self-generated pangs of conscience. As it turns out, research has not supported this public-private distinction in terms of the actual

characteristics of the emotion-eliciting situation. For example, when researchers analyze people's descriptions of personal shame and guilt experiences, others are no more likely to be aware of shame-inducing behaviors than of guilt-inducing behaviors.

Where does this notion that shame is a more public emotion come from? Although shame- and guilt-inducing situations are equally public (in the likelihood that others are present and aware of the failure or transgression), people pay attention to different things when they feel shame compared with when they feel guilt. Specifically, when feeling guilt, people are apt to be aware of their effects on others (e.g., how much a careless remark hurt a friend or how much they disappointed their parents). In contrast, when feeling shame, people are more inclined to worry about how others might evaluate them (e.g., whether a friend might think he or she is a jerk, or whether the parents might regard him or her as a failure). In short, when feeling shame people often focus on others' evaluations, but actual public exposure isn't any more likely than in the case of guilt.

A third basis for distinguishing between shame and guilt centers on the object of one's negative evaluation, and this is the distinction most strongly supported by social psychological research. When people feel guilt, they feel badly about a specific behavior. When people feel shame, they feel badly about themselves. Although this differential emphasis on self ("I did that horrible thing") versus behavior ("I *did* that horrible *thing*") may seem minor, it sets the stage for very different emotional experiences and very different patterns of motivation and subsequent behavior.

Shame is an especially painful emotion because one's core self, not simply one's behavior, is the issue. Shame involves a painful scrutiny of the entire self, a feeling that "I am an unworthy, incompetent, or bad person." People in the midst of a shame experience often report a sense of shrinking, of being small. They feel worthless and powerless. And they feel exposed. Although shame does not necessarily involve an actual observing audience present to witness one's shortcomings, there is often the imagery of how one's defective self would appear to others—as unworthy and reprehensible.

### Motivations and Behaviors Associated With Shame

Phenomenological studies indicate that shame often motivates avoidance, defensiveness, and denial. People feeling shame often report a desire to flee from

the shame-inducing situation, to "sink into the floor and disappear." Denial of responsibility (or of the behavior itself) is not uncommon. Shamed individuals are motivated to hide their misdeeds and their very selves from others, in an effort to escape the pain of shame. In addition to motivating avoidant behavior, research indicates that shame often prompts externalization blame and anger. During a shame experience, hostility is initially directed inward, toward the self ("I'm such a loser"). But because this entails such a global negative self-assessment, the person in the midst of a shame episode is apt to feel trapped and overwhelmed. As a consequence, shamed people are inclined to become defensive. One way to protect the self, and to regain a sense of control, is to redirect that hostility and blame outward. Rather than accepting responsibility for having hurt a friend's feelings, for example, a shamed individual is apt to come up with excuses, deny that he or she said anything offensive, and even blame the friend for overreacting or misinterpreting. Not all anger is based in shame, especially irrational rage and anger, seemingly erupting out of the blue, has its roots in underlying feelings of shame.

In the extreme, shame can lead to aggression and violence, with tragic consequences. Clinicians and researchers identify shame as a common element in situations involving domestic violence. During the months leading up to the Columbine killings and other school shootings, the shooters appear to have experienced deep feelings of shame. Collective shame and humiliation has even been cited by historians and political observers in analyses of the causes of ethnic strife, genocide, and international conflict.

### Shame and Psychological Symptoms

Researchers consistently report a relationship between shame and whole host of psychological symptoms, including depression, anxiety, post-traumatic stress disorder, substance abuse, eating disorders, sexual dysfunction, and suicidal ideation. People who frequently experience shame are at greater risk to develop psychological symptoms, compared with their nonshame-prone peers.

### Is Shame Really a Moral Emotion?

Shame is often cited as a moral emotion, caused by violations of important moral or social standards. A widely held assumption is that painful feelings of

shame help people avoid doing wrong, decreasing the likelihood of transgression and impropriety. As it turns out, there is surprisingly little evidence of this inhibitory function of shame. Shame is not as effective as guilt in guiding one down a moral path. For example, adults' self-reported moral behaviors are substantially positively correlated with proneness to guilt but unrelated to proneness to shame. Similarly, children with a well-developed capacity to feel guilt are less likely to be arrested and incarcerated in their teens. Shame-prone children are not so advantaged. Among incarcerated offenders, guilt but not shame is associated with lowers levels of "criminal thinking." Together with research linking shame to impaired empathy, denial of responsibility, and destructive expressions of anger, there is good reason to question the moral self-regulatory function of shame.

### Adaptive Functions of Shame

The theory and research reviewed thus far has emphasized the dark side of shame, underscoring its negative consequences for psychological adjustment and for interpersonal behavior. Why, then, do people have the capacity to experience this emotion? What adaptive purpose might it serve?"

Psychologists taking a sociobiological approach have focused on the appeasement functions of shame. In the social hierarchy of apes, shame serves as an important signal to dominant apes that lower ranked animals recognize their place. Submissive, shame-like reactions (hunched posture, downcast eyes) reaffirm the social hierarchy and seem to diffuse aggressive interactions. Dominant apes are much less likely to attack subordinate apes when subordinates signal submission in this way. At earlier stages of human evolution, shame likely served similar functions. It has also been suggested that the motivation to withdraw, so often a component of the shame experience, may be useful in interrupting potentially threatening social interactions until the shamed individual has a chance to regroup. Overall, the weight of scientific evidence indicates that guilt is the more moral, adaptive response to sins and transgressions in a contemporary human society that is more egalitarian than hierarchical in structure.

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*See also* Approach–Avoidance Conflict; Guilt; Moral Emotions; Self; Sociobiology

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## SHIFTING STANDARDS

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### Definition

Much of people's conversation about others includes descriptions such as "he's very tall" or "she's smart" or "he's really aggressive!" The concept of shifting standards refers to the idea that these descriptions are made with reference to some standard of judgment, and that this standard may shift depending on the person or object being described. How tall is tall? Presumably, standards of tallness—what qualifies as tall versus short—differ depending on whether a man or a woman (or a child) is being described. Similarly, standards for judging intelligence, aggressiveness, or any other attribute may shift or vary for different categories of people. Research on shifting standards has suggested that stereotypes about groups, such as beliefs that men are more aggressive than women or that African Americans are better athletes than White Americans, may lead to the use of different (shifting) standards to judge individual members of these groups. The result is that the same description or adjective label may mean something substantially different depending on whom it describes. For example, because standards for height and aggression are lower for women than men, a woman might be labeled "tall" if she were 5'9" whereas a 5'9" man would not; "interrupting a conversation" might warrant a label of "assertive" in a woman more so than in a man.

### Background

Many psychologists have been interested in how judgments are made—whether they involve objects (such as estimating the brightness of lights or the heaviness of weights), other people, or the self. Every type of judgment must be made with reference to some standard,

and usually that standard is based on the immediately preceding context, or on what a person has come to expect. As psychologist Harry Helson noted in his theory of adaptation level, a normally lighted room will seem bright if you've been adapted to the dark, but will seem dark if you've previously been exposed to bright sunlight. With regard to judgments of people, a 1986 experiment by Paul Herr demonstrated that an individual may seem hostile if you've recently been thinking about nonhostile people such as Santa Claus or the Pope, but rather nonhostile if you've previously been thinking about hostile people such as Adolf Hitler and Charles Manson. The previous exposure provides the context in which the new target stimulus or person is judged.

Monica Biernat and her colleagues first argued in a 1991 paper that stereotypes about groups function in the same way as other context effects. Stereotypes provide people with expectations about what other people will be like, and therefore serve as standards against which we judge them. If one expects that men have lesser verbal skills than women do, or that African Americans are more athletic than Whites are, the standards will shift depending on whether one is judging men or women, African Americans or Whites. The result could be, paradoxically, that a man is judged even more verbally skilled than a comparably performing woman, or that a White actor is judged more athletic than a Black actor (because standards are lower in each case). But this doesn't mean that no stereotyping has occurred, or even that reverse stereotyping has occurred. Instead, the stereotype gives rise to different standards, which leads people to judge individual members of groups in comparison with expectations for their groups as a whole.

### Evidence

To demonstrate that stereotypes lead to the use of shifting standards, a line of research has compared the kinds of subjective judgments people make of others with more objective judgments. For example, when asked to judge the heights of individual men and women (depicted in photographs), estimates in inches provide an objective indicator, but estimates in short versus tall descriptors are subjective (i.e., their meaning is not fixed). A typical finding in research comparing these judgments is that objective judgments reveal that people perceive the pictured men as taller than the pictured women. But when asked to estimate how

short versus tall these same individuals are, perceivers generally judge the men and women as equally tall. Presumably this occurs because the standard has shifted: Even though the men are seen as objectively taller, they are not so subjectively tall because standards for tallness are higher.

In another demonstration of shifting standards, judges were asked to view photographs of men and women and estimate either how much money they made (in dollars earned per year) or to estimate how financially successful they were (a subjective judgment). The men were judged to earn more money than the women, but the women were judged more financially successful than the men. Again, because standards for financial success are higher for men than women, a woman could earn \$9,000 less than a man and still be considered more financially successful.

Across a wide variety of domains—including estimates of athletic ability and verbal skill in the case of racial groups; estimates of writing quality and leadership competence in the case of gender groups—similar patterns have emerged. Indeed, the signature evidence that standards have shifted is that objective judgments reveal straightforward stereotyping effects (e.g., men are judged objectively better leaders than women), but subjective judgments show reductions or reversals of this pattern.

Evidence also indicates that this pattern extends to how individuals actually behave toward members of stereotyped groups. For example, in one study focusing on gender and athleticism, role-playing managers of a coed softball team favored male over female players in many decisions: Managers were more likely to choose men for the team and assign them to valued positions. At the same time, however, female players were praised more than were male players when they successfully hit a single while at bat. Because expectations for women were low, judges were more impressed by a hit from a woman than from a man.

### Implications

Judging others is a big part of social life, and in some settings, such as school or the workplace, the judgments people form may have real implications for their life outcomes. That stereotypes may tarnish these judgments has always been a cause for concern, but research on shifting standards has highlighted that the effects of stereotypes on judgments may be quite complex. Imagine the female softball player who

finds herself benched, but patted on the back when she does get the chance to occasionally catch a ball. Or think of the African American employee who finds that he is lavishly praised for completing the simplest of tasks, but is nonetheless passed over for a promotion. This pattern of conflicting feedback must be disconcerting at best. It may also allow judges (the team manager, the employer) to deny the fact that bias is operating. More generally, the fact that standards shift means that the language we use to describe others is often slippery and imprecise. How tall is tall? How smart is smart? That depends on the standard at hand.

*Monica Biernat*

*See also* Reference Group; Self-Reports; Stereotypes and Stereotyping

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## SHYNESS

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### Definition

*Shyness* is the ordinary language term most often used to label the emotional state of feeling anxious and inhibited in social situations. As would be expected from a social psychological perspective, situations differ in their power to elicit reactions of social anxiety. Ratings of shyness-eliciting events reveal that interactions with strangers, especially those of the opposite sex or in positions of authority; encounters requiring assertive behavior; and explicitly evaluative settings such as job interviews provoke the strongest feelings of social anxiety. Quietness, gaze aversion, and awkward body language are the most common behavioral signs of shyness.

### Emotional State and Personality Trait

Viewed as an emotional state, shyness is an almost universal experience, with less than 10% of respondents to cross-cultural surveys reporting that they had never felt shy. The ubiquity of shyness raises the question of its

possible adaptive value. Contemporary psychologists who take an evolutionary perspective on emotional development point out that a moderate amount of wariness regarding strangers and unfamiliar or unpredictable situations may have considerable adaptive value. Social anxiety is functional when it motivates preparation and rehearsal for important interpersonal events, and shyness helps facilitate cooperative group living by inhibiting individual behavior that is socially unacceptable. Moreover, the complete absence of susceptibility to feeling shy has been recognized as an antisocial characteristic since at least the time of the ancient Greeks. Situational shyness as a transitory emotional state thus appears to be a normal and functional aspect of human development and everyday adult life.

For some people, however, shyness is more than a temporary situational response; it occurs with sufficient frequency and intensity to be considered a personality trait. About 30% to 40% of adults in the United States label themselves as dispositionally shy persons. Three quarters of the shy respondents said that they did not like being so shy, and two thirds of them considered their shyness to be a personal problem. Although shyness does have some positive connotations, such as modesty or gentleness, it is generally rated as an undesirable characteristic, especially for men. Recent research supports this negative image of the trait by documenting how shyness can be a barrier to personal well-being, social adjustment, and occupational fulfillment.

Some people prefer to spend time alone rather than with others but also feel comfortable when they are in social settings. Such people are nonanxious introverts, who may be unsociable but are not shy. The opposite of shyness is social self-confidence, not extraversion. The problem for truly shy people is that their anxiety prevents them from participating in social life when they want to or need to.

### Individual Differences

One way to approach the distinction between shy people and those who are not shy is simply quantitative: Dispositionally shy people experience physical tension, worry, and behavioral inhibition more frequently, more intensely, and in a wider range of situations than do people who do not label themselves as being shy. There are also qualitative differences in psychological processes. For example, shy people perceive various situations as being inherently less intimate and more evaluative, and they perceive the

same interpersonal feedback as being more evaluatively negative, compared with those who are not shy. When they encounter social difficulties, shy people also tend to make more self-blaming causal attributions and to remember more negative details than do people who are not shy.

Research studies of identical and fraternal twins indicate that the temperamental predisposition for shyness has a substantial genetic component. Infants with this highly reactive temperament in the first year of life are more likely to be wary or fearful of strangers at the end of the second year, and they are also more likely to be described as shy by their kindergarten teachers than are children with an opposite, behaviorally uninhibited temperament. Temperamental inhibition in infancy does not lead invariably to childhood shyness. Parents who are sensitive to the nature of their inhibited child's temperament, who take an active role in helping the child to develop relationships with playmates, and who facilitate involvement in school activities appear to ameliorate the impact of shyness on the child's subsequent social adjustment. Childhood shyness is a joint product of temperament and socialization experiences within and outside the family. Retrospective reports indicate that 75% of young adults who say they were shy in early childhood continue to identify themselves as shy persons. Equally significant, however, is that about half of shy adults report that they did not become troubled by shyness until they were between the ages of 8 and 14.

Most of the children who first become shy in later childhood and early adolescence do not have the temperamental predisposition for shyness. Instead, late-developing shyness is usually caused by adjustment problems in adolescent social development. The bodily changes of puberty, the newly acquired cognitive ability to think abstractly about the self and the environment, and the new demands and opportunities resulting from changing social roles combine to make adolescents feel intensely self-conscious and socially awkward. Adolescent self-consciousness gradually declines after age 14, and less than 50% of individuals who first became shy during later childhood and early adolescence still consider themselves to be shy by age 21.

### Cultural Differences

Sex role socialization puts different pressures on adolescent girls and boys. In the United States, teenage girls experience more symptoms of self-conscious

shyness, such as doubts about their attractiveness and worries about what others think of them, whereas teenage boys tend to be more troubled by behavioral symptoms of shyness because the traditional male role requires initiative and assertiveness in social life. Cultural differences in the prevalence of shyness also may reflect the impact of socialization practices. In Israel, children tend to be praised for being self-confident and often are included in adult conversations, two factors that may account for the low level of shyness reported by Israelis. In Japan, on the other hand, the incidence of shyness is much higher than in the United States. Japanese culture values harmony and tends to encourage dependency and quiet loyalty to one's superiors. Talkative or assertive individuals risk being considered immature or insincere, and there is a high level of concern about avoiding the shame of failure. All these values may promote shyness yet also make it a somewhat less socially undesirable personality trait. In contrast, American cultural values that emphasize competition, individual achievement, and material success appear to create an environment in which it is particularly difficult for the shy person to feel secure and worthwhile.

*Jonathan M. Cheek*

*See also* Anxiety; Cultural Differences; Embarrassment; Gender Differences; Genetic Influences on Social Relationships; Individual Differences; Introversion; Social Anxiety; Traits

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## SIMILARITY-ATTRACTION EFFECT

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### Definition

The similarity-attraction effect refers to the widespread tendency of people to be attracted to others

who are similar to themselves in important respects. Attraction means not strictly physical attraction but, rather, liking for or wanting to be around the person. Many different dimensions of similarity have been studied, in both friendship and romantic contexts. Similarity effects tend to be strongest and most consistent for attitudes, values, activity preferences, and attractiveness. Personality similarity has shown weaker, but still important, effects on attraction.

### Background and Modern Usage

Similarity-attraction research embodies the popular adage, “birds of a feather flock together.” This effect has been studied extensively, usually in one of two ways. First, in laboratory experiments, participants are given descriptions of a person they are about to meet. These descriptions are manipulated to vary in their degree of similarity, from very similar to very dissimilar, to the participant’s own standing on whatever dimensions the investigator wishes to study. The second method entails correlational studies, which assess the properties of interest in relationship partners, often by questionnaire. The degree of correspondence between partners is then compared with that of random pairs of people, people with a tepid attraction to each other or, more commonly, chance. Years of research have produced such robust evidence that one researcher referred to the effects of similarity on attraction as a “law.” In striking contrast, many attempts to find support for a sister principle, known as the *complementarity principle* (“opposites attract”) have failed to find more than a highly selective effect in limited contexts.

Why does similarity attract? At least four explanations have received consistent empirical support. First, because similar others are more likely than are dissimilar others to possess opinions and worldviews that validate one’s own, interaction with similar others is a likely source of social reinforcement. Second, all other things being equal, people more readily expect rejection by dissimilar others than by similar others. As other research has shown, anticipated rejection usually diminishes attraction. Third, interaction with similar others may be more enjoyable than interaction with dissimilar others, inasmuch as similar others tend to share one’s own interests, values, and activity preferences. Finally, fortune or chance also seems to play a part. Because attitudes and values direct much of a person’s behavior (for example, people who love

baseball attend more baseball games than people who don’t), he or she is simply more likely to encounter others who have similar attitudes and values than others with dissimilar preferences. Obviously, attraction cannot develop between persons who have not encountered each other. Overall, all four of these explanations likely contribute to the effect of similarity on attraction.

People sometimes question evidence about the similarity-attraction link for subjective reasons. After all, when a person reflects on his or her own friendships, he or she often notices the differences more than the similarities. This is probably a healthy part of the process of expressing and accepting one’s individuality. However, similarity is relative. When asked to consider the degree of similarity between the self and a close friend, compared with the self and a random inhabitant of planet Earth, or, for that matter, a random person living elsewhere in the same country, state, or neighborhood, the relevance of similarity for friendship usually becomes quickly apparent.

*Harry T. Reis*

*See also* Attraction; Complementarity, of Relationship Partners; Rejection

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## SIMULATION HEURISTIC

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### Definition

The simulation heuristic focuses on what occurs after a person has experienced an event in his or her life. According to the simulation heuristic, a person imagines possible simulations or alternative outcomes to events that he or she encounters. The imagined alternatives, in turn, affect how a person feels about the event in question.

## Implications

When faced with questions about events that occur in life, a person may react in many ways. Sometimes a person may choose to put off dealing with the event until later or perhaps even ignore it altogether. However, usually a person eventually comes to confront life events. How a person deals with these situations has great importance for how he or she comes to think about, perceive, and eventually react to the event.

According to the simulation heuristic, one way that a person confronts a life event is to construct alternatives or simulations to the event in question. This means that when a person encounters some events he or she mentally creates other possible scenarios for how the event could have turned out differently. The simulation heuristic also addresses the emotional impact that imagining the possible outcomes can have for a person. Specifically, imagining better alternative outcomes can make a person feel worse about the event that he or she has experienced. Originally, these mental simulations were compared with computer-based programming models.

In the computer analogy, the simulation model can be constrained so that only predetermined contingencies can occur, or it may be limited to a particular outcome. The output of the simulation is the ease with which the person can generate the simulations. The computer analogy is helpful as an example, but it is lacking in many respects. Consequently, it has been replaced by a more elaborate cognitive processing model of event construction that includes an emotional presence.

Although the simulation heuristic may have influence in many situations such as prediction and probability assessment, its influence is most evident in the study of counterfactual influences. Counterfactuals deal with other possible outcomes to an event. For example, imagine a situation in which two people had missed the school shuttle that only runs on the hour. And because they missed the shuttle, they did not make it to a test in a class in which the professor does not allow makeup exams. One person learns that the shuttle had run on time. The other person learns that the shuttle was running late and left just before they got there. Who would be more upset? Most people would agree that the person who missed the shuttle by only moments would be more upset. The reason for this, according to the simulation heuristic, is that it is

easier to generate simulations to the event when the shuttle was missed by only moments. And this construction of mental simulations of the event or *counterfactual production* is what leads people to feel more regret about events that they encounter.

Research investigating the simulation heuristic has found that people can create simulations to an event in many different ways, and these simulations can have distinct differences in how people perceive the event. For example, a person could create a simulation that is better or a simulation that is worse than the actual event, which, in turn, may have profoundly different effects on how the person perceives the event. Differences such as these have proven important for understanding many areas of research including planning, decision making, and emotional response.

*Todd McElroy*

*See also* Counterfactual Thinking; Decision Making; Emotion

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## SIMULTANEOUS CHOICE

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### Definition

The term *simultaneous choice* is mostly used in contrast to sequential choice. Both terms refer to the selection of a series of items for subsequent consumption, for example, when selecting a set of three soft drinks to be consumed one per day during the next three days. Simultaneous choice is the choice of several items ahead of time (e.g., selecting all three soft drinks before or on the first day of consumption) whereas sequential choice refers to single decisions, where each item is chosen at the time of its employment (e.g., selecting each of the three soft drinks on the day of its consumption).

## Explanation and Details

*Simultaneous* and *sequential choice* derive from the area of consumer research. Decision outcomes from simultaneous choice and sequential choice tend to differ because of different decision strategies. People choose a greater variety of things when making simultaneous choices rather than sequential choices. For example, a person who is consuming one yogurt daily is more likely to select a greater variety of flavors when buying yogurts for the next week within one shopping trip than when going shopping daily and buying only one yogurt for immediate consumption each day.

Several reasons for this seeking of greater variety in simultaneous choice have been discussed and experimentally tested. When making a simultaneous choice a person tends to overpredict satiation with one item (e.g., a particular yogurt flavor) because of an underestimation of the time interval from one consumption period to the other. The result is the selection of a greater variety of items. In addition, simultaneous choice requires the prediction of future preferences, which are prone to be uncertain. For example, a person's taste might change over time. It seems less likely that a person's taste will change for each variation, so selecting a variety of items is less risky than choosing the same item for all consumption periods. Selecting a series of items during simultaneous choice also requires more time and effort than selecting one item at a time. Determining the best item for each of the consumption occasions within a simultaneous choice is a time consuming and cognitively demanding task. Consequently, selecting a greater variety of items can be a means of simplifying the decision task.

Research examining whether simultaneous or sequential choice is better for the consumer in liking and objective value of items yields no definite results. A simultaneous choice is possibly a better strategy for a simultaneous experience (e.g., choosing a set of interdependent items such as furniture for an apartment) whereas a sequential choice seems to be best for sequential experience (e.g., choosing a set of independent items such as different music compact discs).

Some items that have been used in simultaneous choice experiments include compact disk tracks, gambles, groceries, movies, and snacks.

Anke Görzig  
Ursula Szillis

*See also* Consumer Behavior; Decision Making; Satisficing; Sequential Choice

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## SLEEPER EFFECT

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### Definition

A sleeper effect in persuasion is a delayed increase in the impact of a persuasive message. In other words, a sleeper effect occurs when a communication shows no immediate persuasive effects, but, after some time, the recipient of the communication becomes more favorable toward the position advocated by the message. As a pattern of data, the sleeper effect is opposite to the typical finding that induced opinion change dissipates over time.

### Discovery and Original Interpretation

The term *sleeper effect* was first used by Carl Hovland and his research associates to describe opinion change produced by the U.S. Army's *Why We Fight* films used to improve the morale of the troops during World War II. Specifically, Hovland found that the film *The Battle of Britain* increased U.S. Army recruits' confidence in their British allies when the effect of this film was assessed 9 weeks after it was shown (compared with an earlier assessment).

After the war, Hovland returned to his professorship at Yale University and conducted experiments on the sleeper effect to determine its underlying causes. According to Hovland, a sleeper effect occurs as a result of what he called the *dissociation discounting cue hypothesis*—in other words, a sleeper effect occurs when a persuasive message is presented with a discounting cue (such as a low-credible source or a counterargument). Just after receiving the message, the recipient recalls both message and discounting cue, resulting in little or no opinion change. After a delay, as the association between message and discounting cue weakens, the recipient may remember what was said without thinking about who said it.

## History of Research

The Hovland research gave the sleeper effect scientific status as a replicable phenomenon and the dissociation discounting cue hypothesis credibility as the explanation for this phenomenon. As a result, the sleeper effect was discussed in almost every social psychology textbook of the 1950s and 1960s, appeared in related literatures (such as marketing, communications, public opinion, and sociology), and even obtained some popular notoriety as a lay idiom.

However, as the sleeper effect gained in notoriety, researchers found that it was difficult if not impossible to obtain and replicate the original Hovland findings. For example, Paulette Gillig and Tony Greenwald published a series of seven experiments that paired a persuasive message with a discounting cue. They were unable to find a sleeper effect. They were not the only ones unable to find a sleeper effect, prompting the question "Is it time to lay the sleeper effect to rest?"

## The Differential Decay Hypothesis

Two sets of researchers working independently of each other were able to find reliable empirical conditions for producing a sleeper effect. In two sets of experiments conducted by Charles Gruder, Thomas Cook, and their colleagues and by Anthony Pratkanis, Greenwald, and their colleagues, reliable sleeper effects were obtained when (a) message recipients were induced to pay attention to message content by noting the important arguments in the message, (b) the discounting cue came *after* the message, and (c) message recipients rated the credibility of the message source immediately after receiving the message and cue. For example, in one experiment, participants underlined the important arguments as they read a persuasive message. After reading the message, subjects received a discounting cue stating that the message was false and then rated the trustworthiness of the message source. This set of procedures resulted in a sleeper effect.

The procedures developed by these researchers are sufficiently different from those of earlier studies to warrant a new interpretation of the sleeper effect. As a replacement for the dissociation hypothesis, a differential decay interpretation was proposed that hypothesized a sleeper effect occurs when (a) the impact of the message decays more slowly than the impact of the discounting cue and (b) the information from the message and from the discounting cue is not

immediately integrated to form an attitude (and thus the discounting cue is already dissociated from message content).

The procedures associated with a reliable sleeper effect and the differential decay hypothesis do not often occur in the real world. However, one case in which these conditions are met is when an advertisement makes a claim that is subsequently qualified or modified in a disclaimer (often given in small print and after the original message). In such cases, the disclaimer may not be well integrated with the original claim and thus its impact will decay quickly, resulting in the potential for a sleeper effect.

## Other Sleeper Effects

Although much of the research on the sleeper effect has focused on the discounting cue manipulation, researchers have developed other procedures for producing sleeper effects including (a) delayed reaction to a fear-arousing message, (b) delayed insight into the implications of a message, (c) leveling and sharpening of a persuasive message over time, (d) dissipation of the effects of forewarning of persuasive intent, (e) group discussion of a message after a delay, (f) the dissipation of reactance induced by a message, (g) delayed internalization of the values of a message, (h) wearing-off of initial annoyance with a negative or tedious message, (i) delayed acceptance of an ego-attacking message, and (j) delayed impact of minority influence. Although these other procedures for obtaining a sleeper effect have been less well researched, they may indeed be more common in everyday life than are sleeper effects based on the differential decay hypothesis.

Anthony R. Pratkanis

*See also* Persuasion; Resisting Persuasion

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## SOCIAL ANXIETY

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### Definition

Social anxiety, as the term implies, refers to anxiety (a feeling of emotional distress akin to fear or panic) experienced in interpersonal situations, such as job interviews, dates, public presentations, or casual social gatherings. Because of the variety of situations in which people experience social anxiety, several specific types of social anxiety have been investigated in the literature, including public speaking anxiety, audience anxiety, stage fright, sport performance anxiety, and physique anxiety, to name a few. Regardless of the specific situation in which social anxiety occurs, the physical and psychological feelings that accompany social anxiety are common to all: butterflies in the stomach, increased heart rate, light-headedness, sweaty palms, and fear.

### Background and History

Although everyone experiences social anxiety from time to time, some people experience debilitating levels of social anxiety, so much so that they avoid social situations altogether. The pervasiveness of social anxiety might lead one to believe that extensive theoretical and empirical attention has been devoted to the topic. On the contrary, however, empirical research on social anxiety is relatively recent, with an explosion of research on the topic within the past decade.

Charles Darwin addressed the topic of social anxiety in his book *The Expression of the Emotions in Man and Animals*. In a comparison of shyness and fear, Darwin noted that shyness, although similar to fear is still distinct from it. A person who is shy may not enjoy being around other people, but does not fear those others. Shortly after the turn of the century, the Japanese philosopher Yoritomo-Tashi, in his book entitled *Timidity: How to Overcome It*, examined the topic of social anxiety, as well as ways to combat it.

Darwin's and Yoritomo-Tashi's contributions to our knowledge of social anxiety were largely conceptual. Empirical attention to the topic of social anxiety began when feelings of distress in social situations emerged during the 1940s and 1950s as one of the core dimensions of personality. Still, another 15 to 20 years passed before focused research attention was devoted to social anxiety, fueled largely by the creation of two trait measures of social anxiety: The Social Avoidance and Distress Scale and the Personal Report of Communication Apprehension. With scales to measure subjective and behavioral indices of social anxiety, a flurry of research on the topic began.

Not surprisingly, these initial studies focused primarily on individual differences in social anxiety. With time, however, three other directions for research on social anxiety took root. Some researchers turned their attention to situational determinants of social anxiety. Others focused more on developmental issues related to social anxiety, examining specifically the reasons why some people are more socially anxious than others. A third area of research examined the treatment of social anxiety.

From these studies, several theories developed to account for why people experience social anxiety. The most recent and compelling of these models is the self-presentational theory of social anxiety developed by Barry Schlenker and Mark Leary. According to this model, people experience social anxiety when two conditions are met: They are motivated to make an impression on other people, and they doubt their ability to do so. Imagine, for example, a person applying for a very desirable job. This individual is motivated to make a favorable impression on the interviewer. If he or she is certain that the desired impression will be made, then social anxiety is not experienced. If, on the other hand, he or she doubts that the desired impression will be made, then social anxiety creeps in. Should the person fail to make the desired impression and actually make an undesired impression, a self-presentational predicament is created and he or she experiences embarrassment.

### Importance and Consequences of Social Anxiety

The universality of the experience of social anxiety and the array of situations that precipitate it suggest that it plays an important role in interpersonal behavior. Indeed, social anxiety may help keep people from behaving in ways that damage their social images and

undermine their acceptance by other people. A person who never felt socially anxious would not care about the impressions he or she makes or would be overconfident regarding his or her success at making desired impressions. The experience of social anxiety may interrupt social behavior and alert people that their behavior may not be making the desired impression. Viewed in this way, the experience of social anxiety provides people with a warning to change the course that their behavior is taking.

Even so, when social anxiety is experienced too frequently, too intensely, or in situations in which concerns with others' impressions are misplaced, it can become maladaptive. Excessive social anxiety can disrupt people's life goals, such as being a competitive athlete or effective salesperson, and impair the development or maintenance of social relationships. For some people, the experience of social anxiety is so debilitating that they simply avoid the social situations that precipitate the anxiety. For example, people may avoid medical examinations, such as pelvic exams, because of the potential for anxiety and embarrassment. Similarly, they may fail to reveal embarrassing medical conditions because of the anxiety surrounding such disclosures.

### Individual Differences

Whereas some people experience social anxiety only rarely, others experience chronic social anxiety. Furthermore, for some people social anxiety is only mildly uncomfortable, whereas for others (at least 2% of the population), it is debilitating enough to be labeled "social phobia" according to psychiatric diagnostic criteria. Several scales have been developed to measure individual differences in social anxiety. Some of these scales, such as the Social Avoidance and Distress Scale, measure both the subjective and behavioral manifestations of social anxiety. However, many people feel very anxious in social situations yet come across to others as if they were not nervous at all. Therefore, some other scales were created, such as the Interaction Anxiousness Scale, that focus exclusively on the subjective feeling of social anxiety, independently of how a socially anxious person might behave.

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*See also* Anxiety; Embarrassment; Individual Differences; Shyness; Spotlight Effect; Traits

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## SOCIAL CATEGORIZATION

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### Definition

Social categorization refers to the way a person's mind clusters together individuals who share important characteristics. A person mentally groups people on the basis of their demographic features (e.g., sex, age, ethnicity, or religion), personality and interests (e.g., extraverts, nerds), and occupation, to name some of the most common types of social categories. This process has several important functions. It provides a person with a way to organize and structure his or her understanding of the social world. For each meaningful social category, a person is likely to have some preconceptions about what members of the category are like. Rather than having to start from scratch in figuring other people out, a person often identifies the groups they belong to and then makes some starting assumptions about their characteristics, given these group memberships. If you learn that your new next-door neighbor is a lawyer, for example, you can start to form an impression just on the basis of this category membership.

Sometimes a person is provided with categories (as when someone tells a person his or her occupation), and sometimes a person must infer another person's category membership based on observable evidence (e.g., one can often—but not always—easily infer someone's sex or approximate age on the basis of physical appearance). Membership in some categories is based on very clear criteria (e.g., the category "college students" is defined by attending a college), but some categories are much fuzzier. There is no strict criterion for being a nerd, for example. However, a set of characteristics seems typical of nerds, resulting in a mental image, or prototype, of the category. In such a case, putting someone into the category is based more on how much the person resembles one's mental image of that category, rather than on meeting a clear set of rules about category membership. Even in the case in which there are clear criteria, resemblance to a

mental image of the category may still be important. A divorced homemaker in her 50s who returns to school to get her bachelor's degree may technically be a member of the category "college students," but perceivers may not think of her as a member of the category because she does not match the common prototype of the category.

### Context and Importance

Whether discussing people, objects, or events, categories are essential for mental functioning. Without them, people would not be able to make sense of the complex, multifaceted environment around them. By grouping similar items into categories, the world acquires structure and meaningfulness. This process of organizing and structuring the world into categories involves two related processes. First, when thinking about people who belong in a particular category, one mentally emphasizes their shared characteristics while minimizing their differences or unique individual characteristics. When one thinks of the category "nerds," one thinks about the characteristics that are common to members of the category. Second, one also accentuates, or emphasizes, differences between different categories. When a person thinks of nerds, he or she thinks of the ways nerds are different from other comparable kinds of people (such as jocks or artsy types).

By identifying category memberships, people can make inferences about individual members when they have incomplete information about them. For example, a person might feel confident that the nerd would be interested in going to the *Star Wars* film festival. "Likes science fiction" may be a facet of his or her image of what nerds are like, so once the person categorizes the other person as a member of the "nerd" category, he or she feels confident in making this assumption. Applying typical features of the social category to individual category members facilitates the social judgments people make, but the benefit of this increased facility comes at the cost of potential inaccuracy. Some nerds actually don't like science fiction, some men don't like sports, and some women don't love taking care of children. A major by-product of social categorization is the process of stereotyping. Generalizations will rarely if ever apply to all category members, and in some cases, people might even hold generalizations about social groups that do not even apply to most category members. Social psychologists have identified several ways that people

come to hold erroneous or greatly exaggerated stereotypes about social groups.

Social categorization differs from other kinds of categorization in that the person doing the categorization is also potentially included into the relevant category. Social categorization results in carving the world into ingroups (the groups to which one belongs) and outgroups (the groups to which one does not belong). Because people have a strong tendency to think favorably about themselves, they also tend to evaluate their ingroups favorably. This tendency, paired with the previously mentioned tendency to accentuate the differences between groups, results in another potentially toxic result of social categorization: prejudice. If a person feels that his or her group is superior to other groups, ingroup favoritism and discrimination against outgroups may be common by-products. Given the widespread existence of prejudice and intergroup conflict, from Northern Ireland to South Africa and right around the globe, the potential dangers of social categorization are evident. Social psychologists have been keenly interested in understanding whether social categorization, per se, is sufficient to explain prejudice and ingroup favoritism or whether other conditions must also be present.

### Implications

Social categorization is inevitable, as people could not function without some way of organizing and simplifying the complex social world around them. However, social categorization carries with it the risk of stereotyping and prejudice and the injustices sometimes associated with them. Fortunately, there is flexibility in the way people categorize other people. People need not always focus on race or sex or other common bases for prejudice and conflict but can look to shared categories that unite them with others (e.g., "members of our community" rather than ethnic subgroups). And they can emphasize multiple category memberships of others, rather than reducing them to a single dimension (e.g., "intelligent Mexican female actress" rather than just "Mexican"). When people think in terms of multiple categories, they begin to recapture the constellations of characteristics that make each of them unique.

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*See also* Intergroup Relations; Minimal Group Paradigm; Prejudice; Stereotypes and Stereotyping

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## SOCIAL COGNITION

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For thousands of years there has been philosophical debate about what it is that makes humans different from other species of animals on Earth. Whether one believes that humans are just another step in the evolutionary process or descended from aliens, there is no denying that humans are different from other animals. Although many aspects of psychology, such as perception, learning, and memory, can be generalized across species, the field of social cognition deals exclusively with thoughts and behaviors that are (arguably) uniquely human. This is because social cognition is concerned with the mental processes that subserve people's understanding of both self and other individuals. By default, it takes a social agent to know one. For this reason, a great deal of social cognition research has focused on determining whether or not the thoughts people have about other people are driven by the same basic mental operations that regulate humans' understanding of tables, automobiles, and seafood gumbo. For example, are there dedicated systems that deal with information about the social world and its diverse inhabitants?

Social cognition draws heavily on material within cognitive psychology and social psychology to examine the relationship between basic cognitive operations and fundamental social problems. In this respect, work in this domain has attempted to show that, during his or her lifetime, an individual's thoughts and behaviors are influenced by his or her preceding social experiences, but at the same time, these experiences are modified by the individual's current behaviors. This dynamic relationship between cognition and social experience means that social cognition affects almost every area of human existence. To help explain the importance of social cognition in everyday life, this entry will explore what it would perhaps be like to try to live without the capacity to understand self and others. The examples that follow will therefore speculate on what it would be like if you encountered an alien (called Todf) who was human-like in every respect, apart from the fact that Todf has no social-cognitive

abilities. Would such a person be able to cope with everyday social situations?

One of the central topics in social cognition is person perception, the way in which people collect and use information about other people to guide their interactions with them. From infancy, humans have an in-built preference for human beings (i.e., social agents) over other objects, and the face is a stimulus of particular interest. Even before humans can walk or talk, they begin to learn the skills of nonverbal communication that provide them with their first interactive social experiences. Within only a few months of birth, human infants can decode facial expressions and begin to make sense of their social world and the people around them. Imagine the problems that Todf would experience if he were unable to produce and decipher the meaning inherent in facial expressions; successful social interaction would be beyond his grasp. Humans constantly rely on very subtle facial cues to determine what other people are intending (e.g., I'm going to kiss you), thinking (e.g., You look just like Pamela Anderson), and feeling (e.g., I love you). People can usually determine from a face whether someone is behaving threateningly toward them, when a friend is entertained by an anecdote, or when a partner is annoyed by one's behavior. Although it is possible to use language to convey the contents of their inner mental lives, frequently people rely on faces to do the talking. Without such a capacity, Todf would be mind blind.

Social cognition allows people to read the faces of other people and enables them to decode the contents of their minds. Imagine the alien Todf in a classroom with children ages 5 or 6 years old. If the teacher pointed out of the window to an oak tree in the school yard and asked the class, "What is that?" they would probably all reply, "A tree." Although answering this question correctly may not seem like a tricky task, without social cognition Todf would probably furnish an incorrect response. He may even be confused as to why tree was the appropriate response. Why not window, bird, leaf, or trunk? The reason that children performed the task with aplomb is because they were all able to read the teacher's mind, they knew exactly what it was she was asking when she pointed her index finger toward the window. This ability to work out what other people are thinking is known as *theory of mind* and is a core component of human social cognition. Arguably, the capacity sets humans apart from other species and makes them different. Indeed, without a theory of mind, people would find it impossible

to empathize or sympathize with other people. They would never be able to climb into the shoes of another person and experience the world through their eyes. Without such a capacity, successful social interaction would be impossible.

The previous example highlights another important core aspect of social cognition, the observation that social agents continually strive to simplify and structure their knowledge of the world. Children probably possess extensive knowledge of trees and could provide this material when requested. This is because information about the world is stored in extensive networks in memory, networks, or schemas that can be accessed with rapidity and ease. The simplest way of thinking about schemas is to imagine that the brain contains many locked filing cabinets, with numerous files stored within each cabinet. These files contain information, varying in specificity, with respect to the content of the file. For example, when the category “tree” is probed, the relevant cabinet (or schema) is unlocked and all the information is made available. Storing related information in this way enables us to access material just when it is needed most. It also prevents irrelevant knowledge from entering consciousness at the wrong time. Although storing information in this way is useful, it can have some interesting consequences when the files contain information about other people and the cabinets are organized in a group-based manner (e.g., men, women, plumbers, bodybuilders).

One consequence of schema-based organization of information about people is that the tendency to neatly arrange information in this way can lead to stereotyping and prejudice. Stereotyping involves the generalization of specific features, beliefs, or properties to entire groups of people (e.g., if he’s a man, he must be aggressive, ambitious, and unemotional). Prejudice occurs when people act on these beliefs. This is one area whereby the alien Todf may, on the surface, appear to have a slight advantage over people. If he did not have the ability to create stereotypes based on his previous knowledge and experience of people, then he would be free from any possible prejudices. People would be treated as unique entities and social interaction would be free from discrimination. However, to form individual, accurate, well-informed impressions of every person he encounters, Todf would require enormous amounts of time and energy. Suppose the alien and a human were both given the task of selling 100 tickets for a nightclub. Armed with

their stereotypic knowledge (or not, as the case would be) of the kinds of people most likely to enjoy dancing, drinking, and falling over, the human may attempt to sell the tickets to students on a university campus. The alien on the other hand, completely clueless about the vagaries of human social behavior, may consider retirement homes as an ideal place to sell the tickets, as there is a captive audience of potential buyers with disposable income. Who do you think would sell their tickets fastest? Although potentially troublesome, generalized beliefs about groups of people can be handy at times.

All of the previous examples have shown the problems an alien without social cognition would encounter when dealing with other people. Several difficulties may arise from another core component of social cognition, an understanding and appreciation of self. The self is generally considered the conscious insight a person has into his or her own existence. As such, this construct gives human life meaning, order, and purpose. People’s memories are based on their own unique experience of events, their current activity is construed in a personalized way, and their view of the future is theirs and theirs alone. As the self and consciousness are so intertwined, and because they are at the very center of what is considered to be human, it does not seem possible to imagine an alien that is humanlike but that does not possess a self. Without a self, the alien would merely be an automaton, a robot capable of mimicking human actions but incapable of understanding them. When it comes to being a person, social cognition matters.

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*See also* Attributions; Cultural Animal; Theory of Mind

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## SOCIAL COGNITIVE NEUROSCIENCE

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### Definition

Social cognitive neuroscience is the study of the processes in the human brain that allow people to understand others, understand themselves, and navigate the social world effectively. Social cognitive neuroscience draws on theories and psychological phenomena from across the social sciences, including social cognition, political cognition, behavioral economics, and anthropology. The tools used to study these topics are also wide-ranging, including functional magnetic resonance imaging (fMRI), positron emission tomography, transcranial magnetic stimulation, event-related potentials, single-cell recording, and neuropsychological lesion techniques.

### Background and History

The notion that social behavior and social cognition have biological roots extends back thousands of years to at least Galen in ancient Greece who suggested that our social nature was influenced by the admixture of four substances in our bodies called *humors*. These four substances (blood, black bile, yellow bile, and phlegm) were linked to personality and interpersonal styles (sanguine, melancholic, choleric, phlegmatic). Although the humors have long since fallen out of favor in scientific attempts to understand the mind, the notion that the material body, including the brain, contributes directly to psychological processes has become increasingly important in psychological research during the past two centuries.

Of particular interest to social psychology is the case of Phineas Gage in the 1860s. Gage was considered a socially agreeable and savvy individual until an explosion sent a tamping iron in one side of his brain and out the other. Miraculously, Gage retained his motor skills and cognitive abilities; however, socially and emotionally, he was a changed man. During the years after the accident, Gage made a series of ill-advised social decisions that left him unemployed, penniless, and divorced. By all accounts, his social and emotional makeup was quite different, largely because of damage to the ventromedial prefrontal cortex, a region of the brain located behind the eye sockets. Other cases of neurological damage have also shown neural contributions to social function. Prosopagnosic patients cannot recognize faces as

faces even though they can recognize other objects. Damage to a region of the parietal cortex can lead individuals to feel as though other people are controlling their bodily movements. Individuals who have had their corpus callosum severed, cutting off communication between the hemispheres of the brain, will respond appropriately to cues shown exclusively to the right hemisphere of the brain but then provide strange rationalizations for this behavior using the left hemisphere, which was unaware of the original cue. In each of these cases, some social function that humans take for granted is profoundly altered because of localized brain damage.

These case studies have been extremely provocative; however, such cases are rare and thus are not sufficient to sustain a new area of research. Two developments took place in the 1990s that laid the groundwork for the explosion of research that is now taking place in social cognitive neuroscience. First, social psychologists such as John Cacioppo, Stanley Klein, and John Kihlstrom began to apply much more sophisticated experimental methods to brain-damaged patients and healthy individuals using event-related potentials, to test social psychological hypotheses. These researchers used the brain to test questions about what kinds of processes are involved in normal social cognition, rather than focusing on describing what is impaired in brain-damaged patients. Just as other social psychologists use self-report measures and reaction time measures to test their hypotheses, these scientists used neural measures.

The second major development was the use of fMRI to study social cognition. Although neuroscientists used fMRI throughout the 1990s, social psychologists only began to use this technique in the new millennium (although several British scientists, including Chris Frith, Uta Frith, and Raymond Dolan, did use positron emission tomography in the 1990s to conduct social cognitive neuroscience studies). Starting in the year 2000, social cognitive neuroscience research began to grow exponentially in the number of studies, number of topics studied, and number of researchers. Currently, active research programs are examining the automatic and controlled aspects of attitudes and prejudice, theory of mind, dispositional attribution, empathy, social rejection, social connection, interpersonal attraction, self-awareness, self-recognition, self-knowledge, cognitive dissonance reduction, placebo effects, social factors in economic decision making, moral reasoning, and emotion regulation. Many of these topics are in their infancy with

no more than a handful of studies attempting to identify the brain regions that are involved in the process of interest. One might remark, “What good is it to know that social psychological processes take place in the brain? Of course they do, so what?” Indeed, if social cognitive neuroscience began and ended with showing which parts of the brain “light up” when engaging in different social psychological processes, it would be of little significance. Fortunately, most social cognitive neuroscience does not begin and end as an expensive game of Lite-Brite.

### The Importance of Social Cognitive Neuroscience

In the best social cognitive neuroscience research, the *where* (in the brain) question is merely a prelude to the *when*, *why*, and *how* questions. Social cognitive neuroscience has many of the same goals as social psychology in general, but brings a different set of tools to bear on those scientific goals. These new tools have several advantages and disadvantages, and although a debate about whether reaction time measurement or functional neuroimaging is a better tool for hypothesis testing may be a useful pedagogical exercise, it ultimately makes about as much sense as asking whether hammers or screwdrivers are better. They are both useful tools for some jobs and less useful for others.

Before turning to what fMRI is useful for, it is worth noting some of the limitations of this technique. First, there can be no face-to-face interactions during fMRI. When subjects have their brains scanned, they lay on a narrow bed, which slides into a long narrow tube, and there is no room for multiple people to be scanned in the same scanner while interacting. Second, because of the nature of the imaging procedure, it is critical that subjects keep their heads absolutely still. As a result, subjects cannot speak while the images are being taken. Subjects typically reply to computer tasks that are watched with video goggles by pressing buttons on a small keypad. Finally, because the signals detected in the brain are noisy signals, many pictures must be taken and then averaged together. This means that subjects must perform the same task repeatedly before useful information can be extracted from the scans. The problem with this is that most social psychological research depends on having a large number of subjects each perform a task once. Many of these tasks will quickly lose their psychological meaning if they are repeated

again and again. For all these reasons and more, many social psychological questions cannot easily be addressed with fMRI.

An fMRI can make important contributions to social psychology in at least three ways: First, sometimes two psychological processes experientially feel similar and produce similar behavioral results but actually rely on different underlying mechanisms. For instance, the ability to remember social information and nonsocial information does not feel all that different, and for decades social psychologists debated whether social and nonsocial information is encoded and retrieved using the same mechanisms. Although no strong conclusions were reached (and if anything the standard tools of social cognition suggested that there were no special mechanisms for social information processing), recent fMRI research has definitively changed the debate. Jason Mitchell and his colleagues have shown in a series of fMRI studies that the brain regions involved in encoding social and nonsocial information are quite distinct. Encoding nonsocial information in a way that could be later remembered is related to activity in the hippocampus, whereas encoding social information in a way that could be later remembered is related to activity in dorsomedial prefrontal cortex. Thus, two processes that superficially seem quite similar and are difficult to disentangle with behavioral methods were clearly distinguished when examined with fMRI.

Conversely, sometimes one would not think that processes rely on the same mechanisms, when in fact they do. For instance, Naomi Eisenberger and her colleagues have demonstrated that social pain, resulting from being socially excluded, produces activity in a similar network of brain regions as the experience of physical pain. Although physical pain words are typically used to describe feelings of social pain (“He *hurt* my feelings”; “She *broke* my heart”), the relation between physical and social pain was primarily thought to be metaphorical. Physical pain seems real because one can see physical injuries, whereas social pain seems as though it’s all in one’s head. Nevertheless, both seem to rely on similar mechanisms in the brain. Perhaps this overlap evolved because infants need to stay connected to a caregiver to survive and thus feeling hurt in responses to social separation is an effective mechanism for maintaining this connection.

Finally, as more and more is learned about the precise functions of different regions of the brain, it may be possible to infer some of the mental processes that

an individual is engaged in just from looking at the activity of his or her brain. The advantage of this would be that researchers would not need to interrupt subjects to find out an individual's mental state. For instance, if a region of the brain was primarily invoked during the experience of sadness, one could know whether a subject was experiencing sadness based on the activity of this region rather than having to ask the subject. This would be useful because subjects may not always want to report the state that they are in, subjects may not always accurately remember what state they were in before the experimenter asked, and because reporting on one's current state may change that state or contaminate how the subject will perform in the rest of the experiment. This is one of the loftier goals of social cognitive neuroscience and is not something that can be done currently with precision; however, this kind of analysis may be possible in the future.

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*See also* Biopsychosocial Model; Social Neuroscience; Social Psychophysiology

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## SOCIAL COMPARISON

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### Definition

Social comparison involves thinking about information about one or more other people in relation to the self. People may compare themselves with other people for a variety of reasons: to evaluate themselves (e.g., How good at math am I?), to learn from others (e.g., How much did that person study to ace that exam?), and to feel better about their own situation (e.g., I may not be great at algebra, but I'm better than 70% of my classmates), to name a few.

### History and Background

Early research in social psychology on level of aspiration and on reference groups contributed to

Leon Festinger's social comparison theory, which he proposed in 1954. Festinger argued that humans have a drive to evaluate their opinions and abilities. When objective standards for self-evaluation are unavailable, he said, they compare themselves with other people. According to Festinger's similarity hypothesis, people prefer to compare themselves with others who are similar to themselves. He also noted that people have a drive to improve themselves, which often results in upward comparisons, comparisons with others who are superior to themselves or more advantaged in some way.

Social comparison theory has inspired a great deal of research, but the history of the literature is uneven, with spikes of activity in 1966 and 1977, and then a more steady output since the early 1980s. The theory has been applied beyond opinions and abilities to emotions and to all kinds of personal attributes (e.g., personality traits). Although Festinger devoted much of his theory to interpersonal processes—for example, he proposed that the need for similar comparison with others leads to pressures toward uniformity in groups—social comparison researchers have focused mostly on individuals and their selections of individual comparison targets. During the 1990s, studies of the individual's reactions to social comparisons grew more numerous as well.

### Who Is a Relevant Comparison Target?

The most frequently asked question in the social comparison literature has been, "With whom do people choose to compare themselves?" Festinger's similarity hypothesis was ambiguous as to whether similarity concerns the specific dimension under evaluation or other dimensions. For example, guitarists may compare their playing ability with those of others who are similar in their guitar-playing ability, or with others who are similar in more general ways, such as the kind of guitar and music they play (acoustic or electric, classical or folk) or gender. The most informative, meaningful comparisons may occur with others who are similar in attributes related to the dimension under evaluation. For example, guitarists can best evaluate their playing ability if they compare themselves with other guitarists who play similar instruments and who have been playing about the same amount of time.

Considerable evidence has attested to the importance of such related attributes. It is perplexing, however, that the dimensions of similarity need not always

be related to the dimension under evaluation to be relevant. For example, people often compare themselves with same-sex others, even if the dimension of comparison has little to do with gender. Similarly, the effects of comparisons are especially strong when they are with others who are similar, even if the dimension of similarity seems to bear no relation to the dimension of comparison (e.g., comparisons with friends are more potent than comparisons with strangers).

Recent efforts to resolve such puzzles have focused on the question that the individual is seeking an answer to, such as, “What kind of person am I?” or “Can I accomplish this task?”

### Goals and the Selection of Comparison Targets

A great deal of research has focused on how goals guide the selection of comparison targets. In the 1980s, researchers increasingly viewed the individual not as an unbiased self-evaluator but as a person with needs to feel good about himself or herself. Thomas Wills’s downward comparison theory argued that people who are unhappy seek to feel better by comparing themselves with others who are less fortunate or who are inferior to themselves.

This theory inspired a resurgence of interest in social comparison that has not abated. The 1980s also saw a shift toward field research, and considerable evidence of downward comparisons has emerged from diverse samples of people under psychological threat. Women with breast cancer and people with eating disorders, for example, have been shown to compare themselves with others who are less fortunate than themselves.

More generally, the traditional view that self-evaluative motives lead to comparisons with similar others, self-improvement motives lead to upward comparisons, and self-enhancement motives lead to downward comparisons, is giving way to the view that multiple targets can serve one’s goal, depending on the comparison context. Individuals also may use comparison strategies that do not involve target selection, such as avoiding comparisons altogether or carefully selecting one’s comparison dimensions. For example, breast cancer patients who are disadvantaged on one dimension (e.g., prognosis) may focus on a dimension on which they are relatively advantaged (e.g., “At least I’m married; it must be difficult for single women”).

Some researchers have even argued that people may create imaginary comparison targets to serve

their goals. This view turns the original theory on its head; whereas Festinger viewed the individual as seeking comparisons to establish reality, this view holds that the individual fabricates reality to serve his or her goals. However, this view is by no means universally accepted.

Another relatively new view that is more widely shared is that people frequently make comparisons without deliberately *selecting* comparison targets. This view holds that people make comparisons by relatively automatically comparing themselves with the others they come across in their daily lives.

### Effects of Social Comparisons

The traditional assumption has been that upward comparisons make people feel worse about themselves and that downward comparisons make them feel better, but research has revealed that both types of comparisons can be either inspiring or dispiriting. What determines the impact of comparisons? One important variable is whether the comparison involves a dimension that is central to one’s self-definition. For example, a musician may take pride in her brother’s superior cooking ability but be demoralized by his superior musical ability.

Additional factors that may determine the impact of comparisons include one’s beliefs about one’s control over the dimension of comparison and whether one will improve or worsen on that dimension. An upward comparison with a superior other may be inspiring, rather than demoralizing, if one thinks that one will improve and can attain the level of the upward target. In contrast, a downward comparison with an inferior other may be frightening rather than self-enhancing if one fears one will worsen, for example, that one’s illness prognosis is unfavorable.

### Measurement Issues

Social comparison has been operationalized in many ways, including the choice of another person’s score to see, the desire to affiliate, self-reports of past comparisons, the effects of comparisons on mood and self-evaluation, and ratings of self versus others. These operationalizations have yielded results that do not always converge, perhaps partly because they capture different meanings or facets of social comparison. The possibility that comparisons may be made automatically, perhaps even outside of awareness, also threaten the validity of such measures as

self-reported comparisons. Social desirability concerns also may inhibit respondents' self-reports; people do not want to appear to be competitive, dependent on others, or, in the case of downward comparisons, as taking pleasure in others' misfortune. Increasingly, researchers have used methods that are more naturalistic (e.g., diaries of social comparisons in daily life) or that offer richer information to research participants than did earlier methods.

### Importance of Social Comparison

Comparisons with other people are widely believed to be a ubiquitous (ever-present) aspect of social life. Social comparison is also believed to have powerful effects on such outcomes as people's well-being, their motivation to succeed, their satisfaction with their economic circumstances, and their very identities. Yet, when people are asked how they evaluate themselves and their lives, they mention social comparison infrequently. Although social comparisons might occur less frequently than social psychologists initially thought, it seems equally possible that respondents' self-reports are inhibited by a lack of awareness that they make comparisons and by social desirability concerns.

Indeed, social comparisons may sometimes be more important than objective information. Contrary to Festinger's belief that people rely on social comparisons only when objective standards are unavailable, research has indicated that individuals often want to know their rank relative to others in addition to, or even in preference to, objective standards. For example, a runner who already knows that he or she ran 100 meters in 15 seconds may still want to know that his or her time was the second fastest. And people do not usually regard themselves as smart, attractive, or wealthy unless they see themselves as ranking higher on these dimensions than the other people in their nearby surroundings.

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*See also* Downward Social Comparison; Self-Evaluation Maintenance

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## SOCIAL COMPENSATION

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### Definition

Social compensation refers to the phenomenon that individuals increase their effort on a collective task (compared with how hard they try when working individually) to compensate for the anticipated poor performance of other group members. People are more likely to compensate when they think their coworkers are not going to perform well and when the outcomes of the group performance are perceived to be important.

### Background and History

Many of life's most important tasks can be accomplished only in groups, and many group tasks require the pooling of individual members' inputs. Government task forces, sports teams, organizational committees, juries, and quality control teams are good examples of groups that combine individual efforts to form a single product. Social psychologists have always been interested in whether individual motivation, effort, and productivity are influenced by working in groups. Indeed, the first experiments in social psychology dealt with these very issues, including Norman Triplett's work showing motivation gains when performing alongside other performing individuals, and Max Ringelmann's demonstration of motivation losses when men collectively pulled on a rope. Research in the late 1960s and early 1970s consistently found that individuals tried harder on tasks when they were in the presence of others (who could be either coworkers or audience members), and this effect was referred to as *social facilitation*. Trying harder meant doing better on easy, well-learned tasks, but doing worse on novel or difficult tasks. Research in the 1970s and 1980s tended to find robust motivation losses, a phenomenon known as *social loafing*. The major difference between social facilitation and social loafing was that with social facilitation, individuals were working in the evaluative presence of

others, but in social loafing, they were working on tasks in which they shared contributions with the others. As a result, the presence of others implied less evaluation. Still to be demonstrated, however, were conditions in which individuals would work harder when working collectively than when they worked individually. Lay theories focus on *esprit de corps*, in which individuals working in collective groups are infused with team spirit and work harder than they do individually; however, there is little evidence that this occurs. At best, highly cohesive teams were simply less likely to loaf.

But consider a classroom situation in which a teacher divides a class into small groups in which each group works on a project for which they share a grade. Social loafing occurs in this type of situation, but under what conditions would a student feel especially obligated to compensate for others?

### When People Compensate

For social compensation to occur, two criteria must be satisfied. The first is that individuals must, for some reason, distrust their fellow coworkers to put forth an acceptable contribution to the group task. This can happen several ways. Some individuals are chronically distrustful of others, feeling they cannot rely on others to do their part. Research has shown that those low in interpersonal trust are more likely to compensate on a collective task. Ironically, high-trusting individuals seem most likely to take advantage of a collective task and let others do most of the work. Distrust can also develop when individuals suspect that their coworkers do not intend to exert much effort on the collective task. Social compensation is likely to occur when coworkers indicate their lack of intended effort. Finally, individuals are more likely to socially compensate when they are led to believe their coworkers lack the ability to do well on the collective task.

The second criterion is that the task must be sufficiently important to the individual before he or she will feel compelled to exert greater amounts of effort. If the task is relatively meaningless or unimportant, then regardless of one's trust level or perceptions of coworker effort or ability, individuals will be most likely to socially loaf. Only if the task is perceived to be important to the individual, and expectations of coworker contributions are low, will social compensation occur.

### Limitations and Boundary Conditions

Several factors could affect the likelihood of social compensation as well. The existing research has only examined collective effort in a short-term task (usually less than an hour), in which there is no possibility for exiting the group. Whether individuals will socially compensate for their coworkers if the individual has other options, such as working alone or with a new group, is unknown. Also, even when someone does compensate for coworkers, he or she probably will not do this forever. At the beginning, individuals may be more likely to compensate for others' poor performance, but if their coworkers keep performing poorly for a long period, resentment is likely to build, and individuals may be no longer inclined to compensate. Finally, social compensation is less likely as group size increases. If the group is large, and the outcome of the group depends on each individual's contribution, then it becomes impossible in some cases to compensate for the poor performance of coworkers, and individuals are likely to be unwilling to carry the burden of many poorly performing coworkers.

### Implications

The factors that lead to social compensation could conceivably aid in understanding and managing group performance, although not without caution. One possible way to reduce social loafing and promote social compensation is to encourage individuals to value the outcomes of the group performance and to simultaneously suggest that their coworkers may engage in social loafing. This strategy, of course, may work initially but, over time, may backfire and lead to resentment or early exit. As yet, little research has addressed the persistence of social compensation over time. More important, perhaps, is the unfortunate conclusion that *esprit de corps* is still not readily observed, and that to achieve high individual contributions to collective tasks, the opposite must occur: a general lack of regard for one's fellow coworkers' willingness or ability to contribute adequately.

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*See also* Group Dynamics; Ringelmann Effect; Social Facilitation; Social Loafing

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## SOCIAL DESIRABILITY BIAS

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In the context of participating in a psychology study, social desirability bias refers to the tendency to present one's self in a favorable way rather than to give accurate answers. In other words, participants have a tendency to answer in ways that make them look good in the eyes of others, regardless of the accuracy of their answers. For example, most people would deny that they drive after drinking alcohol because it reflects poorly on them and others would most likely disapprove.

Psychologists have long been interested in people's thoughts, feelings, and behaviors, and have often relied on self-reports to gather information. For example, a person may be asked to indicate which items in a list of characteristics describe him or her. The underlying assumption in the use of self-reports to collect information is that people are experts in knowing themselves. However, researchers recognize that individuals can distort their responses to self-reports in ways that are inaccurate and misleading. Distortion of responses may be to the result of an individual's disposition (i.e., their personality) or caused by aspects of the situation (e.g., the way a statement is phrased). Social desirability bias is one way of distorting responses that has received a large amount of empirical investigation.

In general, social desirability bias can take one of two forms. One involves self-deception, whereby a person provides inaccurate information but believes that it is accurate. For example, reporting that one is

better than average on any given attribute could suggest a distorted response that is a subjectively honest response. A second form of social desirability is impression management whereby people intentionally distort responses to appear better than what they are. A good example of impression management occurs in the context of job interviews where applicants present themselves in ways to make themselves appear best suited for the job.

The literature shows that self reports are especially vulnerable to inaccurate responses caused by social desirability. As a result, some researchers suggest alternative ways to collect information such as through direct observation or having others report information about the respondents. However, because self-reports remain an economical way to gather information, one focus in the research on social desirability concerns how best to deal with this bias. For example, evidence suggests that this bias may be reduced through careful wording of questions and the assurance of anonymity. Some researchers take the approach of measuring for social desirability bias and statistically controlling for its influence.

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*See also* Impression Management; Self-Deception; Self-Enhancement; Self-Presentation; Self-Reports

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## SOCIAL DILEMMAS

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### Definition

A social dilemma is a situation in which a group of people must work together to achieve some goal that no one person could easily meet alone. However, if the goal is met, all group members, even those who did not help toward the goal, can enjoy its benefits.

This feature introduces a temptation to let others do the work and then enjoy the fruits of their labors after the goal is met. However, this same temptation exists for all other group members, and if everyone succumbs to it, then no one will be working toward the goal: The goal will not be met, and everyone will be worse off than if everyone had contributed effort. Thus the dilemma: Should you do what's best for yourself and hope that others work hard, or do what's best for the group and hope that others don't take advantage of your efforts? Social dilemmas are generally separated into two types: *commons dilemmas* (also called *resource dilemmas* or *social traps*), under which a short-term gain may lead to a long-term loss, and *public goods* (or *social fences*), under which a short-term loss may lead to a long-term gain.

### Commons Dilemmas

The commons dilemma has its roots in a famous 1968 article in *Science*, "The Tragedy of the Commons" by Garrett Hardin. Imagine that all houses in a neighborhood have access to a water table. Economically, the ideal strategy for each household is to use as much water as the family desires; all of their needs will be met. However, if all households do this, the water will deplete more quickly than rain and snowmelt can replenish it, and eventually the table will go dry. At that point, the neighbors will have to begin purchasing all their water, which will be a considerable expense. Thus, the people realized an immediate benefit but suffered a long-term loss. If all households had instead forgone some luxuries and curbed their water use, the table could have replenished at an adequate rate and would have lasted much longer, perhaps indefinitely. However, if everyone else is indeed conserving, the temptation will be strong to not do one's part and revert to maximum-use behavior—how much damage can one abuser cause? Unfortunately, this temptation usually proves to be so strong that most people eventually succumb to it, and the resource eventually dies; hence, the tragedy.

### Research on Commons Dilemmas

Research clearly shows that people are not good at maintaining a resource over a long period. Psychologists have tried to identify factors that encourage people to be better resource managers. Some of these factors are internal to the person, and some are external. Much work on internal characteristics has centered on social

value orientation, and this remains a popular topic. There is also quite a bit of research on situational perceptions. Many have been studied, and a good number seem to be important in the odd situation, but far fewer have broad impact. The best evidence shows that people are generally likely to be conserving if they feel the need to offset overuse by others, perceive conformity pressure to conserve, believe that the resource is inadequately sized, have previously caused (rather than merely experienced) resource failure, and socially identify with the group.

Regarding external factors, research has concentrated on the effectiveness of leader-based (rather than free-choice) systems of resource sampling, under which a single person determines how much of the resource each person receives. Though the leader system is typically more effective at resource maintenance than free choice, group members generally dislike it, so much so that they will abandon it at first opportunity, all the while acknowledging its effectiveness. Emerging evidence indicates that the leader can develop a sense of entitlement and start to claim a disproportionate amount of the resource for himself or herself.

An emerging issue is the amount of information group members have, and how specific that information is, regarding the commons. In real commons dilemmas, group members almost always lack some information about the commons, their fellow group members, or both, and researchers are trying to understand the impact of this uncertainty. A general finding is that people become more consuming as the specificity of commons information gets less, and this is magnified if some people get to sample the commons before others. Early samplers will be especially abusive (and interestingly, people seem to expect this will happen).

### Public Goods

A public good is an entity that exists only after a sufficient number of group members contribute toward its provision; hence, the social fence: You must give up something now to experience the benefit later. However, once the good is provided to all members, contributors and noncontributors alike can share in it. Thus, the dominant motive is to let others work to provide the good, and then take advantage once they succeed. This is termed *free riding*. But if everyone responds to this motive, then no effort will be put forth, and everyone will be denied the good. Public television is a well-known example. Stations solicit funds during pledge drives, but everyone can access its

shows, so there is no obvious incentive to give money. However, low donation levels will force the station to forgo expensive programs, and as expensive shows are usually the most popular, it follows that everyone will be denied the opportunity to watch their favorite programs. Researchers distinguish between a *discrete* good, which is provided only after a minimum total contribution has been reached, and a *continuous* good, which is provided in proportion to the total amount given. Small amounts of the good are available when contributions are few, and large amounts are available when contributions are plentiful.

### Research on Public Good Dilemmas

Public goods have been studied by economists since at least the 1930s, and their work has largely focused on external influences. Psychologists began systematically investigating internal factors in the 1970s. Of these, strong support exists for self-efficacy, and especially criticality, as a key factor. People who believe that their efforts will make a difference in determining whether the good is provided are much more likely to help than are people who do not. The best-case scenario is when people believe provision will fail without their involvement. All else being equal, efficacy goes down as group size increases, so this is a very real problem in large groups. Evidence shows that discussion of the dilemma among group members enhances contributions, though it is not clear why; group identity, promise making, coordination of actions, and normative influence have all been suggested as explanations. Research also supports the value of a sanctioning system for increasing contribution. Under such a system, group members socially punish noncontributing others, usually by criticizing or stigmatizing them. People are also influenced by the knowledge of how many others have already declined to contribute. As that number increases, people become more likely to give, possibly because they feel they do not have a choice, possibly because their sense of efficacy increases.

Other factors have also been shown to influence public goods behavior, but the nature of the influence is not yet understood. For example, a person's wealth is predictive of whether he or she will contribute, but some studies show wealthy people to be more likely to give than poor people (because the wealthy can more easily afford a contribution), whereas others show the reverse (the public good may be the poor person's only means of realizing the benefit associated with the

good, whereas the wealthy person may have many alternatives; hence, the poor person has greater incentive to see the good provided). Also, greed is definitely a motivator of noncontribution, though whether it is the dominant motive or secondary to a fear of being exploited by free riders is not clear.

An interesting relationship exists between willingness to accept a leader-based solution and dilemma type. At the start, people in a public goods problem are even less supportive of a leader than are those in a commons problem because the leader will be taking some of their personal property. In the commons problem, the leader simply restricts access to the commons. However, in the wake of a failed public goods problem, people are *more* supportive of a leader system than are those experiencing failed commons management. This is because a failed public good produces a net loss for contributors: Something was given up, but nothing was received in return. By contrast, a failed commons still produces a net gain; the dilemma is simply that the gain is not as large as it could have been. The specific experience of loss seems to be crucial for gaining support for a leader-based system.

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*See also* Cooperation; Interdependence Theory; Prisoner's Dilemma; Social Value Orientation; Trust

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## SOCIAL DOMINANCE ORIENTATION

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### Definition

Social dominance orientation (SDO) is a measure of an individual's support for group-based hierarchies. It reflects a person's attitudes toward hierarchies in general, as well as beliefs about whether one's own group should dominate other groups. People with high SDO

believe that society should be structured in terms of inequality, with some groups at the top (i.e., possessing more power and resources) and others at the bottom. People with low SDO, in contrast, believe that society should be structured in terms of equality, with no single group dominating others.

### Background and Importance

Social dominance orientation is based on social dominance theory, which was developed by Jim Sidanius and Felicia Pratto. According to social dominance theory, all societies are composed of group-based hierarchies. Group-based hierarchy refers to the notion that some people dominate others by virtue of their membership in powerful groups, independent of their individual-level characteristics such as charisma and intelligence. These groups can be organized by gender, race, ethnicity, social class, religion, sports teams, or any other social category relevant to the context at hand.

Social dominance theory postulates that group-based hierarchies are reinforced by *legitimizing myths*, or belief systems that indicate how power and status should be distributed among groups of people. Legitimizing myths can take one of two forms. First, they can be hierarchy-enhancing, meaning that they promote social inequality. Examples include racism, sexism, nationalism, and social Darwinism. Second, they can be hierarchy-attenuating, meaning that they promote social equality. Examples include multiculturalism, beliefs in the universal rights of humankind, and socialism.

Hierarchy-enhancing myths justify group-based domination. For instance, a central idea of social Darwinism is that certain groups are at the top of the hierarchy because they are more fit and capable than are those at the bottom. Hierarchy-attenuating myths, in contrast, counteract these belief systems to regulate the degree of inequality in society. Individuals with high SDO tend to support hierarchy-enhancing myths, whereas individuals with low SDO tend to support hierarchy-attenuating myths.

Social dominance orientation is an important measure because it shows that people's general feelings toward social inequality can predict their beliefs about whether their own group should dominate other groups (e.g., nationalism), their endorsement of specific social policies (e.g., capital punishment), and even their choice of occupation or college major. In turn, these beliefs, attitudes, and choices can influence individuals' levels of SDO because they perpetuate

the idea that certain groups should be at the top of the hierarchy, whereas other groups should stay at the bottom. Thus, SDO is both a cause and a consequence of hierarchy-enhancing myths and practices.

### Antecedents

SDO stems from at least three sources, one of which is group status or power. Members of high-status groups generally have higher SDO than do members of low-status groups. For example, men have higher SDO than women, White Americans have higher SDO than non-Whites, and heterosexuals have higher SDO than gays. A possible reason for such patterns of SDO endorsement is that groups at the top of the hierarchy would like to maintain their dominant position, whereas groups at the bottom of the hierarchy would like to change their subordinate position. As a result, the former support social inequality and the latter oppose it.

Another source of SDO involves socialization and background. In general, individuals who were raised in unaffectionate families have higher SDO than do those who were raised in affectionate families, most likely because unaffectionate families promote fewer ideas of equality. Furthermore, people who consider themselves religious typically have lower SDO than do their nonreligious counterparts because religious faith predicts endorsement of many hierarchy-attenuating legitimizing myths.

A third source of SDO is personality or temperament. People who are tough-minded tend to have high SDO because they are concerned with group-based competition and domination. In contrast, people who are empathetic and concerned about others tend to have low SDO because they care about cooperation and the reduction of group-based inequality.

### Consequences

As noted previously, high SDO is associated with the promotion of hierarchy-enhancing myths, and low SDO is associated with the promotion of hierarchy-attenuating myths. Endorsing these myths in turn leads people to support social policies that either heighten or attenuate social inequality. For instance, hierarchy-enhancing myths trigger favorable attitudes toward war, the military, and capital punishment. Hierarchy-attenuating myths, on the other hand, induce favorable attitudes toward affirmative action, women's rights, and gay rights.

In addition to predicting endorsement of legitimizing myths and social policies, SDO predicts selection into particular organizational roles. To illustrate, police recruits and law students have higher SDO than do public defenders and psychology students. Presumably, the reason for this is that the former two roles are hierarchy-enhancing and attract people with high SDO, whereas the latter two roles are hierarchy-attenuating and attract people with low SDO.

Importantly, hierarchy-enhancing roles can heighten the SDO of individuals who enact them. In one study, the magnitude of the difference between law and psychology students' levels of SDO increased with the amount of time that these students spent in college. This finding suggests that hierarchy-enhancing roles, such as being a law student, can breed positive feelings toward social inequality. In contrast, hierarchy-attenuating roles, such as being a psychology student, can trigger negative feelings toward social inequality.

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*See also* Attitudes; Beliefs; Equity Theory; Ideology; Intergroup Relations

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## SOCIAL EXCHANGE THEORY

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### Definition

Social exchange theory is a broad social psychological perspective that attempts to explain how human social relationships are formed, maintained, and terminated. The basic premise of this theory is that how people feel about a given interaction or relationship depends fundamentally on the outcomes that they perceive to be associated with it. More specifically, the perceived costs and benefits that accompany a person's interactions determine how he or she evaluates them. To the

extent that rewards are seen as high and costs are seen as low, a person tends to feel good about a relationship and will stay in it. If perceived costs increase or perceived benefits decrease, however, satisfaction with the relationship will decline and the person is more likely to end it.

Because social exchange theory is very general in nature, it can be readily applied to understanding a variety of different social relationships and situations. For instance, social exchange principles can provide insight into people's business relationships, friendships, and romantic partnerships, among other types of social involvements. In addition, these principles can be applied to understanding relationships involving individual people or social groups.

### Theoretical Background and Principles

Social exchange theory is based on the idea that people seek to maximize rewards and minimize costs in any given social relationship. Rewards can consist of anything tangible or intangible that an individual considers valuable. For instance, business relationships may provide several concrete benefits, such as income or material goods, in addition to several more abstract benefits, such as prestige and a sense of security. Costs include anything that an individual considers to be unrewarding or sees as requiring a significant amount of time or effort. For example, romantic relationships may involve costs such as shared housework and spending vacations with one's in-laws (which, for some people, can be extremely unpleasant). Of course, the evaluation of rewards and costs is highly subjective because that which is rewarding for one individual might not be quite as rewarding for another person. Similarly, that which is considered rewarding in one relationship might not be perceived as rewarding in a different social involvement.

People's evaluations of perceived rewards and costs influence how satisfied they are with their relationships and the relative stability of those relationships. Satisfaction with a relationship is determined by considering one's outcome *comparison level* (i.e., the standard by which one judges his or her current relationship's outcomes). For instance, a person may compare his or her current outcomes with those he or she has received in a past relationship of a similar type. So, you might compare how things are going now with your current boyfriend or girlfriend with how things went with past romantic partners. To the extent that a person's current outcomes exceed his or

her previous outcomes, the person is satisfied with a relationship and desires it to continue. However, if a person's current outcomes don't compare favorably to his or her previous outcomes, the person becomes dissatisfied and is less likely to work at furthering the relationship. People compare their current outcomes not only to past outcomes but also to those that they could be receiving now in other potential relationships (referred to as the *comparison level for alternatives*). To the extent that the outcomes people perceive as possible within an alternative relationship are better than those that they are receiving in their current relationship, they are less likely to continue in the current relationship.

Reward-to-cost ratios and comparison levels are subject to change over time, as individuals continually take stock of what they have gained and lost in their relationships. This implies that relationships that a person found satisfying at one point in time may become dissatisfying later because of changes in perceived rewards and costs. This may occur because certain factors may become less rewarding or more costly over time. For instance, sex may be extremely rewarding for members of a newly married couple but may become less so as passion and spontaneity decrease over the years.

Finally, people's perceptions of their relationships also depend on whether the exchanges that occur are viewed as equitable. Equitable or fair exchanges are necessary to avoid conflict between relationship partners. For instance, assume that there is favorable exchange for all parties involved in an ongoing relationship, but one party is receiving substantially greater benefits than the other. Such a scenario may be perceived as unfair because *distributive justice* is not present (i.e., outcomes are being distributed unequally). In this case, individuals with worse outcomes may feel exploited and have negative feelings about their exchange partner, which may ultimately affect how committed they are to continuing the relationship.

### Example

A recent college graduate accepts his or her first job with a large corporation because it has an excellent reputation and pays well. At first, the graduate loves the new job. Eventually, however, he or she comes to realize that his or her supervisor does not treat the graduate with respect, and he or she is so overworked that there is little time to enjoy the large salary. The graduate considers leaving the current job and starting

his or her own company. This is seen as desirable because it would allow the graduate to be his or her own boss and set his or her own hours. Then the graduate receives a promotion at work. No longer having to work as many hours and free from the previous supervisor, the graduate decides to renew the contract with the corporation.

### Limitations

Social exchange theory is limited in some ways. For example, the theory does not address the role of altruism in determining relationship outcomes. That is, people do not always act in self-interested ways (i.e., maximizing rewards and minimizing costs). For instance, in intimate relationships, people act communally, working for the benefit of their partner or relationship, sometimes even at great cost to oneself. Although evidence for this has been found for romantic relationships, this may not hold for other types of involvements, such as business relationships. Therefore, although social exchange principles have implications for a variety of different types of social relationships, they may explain some types of relationships better than others.

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*See also* Distributive Justice; Equity Theory; Interdependence Theory; Reciprocity Norm

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## SOCIAL EXCLUSION

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### Definition

Social exclusion refers to keeping an individual or group out of social situations. It typically occurs in

the context that the individual or group is believed to possess undesirable characteristics or characteristics deemed unworthy of attention. Acts of social exclusion are observed in humans and other social animals. Researchers agree that social exclusion serves a specific function for those who employ it, and that it is unpleasant and painful for those who are denied inclusion.

### Context, Importance, and Evidence

Researchers suggest four main functions for social exclusion. The first function is as a way of enforcing social rules. Societies operate on rules that apply to various situations, and if members violate these rules, they are often excluded from social activities. Individuals who break criminal laws are often excluded from society. Children who perpetually ignore the rules of a game are subsequently excluded from future games.

The second function is for the distribution of resources to group members. Most resources are in limited supply; thus, the group must decide which members receive these resources. If members are judged by the majority to be unfit for social exchange, then the majority may decide to exclude those members from social interactions and deny them resources. This often occurs in children, for example, when smaller or less coordinated children are excluded from athletic games. It also occurs on a societal level when laws are enacted that hinder fringe groups from benefiting from governmental programs.

The third function involves group identity, often resulting in justification for discrimination. The need for belonging is an important basic human need; group identity is often a way of fulfilling this need. Group identity categories are formed on biological factors (e.g., race, sex), socially constructed factors (e.g., social class), or personal beliefs and opinions (e.g., religion, politics). These divisions often lead to an “Us versus Them” mentality, serving as a way of solidifying group identity, and keeping dissimilar groups on society’s fringes. Young children tend to socially avoid members of the opposite sex, but play with same-sex members. Exclusion can be the first step toward discrimination, which can lead to large-scale segregation and aggression.

The fourth function is to increase the strength or cohesiveness of the excluding group. Social exclusion is used to reduce vulnerability or weakness in the group. In social animals, the member who is weak or

puts the group at risk is excluded, thus strengthening the group. The act of excluding can strengthen the perceived cohesiveness and power of the group. Acts of exclusion provide an immediate sense of power, control, and cohesiveness.

### Implications

Social exclusion (and related phenomena such as rejection and ostracism) is a powerful and universal social tool. Those who employ it receive some immediate benefits. For those on which it is used, it can sometimes lead them to correct their behaviors so that they can be re-included, but often, it is painful and can lead to depression and, in some cases, aggression. Researchers are actively investigating under what conditions each of these paths are taken, and when social exclusion becomes harmful to the larger group, as well.

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*See also* Need to Belong; Ostracism; Rejection

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## SOCIAL FACILITATION

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### Definition

Social facilitation refers to the general phenomenon that physical and cognitive performance is improved when other people are present (and possibly watching the performer). Psychologists use the term *social facilitation/inhibition* to indicate that performance is sometimes facilitated while being observed, and other times inhibited in the presence of others. The critical factor for determining whether performance is facilitated or inhibited is whether the task that the individual is performing is well learned (simple) or novel (difficult). Research has shown that well-learned tasks are facilitated under observation, whereas novel tasks are inhibited under observation.

## History and Background

One of the first documented studies in social psychology appeared in Norman Triplett's 1898 article "The Dynamogenic Factors in Pacemaking and Competition," which described observational data from competitive cyclists and an experimental study on the speed at which children could spin a fishing reel. Triplett demonstrated that competitive cyclists paired with other cyclists yielded faster racing times than did cyclists racing against the clock. In the experimental section of the article, children were instructed to spin a fishing reel as quickly as possible to move a figure along a racecourse, either with other children (coaction) or alone. Children in the coaction setting were more likely to spin the reel faster than were those performing the task alone. These findings led to the conclusion that the presence of others, particularly coacting others, improved performance.

By the mid-20th century, social facilitation research had waned. A cursory examination of the literature revealed inconsistent findings regarding how the presence of others affected performance. Though it appeared that performance improved when in the presence of others, not all the data supported this conclusion. Even in Triplett's research, only 50% of the children performed faster when coacting, and among the remaining children 25% performed the same and 25% performed worse when paired with others.

In the mid-1960s, Robert Zajonc published an influential article on social facilitation that brought order to these inconsistent findings. Zajonc argued that the presence of others could bring about facilitated or impaired performance depending on the type of task being performed. When the task at hand was well learned, observers or coactors could facilitate performance, but when the task was novel, the presence of others could inhibit performance. Zajonc argued that the underlying reason for these differences was an arousal or drive component. According to the drive theory, the presence of others evoked an undifferentiated arousal or drive that increased the likelihood of a dominant response. (The dominant response is whatever response is most likely in that exact situation.) In well-learned or easy tasks, the dominant response would be the correct answer. In novel or complex tasks, however, the dominant response is likely to be the incorrect answer. Zajonc's distinction explained the inconsistencies in social facilitation studies and why tasks that involved well-established and fluid responses were improved by the presence of

an audience or coactors, but tasks that required problem-solving skills were impaired.

Zajonc demonstrated support for this theory in one of the classic social psychology studies. Instead of studying task performances of college sophomores, Zajonc enlisted 72 female cockroaches (*Blattis orientalis*, to be exact) to run an easy or a difficult maze. In addition to the difficulty of the maze, Zajonc manipulated whether the cockroach ran the maze with an audience of other cockroaches (the cockroaches were in clear boxes adjacent to the maze) or without a cockroach audience. The final critical factor was whether cockroaches ran the maze alone or paired with another cockroach. Zajonc found that the presence of conspecifics (i.e., members of the same species) as either coactors or as observers (the audience) increased running time in the easy maze, but decreased running time in the difficult maze relative to running times in the alone condition. These findings were interpreted as support for the drive hypothesis of social facilitation, specifically that the presence of conspecifics increased general arousal states and that arousal facilitated dominant responses and impaired nondominant responses.

Zajonc's provocative theory and empirical data renewed interest in social facilitation research and a flurry of empirical investigations followed. As a way to make sense of the many studies, researchers in the 1980s examined all the studies simultaneously (a process called meta-analysis) to extract generalizable constructs and gauge the reliability of the phenomenon. After reviewing 241 studies comprising more than 24,000 subjects, the authors concluded that the presence of others did indeed inhibit complex performance accuracy and decreased speed of responding. Also consistent with the theory, the meta-analysis showed that the presence of others facilitated simple performance speed, but there was less evidence that accuracy of performance increased in the presence of others. This finding could be caused by ceiling effects; performance is already so close to perfect in simple tasks that the additive benefit derived from the presence of others may be difficult to detect.

## Why Is Performance Improved or Impaired?

The meta-analysis strongly supported social psychologists' claims that these effects were robust. However, the demonstration of social facilitation/inhibition,

though important, does not address the question of *why* the effects occur. What is the process by which performance is facilitated or inhibited? In social facilitation research, social psychologists have focused on three reasons to explain social facilitation/impairment effects. These reasons can be broadly construed as physiological, cognitive, and affective mechanisms. The physiological explanation was discussed briefly earlier—the generalized drive and arousal hypothesis; the cognitive explanation focuses on distraction and attention; and the affective component focuses on the anxiety and self-presentational aspects related to performing in front of others.

### **Physiological Mechanisms**

The drive-arousal hypothesis received some support, using a variety of methodological techniques. In a naturalistic setting, social psychologists examined running speeds of joggers who were filmed unobtrusively as they rounded a footpath. The experimenters manipulated the presence of others using three conditions: mere presence, evaluative, and alone conditions. The experimenters operationalized these conditions using a female confederate placed strategically along the footpath. As runners rounded a bend in the footpath, the female confederate sat with her back to the runners (mere presence), the female confederate sat facing the runners (evaluative), or the female confederate was not present (alone). Only runners in the evaluative condition (confronted with a person watching them run) significantly accelerated their running pace, demonstrating support for the drive aspect of facilitation effects.

Though the studies examining running time were consistent with the arousal explanation, they did not directly measure physiological arousal. Not until advances in the field of psychophysiology (the science of linking psychological states with physiological responses) occurred were social psychologists able to properly test the arousal hypothesis of social facilitation effects. A century after the publication of Triplett's seminal article, social psychophysicist Jim Blascovich tested the arousal mechanisms that were believed to underlie social facilitation effects. This research found that as Zajonc had originally hypothesized, present others did significantly increase sympathetic activation during performance tasks relative to alone conditions (e.g., heart rate and other cardiac measures increased). However, even though

general autonomic reactivity increased for everyone in the audience condition, very different physiological profiles were produced, depending on whether the cognitive task was novel or well learned. Specifically, people completing the well-learned task in the presence of an audience had changes in cardiovascular responses consistent with a benign (healthier) profile. These changes included stronger contractility force of the heart ventricles, more blood ejected from the heart, and overall dilation of the arterioles, which allows faster blood flow to the periphery. In stark contrast, when people completed a novel task in the presence of an audience, their cardiovascular responses were consistent with a malignant (unhealthier) profile that included greater contractile force and co-occurring decreases in blood volume (indicating less heart efficiency), and constriction of the arterioles. This research demonstrated that although Zajonc was correct in identifying arousal as a critical explanation in social facilitation/inhibition effects, arousal is not unidirectional. Instead, while in the presence of others, different cardiovascular profiles co-occur when completing novel versus well-learned tasks.

### **Cognitive Mechanisms**

Evidence for the cognitive mechanisms underlying social facilitation effects are best articulated by the distraction-conflict theory. This theory suggests that the presence of others is distracting and that distraction creates cognitive overload, which restricts attentional focus. This results in different effects in simple versus complex tasks. In simple tasks performance is improved because attentional focus on present others results in screening out nonessential stimuli, leading to better performance. In complex tasks, attentional focus impairs performance because the complex tasks require attention to wider ranges of stimulus cues. Some persuasive evidence for this explanation of social facilitation/inhibition effects comes from studies examining attentional focus as a result of present others using the Stroop task. In the Stroop task, participants are instructed to say aloud the ink color of a word. This task is difficult because the word is a color word printed in an incongruent color (e.g., the word *red* would be printed in blue ink); participants have to say the word *blue*—the ink color—and simultaneously suppress the desire to say the word *red*. The Stroop task thus requires the inhibition of the dominant response (reading) and requires the person to

focus on the details of the printed word. In support of the distraction-conflict theory, researchers found that, compared with the alone condition, participants in the audience condition had less Stroop interference, meaning that attention shifted away from the central or dominant response tendency (reading) and toward processing the stimulus details (the ink color).

### **Affective Mechanisms**

A final related explanation for social facilitation effects is one that focuses on the affective responses associated with being evaluated in the presence of others. This explanation emphasizes the importance of self-presentational concerns related to performing in front of others. Some psychologists have argued that the most significant consequence of an audience (or coactors) is that their presence shapes the behaviors of the performer and emphasizes the importance of making a good impression or avoiding a bad impression. To the extent that individuals feel that they can self-present positively while being observed, which they would be more likely to believe if the tasks were simple or well learned, then present others would facilitate performance. If, on the other hand, the task is difficult or novel, the individual may expect to perform poorly. This anxiety or evaluation apprehension associated with performing well may ironically worsen their performance. Persuasive evidence for this idea comes from studies that found no differences in task performance when participants performed a task alone or in the presence of a blindfolded audience. These findings suggest that the ability of the present others to evaluate the performance is critical to social facilitation/inhibition effects.

### **Related Constructs**

Several related constructs appear in the social psychological literature, but the construct most commonly confused with social facilitation is *social loafing*. Social loafing is the tendency for individuals to perform worse in a group setting. For example, when a group of participants was asked to pull on a rope, they pulled with less strength than when pulling the rope alone as an individual. This might seem to be a direct contradiction to social facilitation. However, the constructs can be clearly differentiated. Social loafing is more likely to occur when the task performance is evaluated at a group level. Therefore, any one individual's performance cannot be evaluated. In contrast,

social facilitation occurs when an individual's performance can be directly evaluated and the performance is unambiguously related back to the individual.

### **Implications**

Unlike other contemporary psychological theories, social facilitation/inhibition theory predicts changes in performance in both physical and cognitive domains. The utility and application of these findings are relevant to educational settings, sports psychology, and organizational behavior, to name a few. Implications from this theory are particularly relevant to educational settings where the goal is both effective learning and testing of knowledge. Social facilitation/inhibition theory suggests that to increase learning comprehension, one should try to learn new material while alone (in this case, the material being learned is presumed to be novel, difficult, and non-dominant), but one should be tested on well-learned material in the presence of others.

In addition, sports psychologists use the knowledge gleaned from social facilitation/inhibition theory on how to best improve physical performance in observed domains. They can predict that when athletes are competing against a clock or their own time, performance will be worse compared with environments in which athletes are competing against a present other. Similarly, games or events that have spectators may produce better performance than do games with no spectators. An interesting application of the theory is the *championship choke*, which suggests that the home field advantage may actually be a disadvantage. Related to the affective mechanisms of social facilitation, Roy Baumeister has argued that competing in the most important games in the presence of a home crowd increases one's level of self-awareness, which would not be the case for the visiting team. This increased self-consciousness, like social inhibition effects, can produce worse performance.

On some occasions, dominant responses are unhealthy, and presence of others may encourage these responses. Social facilitation has been applied to the study of activities such as teenage drinking, drug use, overeating, and even acting with more prejudice. In a recent study, psychologists showed that people most concerned about appearing prejudiced acted more prejudiced with others present than when alone. The authors argued that observers decreased cognitive control, resulting in more (unintended) prejudice. In other words, observers facilitated biases and prejudice.

The presence of evaluative others affects one's performance, for better or worse. Whether the effect is positive (better test scores, more touchdowns) or negative (forgetting lines during a presentation, dropping a pass on a football field) depends on whether the task is familiar or novel, the nature of the audience (friendly or hostile, friends or strangers), and one's physiological responses (benign or maladaptive).

Wendy Berry Mendes

*See also* Choking Under Pressure; Self-Presentation; Social Compensation; Social Loafing

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## SOCIAL IDENTITY THEORY

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### Definition and History

Social identity theory explains how the self-concept is associated with group membership and group and intergroup behavior. It defines group membership in terms of people's identification, definition, and evaluation of themselves as members of a group (social identity) and specifies cognitive, social interactive and societal processes that interact to produce typical group phenomena.

Originating in the work of Henri Tajfel in the late 1960s and collaboration with John Turner in the 1970s, social identity theory has a number of different conceptual foci. The two most significant are the social identity theory of intergroup relations and the social identity theory of the group, the latter called *self-categorization theory*. Social identity theory has developed to become one of social psychology's most significant and extensively cited analyses of intergroup and group phenomena, for example, prejudice, discrimination, stereotyping, cooperation and competition, conformity, norms, group decision making, leadership, and deviance.

### How People Represent Themselves

People have a repertoire of different ways to conceive of themselves; they have many different identities that can be classified as personal identities or social identities. Personal identities are definitions and evaluations of oneself in terms of idiosyncratic personal attributes (e.g., generous, shy), and one's personal relationships (e.g., X's friend, Y's spouse). Social identities are definitions and evaluations of oneself in terms of the attributes of specific groups to which one belongs (e.g., male, nurse, Hindu). Personal identity is tied to the personal self and associated with interpersonal or idiosyncratic individual behaviors; social identity is tied to the collective self and associated with group and intergroup behaviors. Recently, theorists have argued that in some cultures, social identity rests more on networks of relations within a group and is thus associated with the relational self.

### How People Represent Groups

Human groups are social categories that people mentally represent as *prototypes*, complex (fuzzy) sets of interrelated attributes that capture similarities within groups and differences between groups. Prototypes maximize *entitativity* (the extent to which a group is a distinct entity) and optimize *metacontrast* (the extent to which there is similarity within and difference between groups). If someone says to you, "Norwegian," what comes immediately to mind is your prototype of that national group. Overwhelmingly, people make binary categorizations in which one of the categories is the group that they are in, the ingroup. Thus, prototypes not only capture similarities within the ingroup but also accentuate differences between a person's group and a specific outgroup. Ingroup prototypes can therefore

change as a function of which outgroup you are comparing your group to. In this way, prototypes are context dependent.

### Categorization and Depersonalization

The process of categorizing someone has predictable consequences. Rather than seeing that person as an idiosyncratic individual, you see him or her through the lens of the prototype; the person becomes depersonalized. Prototype-based perception of outgroup members is more commonly called *stereotyping*; you view them as being similar to one another and all having outgroup attributes. You can also depersonalize ingroup members and yourself in exactly the same way. When you categorize yourself, you view yourself in terms of the defining attributes of the ingroup (self-stereotyping), and, because prototypes describe and prescribe group-appropriate ways to think, feel, and behave, you think, feel, and behave group prototypically. In this way, self-categorization produces normative behavior among members of a group.

### Feelings for Group Members

Social categorization affects how you feel toward other people. Feelings are governed by how prototypical of the group you think other people are, rather than by personal preferences, friendships, and enmities; liking becomes depersonalized *social attraction*. Furthermore, because within one's group there is usually agreement over prototypicality, prototypical members are liked by all; they are popular. Likewise, less prototypical members are unpopular and can be marginalized as undesirable deviants. Another aspect of social attraction is that outgroup members are liked less than ingroup members; outgroupers are very unprototypical of the ingroup. Social attraction also occurs because one's ingroup prototypes are generally more favorable than one's outgroup prototypes; thus, liking reflects prototypicality and the valence of the prototype.

### Intergroup Behavior

The tendency for ingroup prototypes to be more favorable than outgroup prototypes represents *ethnocentrism*, the belief that all things ingroup are superior to all things outgroup. Ethnocentrism exists because of the correspondence, through social identity, between

how the group is evaluated and how a person is evaluated. Thus, intergroup behavior is a struggle over the relative status or prestige of one's ingroup, a struggle for positive ingroup distinctiveness and social identity. Higher status groups fight to protect their evaluative superiority; lower status groups struggle to shrug off their social stigma and promote their positivity.

The strategies that groups adopt to manage their identity depend on *subjective belief structures*, members' beliefs about the nature of the relationship between their group and a specific outgroup. Beliefs focus on status (What is my group's social standing relative to the outgroup?), stability (How stable is this status relationship?), legitimacy (How legitimate is this status relationship?), permeability (How easy is it for people to change their social identity by passing into the outgroup?), and cognitive alternatives (Is a different intergroup relationship conceivable?).

A *social mobility* belief structure hinges on a belief in permeability. It causes members of lower status groups as isolated individuals to disidentify from their group to try to join the higher status outgroup; they try to "pass." A *social change* belief structure hinges on acceptance that permeability is low. It causes low status groups to engage in *social creativity*, behaviors aimed at redefining the social value of their group and its attributes, coupled with attempts to avoid (upward) comparison with higher status groups and instead engage in (lateral or downward) comparisons with other groups lower in the social pecking order. Where a social change belief structure is coupled with recognition that the social order is illegitimate, group members engage in *social competition*, direct competition with the outgroup over status, which can range from debate through protest, to revolution and war.

### Social Identity Motivations

The group pursuit of positive distinctiveness is reflected in people's desire to have a relatively favorable self-concept, in this case through positive social identity. The *self-esteem hypothesis* draws out this logic: Social identity processes are motivated by the individual pursuit of a relatively favorable self-concept and possibly by the global human pursuit of self-esteem. Research suggests that group membership generally does make people feel good about themselves, even if the group is relatively stigmatized, but feeling good or bad about oneself does not easily predict whether one will actually identify with a group.

According to *uncertainty reduction theory*, there is another basic motivation for social identity processes. People strive to reduce feelings of uncertainty about their social world and their place within it; they like to know who they are and how to behave, and who others are and how they might behave. Social identity ties self-definition and behavior to prescriptive and descriptive prototypes. Social identity reduces uncertainty about who you are and about how you and others will behave, and is particularly effective if the social identity is clearly defined by membership in a distinctive high entitativity group. Research confirms that uncertainty, especially about or related to self, does motivate identification particularly with high entitativity groups.

### When Does Social Identity Come into Play?

A social identity comes into play psychologically to govern perceptions, attitudes, feelings, and behavior when it is psychologically salient. People draw on readily accessible social identities or categorizations (e.g., gender, profession), ones that are valued, important, and frequently employed aspects of the self-concept (*chronically accessible* in memory), or because they are self-evident and perceptually obvious in the immediate situation (*situationally accessible*). People use accessible identities to make sense of their social context, checking how well the categorization accounts for similarities and differences among people (*structural/comparative fit*) and how well the stereotypical properties of the categorization account for people's behavior (*normative fit*). People try different categorizations, and the categorization with optimal fit becomes psychologically salient. Although largely an automatic process, salience is influenced by motivations to employ categorizations that favor the ingroup and do not raise self-uncertainty.

### Social Influence in Groups

People in groups adhere to similar standards, have similar attitudes, and behave in similar ways. They conform to group norms and behave group prototypically. Self-categorization is the cognitive process responsible for an individual group member behaving prototypically, transforming his or her self-concept and behavior to be identity-consistent. In gauging what the

appropriate group norm is, people pay attention to the behavior of people who are most informative about the norm, typically highly prototypical members and leaders, but also, as contrast anchors, marginal members and deviants, and even outgroup members (*referent informational influence theory*).

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*See also* Group Identity; Ethnocentrism; Self-Categorization Theory; Self-Concept

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## SOCIAL IMPACT THEORY

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### Definition

Social impact theory proposes that the amount of influence a person experiences in group settings depends on (a) strength (power or social status) of the group, (b) immediacy (physical or psychological distance) of the group, and (c) the number of people in the group exerting the social influence (i.e., number of sources). Thus, a group that has many members (rather than few members), high power (rather than low power), and close proximity (rather than distant proximity) should exert the most influence on an individual. Conversely, if the strength of the person exposed to the social influence (i.e., target) increases, the immediacy of the group decreases, or if the number of targets increases, the amount of influence exerted by the group on the individual decreases. The theory therefore has direct applications to persuasion and obedience.

Social impact theory differs from other models of social influence by incorporating strength and immediacy, instead of relying exclusively on the number of sources. Although criticisms have been raised, the theory was (and continues to be) important for the study of group influence. Reformulating social impact theory to accommodate the influence of targets on sources (i.e., dynamic social impact theory) has further increased its validity and range of explainable phenomena. Furthermore, pushing social impact theory into applied areas in social psychology continues to offer fresh perspectives and predictions about group influence.

## Tests of Social Impact Theory

### *Number of Sources*

Social impact theory predicts multiple sources will have more influence on a target than will a single source. Research has generally supported this prediction: Many studies have shown a message presented by multiple people exerts more influence than does the same message presented by a single person. However, the effect of multiple sources only holds true under three conditions. First, the influencing message must contain strong (rather than weak) arguments. Weakly reasoned arguments, whether given by multiple sources or not, result in little attitude change. Second, the target must perceive the multiple sources to be independent of one another. The effect of multiple sources disappears if the target believes the sources “share a single brain.” The colluding party will in such cases be no more effective than will a single source. Third, as the number of sources grows large, adding additional sources will have no additional effect. For example, the effect of 4 independent sources substantially differs from the effect of 1 source, but the effect of 12 independent sources does not substantially differ from the effect of 15 independent sources.

### *Strength and Immediacy*

The inclusion of strength and immediacy as variables is unique to social impact theory; no other social influence theory includes these variables. Defining strength and immediacy in research studies is less straightforward than is defining the number of sources, but the operational definitions have been relatively consistent across studies. Researchers usually vary the source’s strength with differences in either

age or occupation (adults with prestigious jobs presumably have more strength than do young adult college students). Researchers usually vary the source’s immediacy either with differences in the physical distance between the source and the target (less distance means more immediacy) or, in cases of media presentation, with differences in the size of the visual image of the source (a larger image focused more on the face relative to the body means more immediacy).

Surprisingly, however, these two components of the model have received considerably less empirical investigation than has the number of sources; therefore, the effects of strength and immediacy on influence are less clear. A statistical technique called meta-analysis, which allows researchers to combine the results of many different studies together, has helped researchers draw at least some conclusions. Across studies, meta-analyses on these two variables indicate statistically significant effects of low magnitude (i.e., the effects, though definitely present, are not very strong). Furthermore, strength and immediacy appear to only exert influence in studies using self-report measures; the effects of strength and immediacy wane when more objective measures of behavior are examined.

## Dynamic Social Impact Theory

In its traditional form, social impact theory predicts how sources will influence a target, but neglects how the target may influence the sources. Dynamic social impact theory considers this reciprocal relationship. The theory predicts people’s personal attitudes, behaviors, and perceptions will tend to cluster together at the group level; this group-level clustering depends on the strength, immediacy, and number of social influence sources. Day-to-day interaction with others leads to attitude change in the individual, which then helps contribute to the pattern of beliefs at the group level. In support of the immediacy component of dynamic social impact theory, for example, studies have shown randomly assigned participants were much more likely to share opinions and behaviors with those situated close to them than with those situated away from them, an effect which occurred after only five rounds of discussion.

## New Directions for Social Impact Theory

Recently, researchers have pushed social impact theory outside the areas of persuasion and obedience into

more applied areas of social psychology. For example, recent studies have examined social impact theory in the context of consumer behavior. In one study, researchers varied the size and proximity of a social presence in retail stores, and examined how this presence influenced shopping behavior. Furthermore, several tenets of social impact theory seem to predict political participation. One study found as the number of people eligible to vote increases, the proportion of people who actually vote asymptotically decreases. This finding accords with social impact theory, which predicts an increasingly marginal impact of sources as their number grows very large.

Social impact theory has enjoyed great theoretical and empirical attention, and it continues to inspire interesting scientific investigation.

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*Brad J. Bushman*

*See also* Attitude Change; Influence; Persuasion

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## SOCIAL INFLUENCE

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*See* INFLUENCE

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## SOCIAL JUSTICE ORIENTATION

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### Definition

When, why, and how do people decide that something is fair or unfair? For the past half-century, social justice has been an active area of study for social psychologists. Social justice researchers study both individuals and groups, trying to understand how people make justice decisions and what they perceive and feel about the fairness of others' decisions.

## Social Justice Theories

### *Just-World Theory*

Do most people care about justice? Cynics say no and point out people's inhumanity to each other as proof. But Melvin Lerner proposed a theory called *belief in a just world*, stating that all people want to imagine that they live in a just world. Experiments show people's desire to maintain the illusion of fairness often leads them to do cruel acts. If someone receives bad outcomes, others look at the person and believe that he or she did something to deserve the bad outcomes. This belief shields observers from feeling vulnerable to unjust outcomes because they know that they themselves are not bad people, but the process also results in victim blaming.

### *Distributive Justice*

How do people decide that something is just or not? In social psychology, early research approached this question by focusing on distributions, arguing that it is how things of value are distributed that guides people's feelings and perceptions regarding justice. Of particular importance to researchers was equity theory. The central point of equity theory states that every justice decision is determined by comparisons between people. According to equity theory, one person will compare his or her inputs and outcomes to the inputs and outcomes of another. An input is what you put into the situation (e.g., studying for an exam, being smart in a subject) and the output is what you get out of the situation (e.g., the grade on the test).

An example illustrates the process. Imagine that two coworkers in a firm are working equally hard and well on an important project that will determine the amount of their bonus checks. If the supervisor decides to give a big bonus check to one and a little check to the other, the latter employee would likely find the situation unjust and would find the situation more unjust than if no bonus were given.

Equity theory applies well to most economic transactions, but the input-outcome calculations are not the only method for deciding whether a distribution of rewards is fair. According to Morton Deutsch, when people make justice decisions regarding social relationships, equality is preferred over equity. In a social situation, an equal division of costs and benefits seems the most fair. Thus, for example, when you go out to dinner with friends, it usually seems as fair just

to split the bill as it does to calculate precisely the cost of each person's meal. A third consideration is need. Deutsch argued that when making justice decisions regarding personal development and welfare, people will be most likely to consider the needs of those affected by the justice decision. It seems fair to buy shoes for the baby even though the baby has brought no income into the house, and it seems fair to put the baby's needs in front of the mother's or father's needs.

### **Procedural Justice**

Researchers have noticed that sometimes people feel upset with an interaction even though they obtain the desired outcome. People also often accept decisions that are not to their advantage if they view the decision-making process as fair. The researchers began to look beyond simple questions about distributions of outcomes and instead turned their attention toward the *ways* in which outcomes are distributed; thus, the field of procedural justice was born.

A good example of the power of procedural justice is an effect researchers call *voice*. If a person has an opportunity to express his or her views to decision makers, that person will be more likely to find the outcome fair. Imagine, for example, that your town wants to knock down several houses to make way for a new interstate highway. If the town holds hearings where citizens can voice their concerns, homeowners will find the situations less unjust than if the town has no meetings—even if the meetings occur after the decision to demolish!

Why do procedures have such an effect on the perception of justice? Tom Tyler has noticed that procedures matter to people because fair treatment signals that one is regarded as a good person. When a person is treated fairly by other members of his or her group, the person feels respected, and when the person is treated fairly as a member of the group, he or she feels pride.

### **Retributive Justice**

For a long time, researchers concentrated on how people make decisions about justice but did not emphasize how people react in situations in which a wrong has already been committed. Several factors influence how people react to wrongs. If the harmful outcome seems accidental, there is less outrage; if the harm seems intentional, there is more outrage. Low outrage results in low punishment. Moderate outrage results in punishments that emphasize righting the

wrong done to the victim. High outrage results in punishment that takes away the privileges, rights, and even the life of the offender.

## **Implications**

Social justice continues to remain an important topic to study because of its far-reaching implications for both oppressed and powerful individuals and groups, particularly in the realm of affirmative action, legal, welfare, and environmental policy.

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*See also* Attitudes; Blaming the Victim; Distributive Justice; Equity Theory; Just-World Hypothesis; Procedural Justice

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## **SOCIAL LEARNING**

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### **Definition**

Social learning refers to the learning that occurs in social contexts. More precisely, it refers to adaptive behavior change (learning) stemming from observing other people (or other animals), rather than learning from one's own direct experience. People acquire and change social behaviors, attitudes, and emotional reactions from observing and imitating the actions demonstrated by models such as parents or peers. This learning occurs from merely observing the actions of others and from observing the consequences of their actions. For example, if you see someone else touch a hot plate and then pull his or her hand away in pain, you do not have to imitate or repeat the action yourself:

You will avoid touching the hot plate as if you yourself had been burned by it.

## Background and History

In the first half of the 20th century, psychological theories of learning were primarily behavioral in nature, focusing on direct consequences of one's own actions. For example, in B. F. Skinner's operant conditioning theory, learning occurs through the experience of rewards or reinforcements, such as studying behaviors being reinforced with good grades. The rigid adherence to environmental rewards and punishments in the behaviorist models was addressed by John Miller and Neal Dollard's work in the 1940s on social learning that highlighted the importance of the social setting on learning. Although this research had limitations (e.g., they maintained that learning could not occur without imitation and reinforcement), it did underscore the role of internal, cognitive processes in learning and it spurred considerable theoretical work and empirical research into social learning.

Probably the most influential and comprehensive researcher and theorist in social learning is Albert Bandura. He introduced his social learning theory in the 1970s, which suggests that although humans do learn from the responses they receive when they engage in behaviors (such as a painful burn reinforcing the need to use a potholder to remove items from a hot oven), most human behavior is learned through the observation and modeling of others' behaviors. According to social learning theory, children may learn how to behave in a restaurant setting by mimicking the behavior of their parents, and adolescents may learn their political attitudes by listening to conversations of adults. Social learning theory is a synthesis of cognitive and behavioral approaches to understanding learning: It is behavioral in its emphasis on the observation and mimicking of models, but it is cognitive in that it highlights the human ability to think, anticipate outcomes, and symbolize.

In the 1970s, Bandura expanded his theory to include an important element missing from theories on social learning: self-beliefs. He renamed his theory social cognitive theory to highlight the importance of cognition in learning, motivation, and behavior. From this theoretical perspective, human functioning is a product of the dynamic interaction between environmental, personal, and behavioral influences; this dynamic interplay is referred to as *reciprocal determinism*. For example, if an individual receives a poor grade on an exam

(environmental factor) that may affect his or her belief (personal factor) about his or her ability in that domain, which in turn would influence his or her behavior (changed approaches to studying), and his or her behavior influences his or her environment (the individual now convenes a study group to prepare for exams).

## Vicarious Learning, Modeling, Self-Regulation, and Self-Efficacy

Social learning theory contends that people do not need to imitate behavior for learning to occur. An important element of social learning is observing the consequences others receive when they engage in behaviors, which is termed *vicarious learning*. These consequences inform the learner about the appropriateness of the behavior and the likely outcomes of the behavior. People are more likely to model behavior that has been rewarded and is deemed appropriate than behavior that has been punished. Thus, a boy seeing his sister get punished for lying to their father is likely to learn that he shouldn't lie, and he does not need to engage in that behavior himself for learning to occur.

Modeling, or observing others' actions and their resultant consequences, can influence behavior in a number of ways. First, modeling can teach people new behaviors, such as how to swing a golf club properly. Next, modeling can facilitate existing behaviors, such as deciding it is time to leave a party. Modeling also changes people's inhibitions (self-imposed restrictions on behaviors); for example, the inhibition against passing notes in the classroom can be strengthened by seeing the teacher reprimand a note-passing peer. Finally, emotional reactions can be changed by observing a model's emotions, for example, watching an uneasy speaker will likely increase one's own fear of public speaking.

Research into social learning has revealed that not all models are equally effective. Individuals are most likely to model behavior of those who are perceived to be similar to them (for example, same-sex models are generally more influential than opposite-sex models), to be competent, and to have high status (such as admired athletes or influential leaders). In addition, models can either be real people, such as parents or best friends, or they can be symbolic, such as a book or a film character.

Bandura's social cognitive theory also highlights the important concepts of self-regulation and self-reflection. Self-regulation involves goal setting, self-observation, self-assessment, and self-reinforcement.

Once goals have been set, people monitor their behavior, judge it against their own standards, and reinforce or punish themselves. Importantly, standards for behavior are quite variable, and although one person may pat himself or herself on the back for a job well done after receiving a B on an exam, another may kick himself or herself for such poor performance. Self-reflection is expressed in the concept of self-efficacy, which refers to individuals' perceptions of their competence to perform a specific task or a range of tasks within a certain domain. Self-efficacy is context dependent, and although a person may have high self-efficacy in one domain (such as math), he or she may have low self-efficacy in another domain (such as leadership). Ample empirical evidence suggests that self-efficacy is an important motivational construct that influences the choices people make, the goals they set for themselves, the effort and persistence put forth toward their goal, and their performance within a given domain.

### Processes

According to social learning theory, four subprocesses underlie the social learning process: attention, retention, production, and motivation. First, to learn from others, individuals must pay attention to the relevant aspects of the behavior being modeled. For example, a child learning to tie his or her shoelaces must pay close attention to the finger movements of the model. Next, the learner must also remember what the model did by committing the lace-tying movements into memory; often this information is committed to memory in either symbolic or verbal form. The next, likely difficult, step is for the learner to translate his or her understanding of how to tie his or her laces into overt lace-tying behaviors. Finally, people are more likely to attend to, remember, and engage in the modeled behavior if they are motivated to do so, and doing so will result in rewarding outcomes. Thus, the child is most likely to effectively engage in these social learning processes if he or she is adequately motivated to, for example, stop tripping on his or her laces or gain the approval of his or her parents.

### Importance and Consequences of Social Learning

Although social learning has been thought to be particularly important for children, it has been broadly

applied to learning that occurs over a person's life span. The social learning perspective has been very important for developing techniques for promoting behavior change (such as health promotion) and reducing unwanted behaviors such as aggressive behavior. Social learning has also contributed to our understanding of a wide range of phenomena including classroom learning, the influence of groups and leaders on individual behavior, health-related issues such as medical therapy compliance and alcohol abuse, and the moral and value internalization of children.

Perhaps the area of research most influenced by the social learning perspective is the study of antisocial, aggressive behavior. Significant research in this area indicates that an array of aggressive models can elicit a wide variety of aggressive behaviors. In a set of well-known BoBo doll experiments, Bandura and colleagues successfully demonstrated that children learned behaviors by simply watching others. They examined the behavior of mildly frustrated children who were previously exposed to an adult who either kicked, threw around, and punched an inflatable BoBo doll or was quiet and reserved around the doll. Children who were exposed to the aggressive adult were themselves more aggressive with the doll than were those exposed to the docile adult. However, children were less likely to imitate the aggressive behavior when they saw the adult get punished for the behavior.

Importantly, the models do not need to be physically present to influence the learner, aggressive models on television (including cartoon characters) can serve as effective models of aggressive behavior. Children are particularly vulnerable to this influence, and they learn that violence is acceptable because they see "good" people aggress, and they learn how to aggress from models. In addition to learning specific aggressive behaviors, they also learn attitudes regarding aggression as well as "scripts" to guide social behavior in different situations that may lead people to engage in aggressive behaviors by following the scripts that have been learned. On a more optimistic note, changing the model can influence behavior such that nonaggressive models decrease aggressive behavior. In addition, social learning has also been shown to play a large role in the learning of prosocial, helping behavior.

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*See also* Bobo Doll Studies; Modeling of Behavior; Self-Efficacy; Self-Regulation

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## SOCIAL LOAFING

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### Definition

Social loafing refers to a decline in motivation and effort found when people combine their efforts to form a group product. People tend to generate less output or to contribute less effort when working on a task collectively where contributions are combined than when working individually. The consequence is that people are less productive when working as part of a group than when working individually. Social loafing is similar to the *free rider effect*, whereby people contribute less to a collective effort when they perceive their contributions are dispensable. This is also similar to the *sucker effect*, whereby people withhold their contributions to a group to avoid being the victim of the social loafing or free riding efforts of other group members. However, the *free rider effect* and the *sucker effect* are narrower terms that refer to specific causes of social loafing. *Social loafing* is a broader construct that refers to any reduction in motivation and effort that occurs when contributions are pooled compared with when they are not pooled.

### History and Modern Usage

Social loafing was first documented in the latter half of the 19th century by a French engineer named Max Ringelmann who observed men pulling or pushing a two-wheeled cart. Ringelmann noted that doubling or tripling the number of men performing the task did not produce a doubling or tripling of output, that is, two-man groups did not perform twice as well as individual men. More recently, researchers have observed social loafing on other physical tasks such as pulling a rope in a tug-of-war game, generating noise by clapping and cheering, swimming in a relay race, pumping air, and wrapping pieces of candy, and on cognitive tasks such as solving mazes, evaluating an editorial or poem, and generating uses for objects. For example, participants wearing blindfolds were instructed to pull

a tug-of-war rope as hard as they could. Although participants believed they were pulling alone in some trials and as part of a group in other trials, in all conditions participants pulled the rope alone. Participants pulled harder on the rope when they believed they pulled alone than when they believed they pulled as part of a group.

Research reveals a variety of circumstances that influence whether people work hard versus loaf. For example, people work hard when offered strong external rewards for a good group performance, when they find the task intrinsically interesting or personally involving, and when they believe low effort will be punished. Conversely, people loaf when they perceive their efforts or contributions as redundant with the efforts or contributions of fellow group members. They loaf when they perceive the task as unimportant. They are more likely to loaf when the task is easy than when it is difficult. Perhaps most important, people loaf when they believe that their contributions cannot be identified, allowing them to hide in the crowd.

Understanding when people loaf requires distinguishing between effort (the contribution individuals make), performance (the product of those contributions), and outcome (the reward or consequences attached to the performance). With this distinction in mind, the various circumstances that influence social loafing can be organized under three broad conditions, and people will loaf when any of the conditions occur. First, people loaf when they perceive their individual efforts as unrelated or inconsequential to a good performance. For example, if a student working on a group project believes that the group will produce a good performance regardless of whether he or she individually works hard, then he or she is likely to loaf. Likewise, if the student believes that a good group product is unachievable regardless of whether he or she works hard, then he or she is likely to loaf.

Second, people loaf when they perceive that the outcome is unrelated to the quality of the performance. For example, if group members perceive that the group's performance will be rewarded regardless of the quality of the group performance, they will loaf. Likewise, if people perceive that the group's performance will go unrewarded regardless of the quality of the group performance, they will loaf.

Third, people will loaf when they do not value the outcome. More specifically, people will loaf when they perceive the costs of achieving the outcome exceed any benefits of achieving the outcome. For

example, students may understand that a good group project in a class will receive an A, but also recognize that the time required to produce a good group project will impinge on the time they need to study for other classes. Thus, they may loaf because they are unwilling to sacrifice study time for their other classes to achieve a good group project. Notably, the finding that people loaf when contributions cannot be identified also illustrates the third condition. When contributions cannot be identified, individual contributors cannot be appropriately rewarded for their high efforts but also cannot be appropriately punished should they loaf.

Social loafing is often described as a group problem that only occurs when individual members combine their efforts toward a common goal. Indeed, group settings seem particularly vulnerable to social loafing. However, the conditions that prompt social loafing in group settings can also prompt a reduction in motivation and effort among people undertaking individual tasks. Specifically, people will withhold efforts on individual tasks to the extent that they perceive no relationship between their efforts and their performance, no relationship between their performance and the outcome, do not value the outcome, or believe that the costs of achieving a good outcome outweigh the benefits of receiving a good outcome.

Social loafing has often been characterized as a social disease. However, it is a disease with a cure. Managers, teachers, and other people who depend on groups, as well as people working in groups, can reduce or eliminate social loafing by making sure that each of the following conditions is in place. First, people must believe that their efforts make a difference and that their contributions are essential to achieve a good performance. Second, people must perceive a strong link between performance and the outcome. They must believe that a good performance (both individual and group) will be rewarded and that a poor performance will not. Often, this condition requires making individual contributions identifiable. Finally, the outcome must be important to the contributors. Moreover, the benefits of achieving a good performance must exceed the costs of achieving a good performance.

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*See also* Effort Justification; Group Performance and Productivity; Social Facilitation; Social Compensation

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## SOCIAL NEUROSCIENCE

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### Definition

Social neuroscience is an interdisciplinary field of science that deals with the biological mechanisms underlying social processes and behavior, considered by many to be one of the major problems for the neurosciences to address in the 21st century. Social neuroscience also involves using biological concepts and methods to develop and refine theories of complex human behavior in the social and behavioral sciences.

### Background and History

During the 20th century in the biological sciences, the architects of development and behavior were conceived as anatomical entities (e.g., genes) sculpted by the forces of evolution and located within living cells far from the reaches of the social world. The brain was treated as a rational information-processing machine. Social factors, such as early family environment or social isolation later in life, were thought to have minimal implications for basic development, structure, or processes of the brain, which meant that social factors need not be considered to understand the human mind and behavior. And even if relevant, the notion was that considering social factors made the study of the human mind and behavior too complicated to sustain scientific progress.

The embrace of the neurosciences by cognitive and social scientists throughout most of the 20th century was no less antagonistic. World wars, a great depression, and civil injustices made it clear that social and cultural forces were too important to address to await the full explanation of cellular and molecular mechanisms. Given the antagonism between biological and social sciences that characterized psychology throughout most of the 20th century, research crossing social and biological levels of analysis was relatively rare.

By the dawn of the 21st century, neuroscientists, cognitive scientists, and social scientists began to collaborate more systematically, joined by the common view that complex human behavior must consider both biological and social factors and mechanisms. The research in social neuroscience has quickly grown to be broad and diverse. Investigations in the field include genetic studies of social recognition and affiliation in mice, research on social perception in stroke patients, animal studies of nurturance and affiliation, autonomic (e.g., neural pathways to and from internal organs) and neuroendocrine (e.g., hormones) research of social stressors and morbidity, and brain imaging studies of racial prejudice, social cognition, decision making, and interpersonal processes—to name but a few. The meteoric growth in research crossing social and biological levels of analysis during the past decade is testimony that the gap between the neurosciences and social sciences can be bridged, that the mechanisms underlying complex human behavior will not be fully explicable by a biological or a social approach alone, and that a common scientific language grounded in the structure and function of the brain and biology can contribute to this end point.

### Reductionism Versus Substitutionism

Reductionism means that the nature of complex things can be explained by (i.e., reduced to) simpler or more fundamental things. The term *reductionism* comes from reducing something complex, such as the human mind, to something simpler, such as areas of brain activity. The sensitive issue that has worried social scientists about brain studies is that scientists might want to reduce all behavior to brain processes, as if self, attitudes, and other social processes are nothing else but brain activity. Extreme reductionists may even say there is no need for social psychology

research because studies of brain processes can replace everything that social psychologists do.

All human social behavior, at some level, is biological, but this is not to say that biological description or reductionism yields a simple or satisfactory explanation for complex behaviors, or that molecular forms of representation provide the only or best level of analysis for understanding human behavior. Scientific constructs such as those developed by social psychologists provide a means of understanding highly complex activity without needing to specify each individual action of the simplest components, thereby providing an efficient means of describing the behavior of a complex system. Social psychologists are not alone in their preference for the simplest form of representation to perform certain tasks. Chemists who work with the periodic table on a daily basis nevertheless use recipes rather than the periodic table to cook, not because food preparation cannot be reduced to chemical expressions but because it is not cognitively efficient to do so. In other words, even though cooking can be reduced to chemical processes, it is still useful and more efficient to think about it and do it at a higher level.

Reductionism, a systematic approach to investigating the parts to understand better the whole, is sometimes confused with substitutionism, which is the denial of the value or usefulness of a higher level of representation once one has a lower level description. The chemist who sees no value in recipes when cooking because these recipes can be described in chemical equations illustrates substitutionism. Reductionism, in fact, is one of various approaches to better science based on the value of data derived from distinct levels of analysis to constrain and inspire the interpretation of data derived from other levels of analysis. In scientific reductionism, however, the whole is as important to study as are the parts, for only in examining the interplay across levels of analysis can the beauty of the design be appreciated. Social neuroscience is a reductionistic rather than a substitutionistic approach to the study of complex human behavior, and as such, it also seeks to contribute to theory and research in social psychology and related sciences.

### Organizing Principles

Contemporary work has demonstrated that theory and methods in the neurosciences can constrain and inspire social psychological hypotheses, foster experimental

tests of otherwise indistinguishable theoretical explanations, and increase the comprehensiveness and relevance of social psychological theories. That is, social neuroscience improves scientific understanding of complex human behavior. Several principles from social neuroscience indicate why this might be the case.

The principle of *multiple determinism* specifies that human behavior can have multiple antecedents within or across levels of organization. For instance, one might consume a considerable quantity of pizza in an effort to remedy a low blood-sugar condition (biological determinant) or win a food-eating contest (social determinant). If either the biological or social level of analysis is regarded as inappropriate for its science, then that science will be ignoring an entire class of determinants and, therefore, will not be able to provide a comprehensive explanation for such behaviors.

The principle of *nonadditive determinism* specifies that properties of the whole are not always readily predictable from the properties of the parts. Nonadditive determinism is also sometimes called *emergent properties* because the higher-level entity has properties that are not predictable by the properties of the lower-level pieces. In an illustrative study, the behavior of nonhuman primates was examined following the administration of amphetamine or placebo. No clear pattern emerged until each primate's position in the social hierarchy was considered. When this social factor was taken into account, amphetamine was found to increase dominant behavior in primates high in the social hierarchy and to increase submissive behavior in primates low in the social hierarchy. A strictly physiological (or social) analysis, regardless of the sophistication of the measurement technology, may not have unraveled the orderly relationship that existed.

Finally, the principle of *reciprocal determinism* specifies that there can be mutual influences between microscopic (e.g., biological) and macroscopic (e.g., social) factors in determining behavior. For example, the level of testosterone in nonhuman male primates promotes sexual behavior; however, the availability of receptive females increases the level of testosterone in nonhuman primates. That is, the effects of social and biological processes can be reciprocal.

Social neuroscience, which is built on these principles, makes it more likely that comprehensive accounts of complex human behavior can be achieved because the biological, cognitive, and social levels of organization are considered as relevant.

Throughout most of the 20th century, social and biological explanations were cast as incompatible. Advances in recent years have led to the development of a new view synthesized from the social and biological sciences. The new field of social neuroscience emphasizes the complementary nature of the different levels of organization spanning the social and biological sciences (e.g., molecular, cellular, system, person, relational, collective, societal) and how multilevel analyses can foster understanding of the mechanisms underlying the human mind and behavior.

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*See also* Biopsychosocial Model; Reductionism; Social Cognitive Neuroscience; Social Psychophysiology

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## SOCIAL POWER

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### Definition

Social power is the potential for social influence. The available tools one has to exert influence over another can lead to a change in that person. Social power and social influence are separate and distinct concepts. Although social power is potential (which may or may not be used), social influence is an effect, an actual change (or deliberate maintenance) in the beliefs, attitudes, behavior, emotions, and so on, of someone because of the actions or presence of another. The person or group that is the source of influence is commonly known as the influencing agent, whereas the object of the attempted or successful influence

attempt is commonly known as the target (of the influence). Thus, influencing agents have social power, which are the means they may use to influence targets.

## Background and History

The ability of one person (or group) to get others to do his or her will, also known as social power, has long been of interest to social psychologists. Perhaps this is because so much of human interaction involves the change or the attempt to change the beliefs, attitudes, or behaviors of another. Because of the long-standing interest in the topic, several different investigations have used different definitions of social power and different ways of measuring power. However, an extensive survey has found that the approach most commonly used originally identified five distinct potential tactics one could use in an influence attempt. This approach was updated some years ago and now includes six distinct tactics that can be subdivided into 11 varieties. Of course, in an influence attempt multiple types of influence are often used at the same time. The types of social power are as follows:

*Informational.* This type is the ability to rationally persuade someone.

*Expert.* This social power is similar to informational power except that arguments are not necessary because the target trusts the influencing agent.

*Referent.* The referent type is based on the target's identifying and liking the influencing agent and, because of this, wanting to comply with his or her requests.

*Coercive power.* This type involves threat of punishment. These can be things such as monetary fines (impersonal) or simply personal disapproval (personal).

*Reward power.* This social power type stems from the ability of the influencing agent to grant some kind of reward, either impersonal or personal.

*Legitimate power.* Based on what general society typically expects of us, this includes (a) the formal legitimate (or position) norm, which is the right to ask for something based simply on position or job title; (b) the reciprocity norm, whereby if someone does something for you, you owe him or her the favor in return; (c) the equity norm, the idea that one is expected to help others receive what they deserve, for example, if you work

hard, you should get rewarded; and (d) social responsibility (or dependence), whereby people are obligated to help those who depend on them.

The type of social power used in an influence attempt often depends on a person's motivations. Sometimes people are consciously aware of their motivations, and sometimes they are not. Clever influencing agents often choose the kind of influence they use based on considerations of potential effectiveness and other factors. These factors can be quite varied. For example, some people are motivated by the desire to appear powerful. To feel powerful, an influencing agent may choose a type of influence strategy that makes him or her feel as though he or she is in control of the target of influence. If so, the influencing agent may choose to use coercion or reward in the influence attempt. Similarly, a desire to enhance one's sense of power in the eyes of others, status, security, role requirements, the desire to harm a target of influence, and self-esteem considerations might lead one to choose the more controlling, stronger, or harsher types of influence tactics (such as coercion). Others may wish to maintain a friendship or appear humble. In that case, they would rely more on information.

When these stronger or harsher types of power are used effectively, they enhance the influencing agent's view of himself or herself because the influencing agent can attribute subsequent change in the target to himself or herself. When this occurs, the powerholder then tends to think less of the target of influence. It has been argued that simply through the continual exercise of successful influence, the powerholder's view of others and himself or herself changes in a harmful way. The powerholder begins to view himself or herself as superior to the person that over which he or she is exercising power, and because of this feeling of superiority, may treat the target of influence in a demeaning manner. This effect would be consistent with the common belief that power is a corrupting influence.

## Evidence

Hundreds of studies published in respected scientific journals involving social power as described earlier have been conducted in several diverse fields, including health and medicine, family relations, gender relations, education, marketing and consumer psychology, social and organizational psychology, and examinations of

confrontation between political figures. Studies have been conducted in the context simulations and questionnaires, strictly controlled laboratory settings using traditional experimental methods, real-world settings such as hospitals and other large organizations, and through historical case study analysis.

### Importance

Much of what humans do as individuals and society involves influencing others. People want and need things from others, things such as affection, money, opportunity, work, and justice. How they get those things often depends on their abilities to influence others to grant their desires. In addition, people are also the constant targets of the influence attempts of others. Thus, it is important to understand what causes people to comply with others' wishes, and how the exercise of power affects both targets and influencing agents. The study of social power provides that knowledge.

*Gregg Gold*

*See also* Compliance; Influence; Power; Power Motive

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## SOCIAL PROJECTION

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### Definition

Social projection refers to the tendency to assume that others are similar to oneself. Students who cheat on their statistics exams, for example, probably believe that many others cheat as well, whereas honest students think that cheating is rare. Projection is not limited to value-laden behaviors such as cheating versus being honest, and therefore, projection is not necessarily a defense mechanism. Statistically, projection is simply a positive

correlation between what people say about themselves and what they believe is common in the group.

Though not considered a defense mechanism, it was believed for a long time that projection is a judgmental bias that people should rather get rid of. Surely, the argument was, people have enough information about others to make accurate estimates about the group. An individual's own attitude, preference, or personality trait is but a single bit of data that should not make a difference. It is now recognized, however, that projection can improve the accuracy of the perception of the group when knowledge of the self is all a person has.

### Useful Projection

Suppose a person is brought to the laboratory and told that there are different types of people, and that each individual's type can be measured by a new test. After testing, the person is informed of being type T. Not knowing anything about how many different types there are and how common each one of them is, the person can speculate that his or her type is the most common one. Now, the person's single data point is useful. This is a good guessing strategy because most people are by definition in the majority rather than the minority.

Consider another example. A new gene is discovered, but it is unknown whether many (e.g., 90%) or few people (10%) have it. Both possibilities seem equally likely at first. Now a randomly chosen person tests positive for the gene. Because this person is more likely to represent a group in which the gene is common than a group in which it is rare, it can be inferred that the gene is common. This kind of inductive reasoning supports the idea that social projection is rational when a person has little knowledge other than self-knowledge. The more that is known about individual others, the more projection should diminish—and generally does.

A good example of a situation in which a person knows little about others is the one-shot Prisoner's Dilemma. To illustrate, suppose each of two players has a coin that must be placed heads up or tails up. If both choose heads, both get \$15; if both choose tails, both get \$5; if they make different choices, the one choosing heads gets nothing, whereas the one choosing tails gets \$20. Heads is the *cooperative* choice because it leads to the best result for the group; tails is the *defecting* choice that yields the best outcome for the individual regardless of what the other person does. Most people project after making a choice, irrespective of what that choice was. Cooperators expect

cooperation, and defectors expect defection. More important, social projection can increase the probability that a person chooses to cooperate. People who strongly believe that others will make the same choices as they themselves do will expect to receive the payoff for mutual cooperation (\$15) rather than the sucker's payoff (\$0) if they don't cooperate.

### Harmful Projection

Sometimes people project when they should not. Public speakers, for example, know certain things about themselves that are hidden from the audience. They know how well they prepared, how anxious they feel, or which critical piece of information they forgot to mention. Many people cannot help but assume that the audience knows what they themselves know, especially when their own experiences are as emotional and vivid as their awareness of their own stage fright. Here, the projective assumption that one's own feelings and thoughts are transparent to others leads to overprojection. Unfortunately, efforts to suppress awareness of these unpleasant states or self-consciousness do not diminish projection. Instead, the unwanted thoughts become hyperaccessible, that is, they push themselves back into consciousness and are then projected even more strongly onto others.

Even seasoned public speakers must be wary of projection. The more knowledgeable they are about their topic, the more they are inclined to assume the audience already knows what they are about to say. To appreciate the actual differences between themselves and the audience, these speakers must deliberately adjust their expectations. Students can experience how difficult it is to overcome this projection of knowledge when taking an exam. They can predict the performance of others from their own experience with the test's difficulty. In this regard, students are similar to one another and projection is useful. When, however, students have been informed of the actual test results, they also project this knowledge to others who do not have it, and their predictions get worse.

### Variations in Social Projection

Social projection tends to be strong regardless of whether people predict attitudes, behaviors, or personality traits. This is so, partly because people have some latitude to define the meaning of these attributes in self-serving terms. A person who cheats on exams may downplay the severity of the offense and thereby conclude that cheating is common. A lover of Pinot

may think that the superiority of this grape is a fact of nature, to be recognized by all except the most boorish of people. Estimates regarding abilities are different because abilities are defined as relative. To believe that one has a high ability to play chess is to believe that one can beat most competitors. It is not possible to predict that most others will also beat most others. By contrast, it is easy to project one's love for the game to others.

For any type of personal attribute, projection is weak when people make predictions for groups to which they themselves do not belong. Men, for example, project their own attributes only to other men (the ingroup) but not to women (the outgroup), whereas women project to other women but not to men. Because most people's self-concepts comprise mostly desirable attributes, the lack of projection to outgroups has serious consequences for social stereotyping and intergroup relations. Inasmuch as they limit their projections to ingroups, people come to see these groups as extensions of themselves, and thus, as mostly desirable. Their perceptions of outgroups, which do not benefit from projection, are comparatively neutral. In the context of intergroup relations, an increase of projection to the outgroup would be a good thing.

*Joachim I. Krueger*

*See also* Attribution Theory; False Consensus Effect; Projection

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## SOCIAL PSYCHOPHYSIOLOGY

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### Definition

Broadly defined, social psychophysiology is the study of human social behavior as it relates to and is revealed by physiological or bodily responses. Hence, social

psychophysiolgists investigate the interplay between social psychological and physiological processes. Generally, and in distinction to what has come to be known as social neuroscience, social psychophysiology focuses largely on the relationship between skeletal-muscular and visceral physiological processes controlled via the peripheral nervous system rather than on central nervous system or brain physiology.

## History

Although social psychophysiology's history can be traced to the ancient Greeks and Romans, its modern roots stem from theory and empirical work at the end of the 19th and beginning of the 20th centuries by William James, James Cannon, Hans Selye, and others. By the late 1960s, an important chapter, "Physiological Approaches to Social Psychology," that appeared in the second edition of the prestigious *Handbook of Social Psychology*, marked the recognition of the value of interdisciplinary work combining social psychology and physiology for the field of social psychology. Similar recognition by the field of physiology occurred only indirectly a decade or two later when the relevance of social psychophysiological research for health and illness became established.

Social psychologists provided the main impetus and the lion's share of the work in this relatively new field. But they generally lacked training in physiology. As a consequence, their investigation and use of physiological measures were overly simplistic. Specifically, early social psychophysiolgists focused on general arousal theory rather loosely defined, which basically assumed that physiological measures such as heart rate, blood pressure, skin conductance, respiration rate, muscle tension, and so forth were interchangeable measures, an assumption that today we know is wrong (see later discussion).

By the 1980s, however, this overly simplistic view of physiological processes began to come undone as social psychophysiolgists such as John Cacioppo and Louis Tassinary became as well versed in physiology as they were in social psychology. Furthermore, they piqued the interest of physiological experts and others in social psychophysiology. Equally important, they became the primary disseminators of physiological knowledge, methodologies, and technical expertise to social psychologists. Their efforts included an edited volume of social psychophysiological research in 1983, a series of month-long intensive advanced physiological

training institutes for social psychological researchers during the summers of 1986 through 1990, and two comprehensive handbooks of social psychophysiology, one published in 1990 and the other in 2000. This group pioneered and revolutionized the field of social psychophysiology, paving the way for much more sophisticated and important research linking social psychology and physiology, and laying the groundwork for the field of social neuroscience as well.

## Background

Social psychophysiology fits within the broader category of mind-body interactions, thereby rejecting centuries-old notions of mind-body dualism or separation. Social psychophysiology is based on the assumption that is termed the *identity thesis*. This thesis states that all mental, and hence psychological, states and processes are embodied rather than unembodied (e.g., spiritual). It suggests that understanding bodily responses helps the understanding of mental states and processes, and vice versa. The identity thesis implies that psychological (including social psychological) and biological (including physiological) disciplines must be combined if the mind-body relationship is to be understood.

The aspects of human physiology most pertinent to social psychophysiology can be divided into control and operational systems. Control systems include the central nervous system (brain and spinal cord) and the endocrine system, which includes all the glands (e.g., pituitary, adrenal) that excrete hormones (e.g., adrenalin) into the bloodstream. Operational systems control various bodily responses and include, for example, the cardiovascular (heart, vasculature, and blood), the somatic (skeletal muscle) system, and the visceral (stomach, small and large intestines) systems. The central nervous system operates by transmitting operating instructions via one type (efferent) of neurons and monitoring operational systems via another type (afferent) of neurons. Similarly, the endocrine system transmits operating instructions and monitors operational systems via circulating hormones.

## Physiological Measures of Social Psychological Constructs

Social psychophysiolgists pursue research questions that involve the interaction of intra-individual and interindividual psychological processes and

physiological control and operating systems. Most social psychophysicologists seek to understand the effects of social psychological variables on physiological responses, and to be able to use that understanding to create physiological measures of those social psychological variables.

To create physiological measures of variables of interest, social psychophysicologists, as social psychologists, define the nature of their social psychological variables or constructs as precisely as possible. Further, social psychophysicologists as physiologists identify candidate physiological measures that should be related to the variable of interest and specify a plausible physiological rationale for linking physiological measures to the variables.

As mentioned previously, the specification of a physiological rationale was quite limited (e.g., general arousal) and overly simplistic (e.g., increases in psychological states are accompanied by across the board increases in sympathetically (neurally) controlled autonomic) responses, resulting in the use of simple unitary physiological measures such as heart rate and skin conductance to index literally dozens of constructs. However, therein is the problem. The psychological-sympathetic nervous system rationale failed to provide social psychophysicologists with distinctive physiological indexes of their constructs. For example, heart rate increases occurred during both approach and avoidance states. Today, social psychophysicologists strive to identify more specific (and complex) physiological theories and rationales to support their choice of sets of physiological responses to measure their constructs of interest. The pattern of increases and decreases from rest among these multiple measures provides distinctive physiological indexes of the constructs.

A good case in point is affect, a central construct for many research questions in social psychology. *Affect* is defined as the general emotional state that results in either an overall positive or negative feeling state. In the case of affect, Charles Darwin's ethological observations of the expressions of emotions provides a theoretical physiological formulation pointing toward specific physiological measures of it. Briefly, Darwin pointed to the face as the location of emotional expression in primates. Later, others identified specific facial muscles involved in the experience of positive and negative affect. More specifically, an increase in zygomaticus majori (smile muscles) activity and a decrease in corrugator supercilii (frown muscles) activity occur during the experience of positive

affect; and, the reverse during the experience of negative affect. Muscle activity is typically measured using electromyographic (EMG) techniques. Cacioppo and his colleagues validated these patterns of EMG activity as measures of positive and negative affect. An interesting aspect of EMG activity is that it can measure positive or negative affect even if one could not detect it from just looking at the person.

## Examples

Social psychophysicologists are not merely interested in identifying and validating physiological indexes of constructs. Rather, they use these indexes to test theories involving the constructs.

### *Racial Prejudice*

For example, facial EMG has been used to study racial prejudice. Theoretically, prejudice involves negative affect toward members of a group. A longstanding problem for prejudice researchers is that people are reluctant to self-report their own prejudices. An advantage of physiological measures is that they are not subject to self-presentation problems.

Eric Vanman found that White research participants self-reported more positive affect for imagined Black than for imagined White partners but exhibited more facial EMG activity indicative of negative affect for Blacks than for Whites. In addition, he found that during presentations of photos of Blacks and Whites, high-prejudice participants exhibited lower zygomaticus and higher corrugator activity during presentation of Black than of White target photos, indicating higher negative affect; in contrast, low-prejudice participants did not differ in EMG activity between photo groups.

### *Psychological Threat*

Social psychophysicologists are also interested in social factors that influence whether individuals experience psychological threat in potentially stressful performance situations (e.g., taking exams, giving speeches, negotiations). Threat occurs when an individual's perceived resources fail to meet the demands of the situation. Richard Dienstbier's theory of physiological toughness and weakness based on animal work suggests a pattern of cardiovascular responses that should occur during threat in humans. Specifically, both heart rate and heart muscle contractility

should increase during threat, but cardiac output (the amount of blood pumped by the heart) should remain stable or decrease because of relative increases in total peripheral resistance (constriction of the arteries).

Jim Blascovich and his colleagues validated this pattern in humans. They also used the cardiovascular threat index to test many theoretical notions including the long-held assumption by stigma theorists that individuals interacting with members of stigmatized groups (e.g., people with physical deformities, people with low socioeconomic status). In several studies, Blascovich and colleagues demonstrated that individuals engaged in a cooperative task evidenced the threat pattern when playing with a stigmatized than with a nonstigmatized individual.

### Implications

Physiological measures are now well established in the methodological toolbox of social psychologists. As more researchers become interested in mind-body interactions, its value will increase.

*Jim Blascovich*

*See also* Biopsychosocial Model; Health Psychology; Research Methods; Social Neuroscience

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## SOCIAL RELATIONS MODEL

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### Definition

The social relations model is a theoretical and statistical approach to studying how people perceive others. Although investigations of person perception have a long history in social psychology, early methodological approaches relied on research participants reporting their perceptions of fictitious others who were described in brief stories. The social relations model allows researchers to move beyond such vignette studies and address a variety of questions related to interpersonal perception while studying real people engaged in real social interactions.

### Background and History

Perceptions of other people are fundamental components of social interactions and, therefore, have a prominent place in social psychology. A person must perceive other people's traits accurately so that he or she can predict how they will behave. If you correctly perceive that someone is friendly, then you can probably expect that person to help you. What is more, people should also value knowing what other people think of them. For example, knowing that someone doesn't like you might be useful so that you can avoid interactions with that person. Such beliefs about how others perceive one's self are termed *metaperceptions*. Because person perception is so basic to social interaction, researchers have conducted many studies to learn how people form perceptions (Is John seen as friendly?), the attributions people make following perceptions (Why is John seen as friendly?), and the relative accuracy or inaccuracy of perceptions (Is John really friendly?).

Many of the early person perception studies, however, relied on vignettes, or stories, about imaginary other people. So, for example, a research participant might be given a paragraph that purportedly describes another student. After reading the paragraph, the participant would be asked to report his or her perceptions of the student in the story. Using such an approach makes person perception akin to object perception. That is, the target person becomes static and noninteractive, no different than perceptions about a chair or book. The vignette method has a clear advantage in that the researcher can control and manipulate the information that participants receive about the target person. Yet

relying on written descriptions of another person removes much of the richness of real social interactions. Some researchers have improved the vignette approach by using videotapes of a person's behavior, which allows for a more vivid portrayal of the target person. Regardless of whether the vignette is presented as written or videotaped, participants in these studies know that the perceptual process is a one-way street. That is, although participants can make perceptions of the person in the vignette, the fictitious character cannot make a perception of the participant. Therefore, it would be unrealistic to ask participants to report on metaperceptions in such circumstances.

To further enhance the vignette method, some researchers have used assistants (called *confederates*) to pretend as if they are participants and engage the real participant in a seemingly authentic social interaction. Thus, participants believe that they are having an active, spontaneous interaction with another person. Under these conditions, participants should be able to report both perceptions and metaperceptions. Yet even a confederate approach to person perception is limited because the research assistant is generally required to play a prespecified role and use scripted responses. Thus, regardless of the specific approach described earlier, the researcher is not able to study the real give-and-take of an unscripted social interaction.

Given the problems associated with vignette and confederate approaches to studying person perception, one might conclude that an easy solution is to study real interactions between real people. Unfortunately, the major strength of such an approach (the give-and-take of real interactions) leads to challenges when interpreting data. Specifically, the perceptions in a real interaction depend on a variety of factors, including the particular person making the perception, the particular person being perceived, and the unique relationship between those two people. For example, John's perception of Mary's friendliness could be due to the way John perceives most people, the way Mary is perceived by most people, or something about the specific relationship between John and Mary. This situation is often referred to as a problem of *nonindependence* between the perceiver and the target (e.g., John's perception of Mary might be dependent on John, Mary, or both people). Thus, until the development of the social relations model, it would have been difficult for most researchers to account for these different components of perceptions that are generated by real social interactions.

## Details of the Model

David Kenny developed the social relations model to give researchers a means to account for the nonindependence of perceivers and targets that emerges from real social interactions. The social relations model provides a theoretical way to conceptualize interpersonal perceptions, a methodological guide for designing studies that use real interactions, and a statistical approach to analyze the data from these studies. According to the model, interpersonal perceptions are a function of five components: a constant, a perceiver effect, a target effect, a relationship effect, and error. These components, described further later, can be summed to yield the overall perception or metaperception. So John's perception of Mary's friendliness (P) could be described with the following equation:

$$P = \text{constant} + \text{John's perceiver effect} + \text{Mary's target effect} + \text{relationship effect} + \text{error}$$

The constant is the average score on the perception across all perceivers and all targets. Perhaps, on average, people are seen as somewhat friendly. The perceiver effect is how a participant views others in general. For example, John might view everyone as very friendly, including Mary. The target effect is the degree to which a person elicits a certain perception. So Mary might be somewhat reserved and, in turn, be rated as less friendly by most of her interaction partners. The relationship effect represents the variance caused by the unique combination of a specific perceiver and a specific target. John may view Mary as especially friendly beyond his perceiver effect and beyond her target effect. Although social relations model analyses often lump together the relationship effect and error, it is possible to separate these two components. If a researcher has John rate Mary on friendliness using multiple measures or on multiple occasions, one can determine how much of the rating is due to the John-Mary relationship and how much is random across measure or time.

Conducting a study to use the social relations model requires a particular methodological approach. Specifically, multiple perceivers must rate multiple targets. So John would need to report not only Mary's friendliness but Bill's and Sally's too. Having multiple raters and targets can be accomplished in several ways, but is most easily done using a round-robin design in which each person rates, and is rated by, each other

person in the group. A block design, in which people rate some members of the group but not others, is a common alternative to the round-robin study. Block designs are often used when a researcher is specifically interested in intergroup perceptions. For example, do men perceive women in the same way that women perceive men? Specialized software programs (SOREMO and BLOCKO) are used to analyze data from the different social relations model designs.

Using the social relations model, a researcher can investigate a variety of topics, including what Kenny calls the nine basic questions of interpersonal perception. Three of these questions can be answered by evaluating variability in the perceiver, target, and relationship effects. If perceptions are largely a function of the perceiver effect, then one has evidence for *assimilation*. That is, perceivers tend to see all of their targets in a similar way. For example, John might see Mary, Bill, and Sally as friendly, regardless of actual differences among them. Conversely, when perceptions are driven by the target effect, a researcher has evidence for *consensus*. In this case, perceivers tend to agree on which targets are high or low on a trait. John, Bill, and Sally might concur that Mary is somewhat unfriendly. Finally, strong relationship effects make the case for *uniqueness*: A given person's perception of another person is idiosyncratic.

The remaining basic questions are addressed by evaluating the degree to which the social relations model effects are related to each other, self-perceptions, or metaperceptions. For example, one might wonder whether people see others as others see them, called *reciprocity*. Evidence for reciprocity would be documented by an overlap between perceiver effects (how people see others) and target effects (how people are seen by others). Another intriguing possibility is assessing *meta-accuracy*, which is the degree to which people know how others see them. This would be evaluated by related perceiver effects in metaperceptions (how people think they are seen by others) with target effects in perceptions (how people are actually seen by others). The last four questions include assessing whether people can accurately perceive another person's traits (*target accuracy*), whether people assume others see them as they see others (*assumed reciprocity*), whether people see others as they see themselves (*assumed similarity*), and whether people see themselves as others see them (*self-other agreement*).

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*See also* Empathic Accuracy; Personality Judgments, Accuracy of; Person Perception

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## SOCIAL SUPPORT

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### Definition

In general, social support refers to the various ways in which individuals aid others. Social support has been documented as playing an important and positive role in the health and well-being of individuals. To receive support from another, one must participate in at least one important relationship. However, social support has often been summarized as a network of individuals on whom one can rely for psychological or material support to cope effectively with stress. Social support is theorized to be offered in the form of instrumental support (i.e., material aid), appraisal/informational support (i.e., advice, guidance, feedback), or emotional support (i.e., reassurance of worth, empathy, affection).

### Perceived and Conditional Social Support

Perceived social support is support that an individual believes to be available, regardless of whether the support is actually available. Perception of support may be a function of the degree of intimacy and affection within one's relationships. Compared with actual support, perceived support may be just as important (and perhaps more so) in improved health and well-being. Actually, perceived support appears to correlate more closely with health status than does actual social support. Similar to actual support, perceived support

may heighten the belief that one is able to cope with current situations, may decrease emotional and physiological responses to events, and may positively alter one's behavior.

Conditional support is defined as one's expectation of receiving support only after fulfilling certain expectations or requirements. Conditionality of support is correlated with actual support. For example, those who offer little support will only be supportive given the fulfillment of certain expectations.

### **Buffering and Direct Effects Hypotheses**

Social support is theorized to affect health through one of two routes: (1) an indirect, buffering, or mediational route and (2) a direct, main-effects route. The stress-buffering hypothesis has been more frequently studied than the main-effects hypothesis. The stress-buffering hypothesis asserts that an individual's social network supplies the individual with the resources needed to cope with stressful events and situations. Accordingly, the beneficiary aspects of support are only seen during stressful periods. That is, the stress-buffering hypothesis posits that social support tends to attenuate (weaken) the relationships between stressful life events and negative physical or psychological difficulties, such as cardiovascular disorders and depression. In addition, proponents of the stress-buffering model believe that support will only be effective when there is good support-environment fit (i.e., type of support provided matches the situational demands). For example, having someone offer empathy and reassurance will be helpful when a person has lost a loved one, but receiving empathy may be useless when one is facing stresses associated with financial difficulties.

Conversely, the main-effects hypothesis postulates that social support is beneficial whether one is going through a stressful event or not. The main-effects hypothesis asserts that the extent of an individual's participation in the social network plays a vital role in the degree of social support benefits. In other words, there is a direct monotonic link between social support in one's social network and well-being (i.e., the more support, the greater one's well-being).

A related concept to social support is social integration. Social integration is defined as an individual's involvement in a wide variety of social relationships. Social integration can also refer to the quality of the social relationship. For example, negative social

relationships could have negative effects on health, whereas positive social relationships and interactions usually have a beneficial effect on health and well-being. Previous research has demonstrated that social integration tends to be a main effect. That is, one's relationships with others may provide multiple avenues of information to influence health-related behaviors.

### **Social Support and Stress**

The presence of a support network has been found to reduce the negative effects of stress. The support of one's social network can act as a buffer to stress in many ways. For example, individuals in one's support network can offer less threatening explanations for stressful events (e.g., instead of being called into the boss's office to be fired, perhaps it is to be asked to head a special committee instead). A positive social support network can also increase an individual's self-esteem and self-efficacy. For example, effective coping strategies may be suggested (e.g., a list of pros and cons or a priority list). In addition, the support network may suggest solutions to current problems or stressors being faced. Having a support group can also alter perceptions of the stressor by decreasing the perceived importance of the stress. Furthermore, having a supportive group of people surrounding a person can result in increased positive behaviors such as more exercise, proper rest, and better eating habits. Likewise, interactions with others may help distract attention from the problem.

Strong social networks can buffer against social pain (e.g., loss of a loved one, betrayal, exclusion) as well as buffer against negative aspects of other relationships. For example, widows with a confidant (someone to talk to about personal things) were less depressed than were widows without a confidant. One caveat to this buffering effect is that for support to buffer the effects of stress, the supporter cannot also be a source of conflict or additional stress. As such, having a strong and stable support network may lessen the negative effects of stress. In addition, support is associated with adaptive coping to stressful events and greater protection from the negative effects of stress.

### **Social Support and Health**

Social support also has important effects on one's health and well-being. Overall, support has been linked with good health and well-being as well as

improved adjustment to specific illnesses, such as cardiovascular disorders and cancer. For example, having a strong support network has been correlated with lower mortality rates, less depression, better adherence to medical treatment, greater health-related behaviors (e.g., lower rates of smoking), maintenance of health behaviors, lower incidences of cardiovascular disorders, and improved adjustment to breast cancer. Furthermore, social support has been linked to adaptation to surgery. That is, patients who had a social support network received lower doses of narcotics, displayed less anxiety, and were released from the hospital sooner than were individuals who had no type of social support.

Conversely, lack of social support has been associated with increased anxiety and depression, an increase in cardiovascular problems, feelings of helplessness, and unhealthy behaviors (e.g., sedentary lifestyle, habitual alcohol use). For example, a lack in parental support predicted potential increases in depressive symptoms and onset of depression in adolescent girls. That is, girls who had very little to no support from their parents were more likely to develop depression than were girls who had parental support. In addition, females reporting low levels of perceived support also have more eating problems than do females reporting high levels of support.

### **Social Support and Self-Esteem**

Researchers have suggested that social support is one of the key elements that influence self-esteem, especially the support of one's parents early in development. Perceived support, rather than actual support, has been most frequently examined in relation to self-esteem. Researchers have found that the best predictor of self-esteem in adolescents is the amount of perceived social support from their classmates and the degree of parental approval they receive. In other words, an individual's perceptions of support tend to influence his or her reports of self-esteem. Therefore, the more support one believes he or she is receiving, the higher his or her self-reported self-esteem. Furthermore, social support moderates the level of self-esteem depending on the degree of competence in an area. In other words, people who are highly competent in an area but receive little support report lower levels of self-esteem than do people who are highly competent but receive a lot of social support. In addition, the higher the degree of conditional support, the lower one's self-esteem will be.

### **Negative Aspects of Social Support**

Although the benefits of social support are well known, there may also be negative aspects. For example, a difference in the desired support and actual support received can result in poorer psychosocial adjustment in breast cancer survivors. Among older adults, too much social support can heighten the negative impact of stress, perhaps by eliciting feelings of incompetency, lower self-esteem, and less self-control. In addition, being the provider of social support may take a toll on the providers' physical health, psychological well-being, and emotional resources. The act of providing support, especially over a long duration, may be taxing because of the amount of emotional, financial, and mental resources that must be made available to provide such support.

### **Attachment Style and Social Support**

Adult attachment style has been consistently linked to individual differences in actual and perceived social support. The relative quality of support caregivers provide young children is believed to influence how they perceive themselves and others in the future. In other words, internal working models that involve expectations about whether others will provide support develop. Research has found that adults with secure working models are more likely to believe they will receive support when needed and are more satisfied with the support they receive compared with adults with insecure working models. In addition, secure attachment has been positively associated with seeking social support and providing support to others.

### **Personality and Social Support**

Evidence supports a link between Big Five personality traits (i.e., Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness to Experience) and social support. Specifically, there appears to be a reciprocal relationship between personality characteristics and support. Personality traits likely influence relationships (and thus support and perceptions of support). In turn, support will affect relationships. As such, changes in personality characteristics have been positively related to changes in perceptions of support.

Agreeableness and Extraversion are two dimensions that have been previously related to interpersonal behavior. For example, Agreeableness has been

linked to interpersonal behaviors reflecting a need to maintain positive relations with others. Consequently, Agreeableness has been found to be most strongly associated with support and perceived support. Research has shown that Agreeableness positively predicts the amount of support received. Furthermore, providing job-related support mediates the relationship between Agreeableness and received job-related support. Similarly, Extraversion has been linked to support in non-job-related and positive job-related events. Extraversion and received job-related support are mediated by job-related support provided. In addition, Extraversion plays a role in the perceived support received by children from parents, but not vice versa.

### Gender Differences in Social Support

Much of the early research in gender differences of social support used self-report measures and found that women are more skillful providers of support than are men. For example, wives affirm their husbands at a greater rate than husbands affirm their wives and more frequently offer support in post-stress situations than husbands offer. In addition, wives will complete more household chores (and thus relieve some stress and pressure) when the husband has had a stressful workday. Studies observing support behavior (i.e., observing supportive behavior rather than self-report measures) among marital couples have not found these gender differences and instead find that husbands and wives offer comparable support to one another.

Recent research indicates that the skill of providing social support is similar among husbands and wives. It has been suggested that the key distinction in previously found gender differences lies in *when* spouses offer support. For example, wives offer greater amounts of support when their husbands are experiencing greater stress whereas when wives experience increased stress, husbands do not necessarily offer greater support. In other words, women are more likely to provide greater support during severely stressful times than are men.

Evidence indicates that social support may differentially affect men and women. For example, widows with support experienced improved quality of life, greater well-being, and increased self-esteem, whereas these elements were negatively correlated with received social support among widowers. Support received by men can be moderated by their desire to be independent. Men who have a strong desire to be independent

are more likely to react negatively to social support than are men who do not have a strong desire to be independent or who desire to be dependent. In women, the influence of social support does not appear to be contingent on the desire to be independent.

### Culture and Social Support

A possible determinant in the decision to seek or solicit social support may be one's culture or the norms that govern that culture. For example, individuals in Eastern cultures are less likely to solicit social support from their social network than individuals in Western cultures are. This cultural pattern seems counterintuitive since Eastern cultures tend to be collectivistic and emphasize interdependence, whereas Western cultures tend to be individualistic and emphasize independence. It would seem as though individuals in collectivistic cultures would be the ones to seek and solicit help from their social support network. However, research has shown that the opposite is true. That is, individuals in individualistic cultures are those who are soliciting help from their social support network. The underlying reason for this counterintuitive pattern may be the result of cultural norms, such as cultural norms that discourage the use of a social support network when solving problems and coping with stress.

### Workplace Social Support

The amount of social support one receives from others in the workplace depends on numerous factors such as social competence, reciprocity relationships, and job commitment. For example, individuals who are socially competent tend to receive a greater amount of emotional and instrumental support from coworkers than do individuals who are not as socially competent. However, many studies show that an individual's support network is usually a network of people outside of his or her job such as family members, spouses, and so forth. In any case, support given in the workplace positively predicts support received.

Social support has also been shown to moderate the relationship between long work hours and physical health symptoms. In other words, physical health tends to decrease when an individual has long work hours and lacks social support. Conversely, individuals who have a social support network tend to be buffered against the adverse effects of longer working hours.

## Influences

Perceived social support and actual social support are both influential in a multitude of facets in one's life. Social support can have either a direct (or main) effect or a buffering (or mediation) effect on one's health. The influence of social support can be seen widely from an effect in the workplace to intimate relationships. In addition, social support has effects on one's health, ability to handle stress, and self-esteem level. Furthermore, one's personality, cultural background, and gender may influence or moderate the effects of stress.

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*See also* Buffering Effect; Cultural Differences; Gender Differences; Helping Behavior; Need to Belong; Self-Efficacy; Self-Esteem; Stress and Coping

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## SOCIAL TRAP

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*See* SOCIAL DILEMMAS

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## SOCIAL VALUE ORIENTATION

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People differ in how they approach others. Some people tend to approach others in a cooperative manner,

whereas other people tend to approach others in a more self-centered manner. Such social dispositions have been demonstrated to be quite important in various contexts and are often examined under the heading of social value orientation. This concept refers to preferences for particular distributions of outcomes for self and others. One could discriminate among various social value orientations, such as altruism, equality, cooperation, individualism, competition, aggression, and the like. However, research has supported a three-category typology that discriminates among three orientations—prosocial orientation, individualistic orientations, and competitive orientation.

Prosocial orientation is defined in terms of enhancing one's own and another's outcomes ("doing well together") as well as equality in outcomes ("each receiving an equal share"), individualistic orientation is defined in terms of enhancing outcomes for self and being largely indifferent to outcomes for another person ("doing well for oneself"), and competitive orientation is defined in terms of enhancing the difference between outcomes for self and another in favor of oneself ("doing better—or less worse—than another person").

### Measurement

The concept of social value orientation is rooted in classic research on cooperation and competition, which revealed (largely unexpected, at that time) a good deal of individual stability in behavior over a series of interactions and across situations. These considerations, as well as the aim of disentangling (or decomposing) interpersonal goals underlying behavior in experimental games, have inspired researchers to design a measure that is closely linked to game behavior. Rather than focusing on a 2-by-2 matrix game, such as the Prisoner's Dilemma Game, the instrument represents decompositions of game situations, capturing consequences of one's behavior for oneself and another person. A frequently used instrument is the Triple-Dominance Measure of Social Values. In this instrument, outcomes are presented in terms of points said to be valuable to self and the other, and the other person is described as someone the person does not know and that he or she will never knowingly meet in the future (in an effort to exclude the role of considerations relevant to the future interactions).

An example of a decomposed game is the choice among three options:

Option A: 480 points for self and 80 points for the other person

Option B: 540 points for self and 280 points for the other person

Option C: 480 points for self and 480 points for the other person

In this example, option A represents the competitive choice because it yields the greatest outcomes for self relative to the other ( $480 - 80 = 400$  points); option B represents the individualistic choice because it yields the greatest absolute outcomes for self (540 points); and option C represents the prosocial choice because it yields the greatest joint outcomes ( $480 + 480 = 960$  points) as well as the smallest absolute difference between outcomes for self and other ( $480 - 480 = 0$  points). In research using this instrument, most individuals are classified as prosocial (about 60%–65%), followed by individualists (about 25%), and only a small minority is classified as competitive (about 10%–15%). Of course, these percentages might differ as a function of the sample, depending on variables such as (sub)cultural differences, gender, number of siblings, and age. For example, prosocial orientation is more likely to be observed in collectivistic cultures (as opposed to individualistic cultures), in women (as opposed to men), and among people with a large number of siblings, especially sisters. And prosocial orientations are more common among older people (at least up to 65 years) than among younger people.

## Research

Research revealed that social value orientation exhibited considerable ability to predict actual behavior in a variety of different experiment games, with prosocial exhibiting greater cooperation than individualists and competitors. Moreover, social value orientations often exert their influence not only in terms of independent effects but also in combination with several variables, such as personality impressions of the partner, or the strategy pursued by the interaction partner. Also, social value orientation is associated with several cognitive processes, including the use of morality (good versus bad) versus competence (intelligent versus stupid, weak versus strong) in person judgment and impression formation. For example, whereas prosocials tend to judge cooperative and noncooperative others in

terms of good and bad (e.g., fair or unfair), individualists and competitors tend to judge these people in terms of strong versus weak or smart versus dumb.

Recent research has also examined how individual differences in social value orientation could have an impact on cognition, affect, and behavior in contexts outside of the laboratory, that is, in everyday life. Evidence increasingly reveals that prosocials and individualists report a greater willingness to sacrifice for their partners than do competitors. Prosocials also report working harder for their housemates (to maintain a clean apartment), which is an interesting finding because prosocials were judged by their roommates and friends as more philosophical than individualists and competitors. Also, prosocials are more likely than individualists and competitors to volunteer in participating in psychological experiments. Last but not least, social value orientation is also very important at the large societal level, showing that prosocials are more likely to make donations to noble causes than are individualists and competitors, and prosocials are more likely to hold a left-wing political orientation (valuing equality and solidarity), whereas individualists and competitors are more likely to hold a right-wing political orientation.

## Implications

In short, what is fascinating about social value orientation is that only a small number of games (which can be assessed in only a couple of minutes) appear to be useful tools for understanding prosocial behavior as diverse as sacrifice in ongoing relationships, citizenship in groups, participation in experiments, and donations to help the poor and the ill. This is remarkable from a measurement perspective and from the theoretical perspective. Recall that many theories tend to portray individuals as self-interested individuals, calculated or not. This view on human nature appears to be incomplete, and therefore partially inaccurate, so it is good to realize that some people may be quite prone to value good (and equal) outcomes for all, whereas others want to make sure that they do not get less than others. Outcomes are inherently social.

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*See also* Cooperation; Prosocial Behavior; Social Dilemmas; Values

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## SOCIOBIOLOGICAL THEORY

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In 1975, Harvard biologist Edward O. Wilson published *Sociobiology: The New Synthesis*, wherein he outlined a framework for investigating the biological basis of social behavior. As a branch of evolutionary biology, sociobiology aims to use demographic parameters (e.g., growth and mortality rates, gender and age distributions) and the genetic structure of populations to predict patterns of social organization across species. One of the conceptual tools sociobiology contributes to investigations of social behavior is an analysis of ultimate causation. Whereas proximate causal analyses focus on, for example, the behavioral, developmental, physiological, or neural mechanisms operating within an individual's lifetime to produce a particular phenotype, an ultimate causal analysis focuses on the selective forces that operated over generations and led to the evolution of the specific phenotype manifest in the individual. In this way, proximate explanations answer the question of how mechanisms operate (e.g., the catalog of hormones, neurotransmitters, and brain regions governing behavior); ultimate explanations answer the question of why they were

selected for (i.e., how a particular trait affected the probability of survival and reproduction).

Sociobiologists have made progress in understanding a wide range of behaviors, both their proximate mechanisms and ultimate functions, including altruism, patterns of communication, aggression, mating systems, and parental care of offspring. Such behaviors have been investigated in a wide range of species including ants, birds, frogs, and chimps. Wilson's volume sparked heated controversy regarding his last chapter, which extended the principles of evolutionary ultimate causation and population genetics to explain the social behavior of humans. Among the many reasons for this controversy were (a) misunderstandings about sociobiology and genetic determinism and, (b) the long-held view in the social sciences that social behavior in humans is the product of cultural forces, rather than biological ones. Many opponents mistook sociobiology for arguing that social behaviors are genetically fixed and immutable when, in fact, much of sociobiology focuses on how evolved social behavior is capable of adapting to different environmental situations (e.g., morphological and behavioral change given particular environmental cues). Controversy also occurred because sociobiology ran counter to the prevailing view in the social sciences. Indeed, one goal of sociobiology is the reshaping of the humanities and social sciences to make them consistent with the principles of modern evolutionary biology.

Though based on many of the same principles, sociobiology is distinct from *evolutionary psychology*. Although both disciplines consider ultimate causal explanations, evolutionary psychology uses this level of analysis to construct models of the information processing circuitry (i.e., the cognitive programs) required to produce an adaptive response. In contrast, sociobiology steps from selective forces (e.g., limited resources) to social behavior (e.g., aggression) without making explicit the kinds of cognitive programs required to produce a particular behavior. So, though related, there exists a set of non-overlapping goals distinct to each field. Nevertheless, sociobiology and its related disciplines take seriously the claim that principles derived from the *modern synthesis*, which united Darwin's theory of evolution and Mendelian genetics, can be used to explain the constellation of behaviors in humans and nonhumans alike.

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*See also* Evolutionary Psychology; Genetic Influences on Social Behavior; Sociobiology

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## SOCIOBIOLOGY

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### Definition

Sociobiology is an approach to studying the biological bases of social behavior that focuses on applying evolutionary theory and the principles of genetics to explain specific instances of social behavior in a wide variety of species.

### Background

John P. Scott coined the term *sociobiology* in 1948, but it was not until 1964 that William Hamilton laid the theoretical foundations of the field. Hamilton introduced the idea that, in the evolution of species, the transmission of genes from one generation to the next matters much more than any individual organism's success in survival and reproduction. He and others went on to conclude that, because social behaviors may aid in the passing on of genes, such behaviors may have evolutionary, and ultimately biological, bases.

The modern era of sociobiology effectively began in 1975, however, with the publication of entomologist E. O. Wilson's *Sociobiology: The New Synthesis*. Wilson's prominent yet controversial work advocated the integrative and systematic application of many disciplines, including evolutionary theory and genetics, to the study of social behavior. With the release of Wilson's book, the amount of work in this area increased dramatically. Many of the core principles of sociobiology persist today in the field of evolutionary psychology.

### What Sociobiologists Study

Sociobiologists try to identify the evolutionary origins of social behaviors in all species. To do this, they examine specific social behaviors and the environments in which they occur, and then infer how such behaviors may have been adaptive in enabling species to pass on their genes. Although most sociobiological research has focused on behavior in nonhuman animals, sociobiologists have also examined the evolutionary bases of human social behavior. Research on

helping, for instance, has shown that the likelihood that people will aid those in distress depends partly on how genetically related the helper is to the person in need. This supports the idea that altruism has an evolutionary basis in aiding the survival of those who share one's genes.

### Constraints on Human Sociobiology

Although many interpret sociobiological research on humans to suggest that people's behavior can be explained using evolutionary theory, others have argued that this approach is limited because the precise influence of genes in most human behavior is difficult to pinpoint. This is because most of the social behaviors sociobiologists attribute to genetic influence also can be explained by the influence of cultural norms and learning. For example, cultural norms promote helping one's close relatives over helping strangers. In addition, sociobiologists have difficulty specifying the adaptive value of complex cultural phenomena such as art and religion. Nonetheless, study of the evolutionary bases of human behavior has proved a novel, and increasingly influential, approach to understanding human social behavior.

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*See also* Evolutionary Psychology; Genetic Influences on Social Relationships; Sociobiological Theory

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## SOCIOECONOMIC STATUS

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### Definition

Socioeconomic status (SES) is an indicator of an individual's social and economic standing in society and often is determined by a combination of ratings on occupational status, income level, and education. Individuals

with low SES ratings tend to have low-status occupations, such as service industry jobs; income at or below the poverty level; and low levels of formal education. These individuals have limited access to the kinds of financial, educational, and social resources that could promote their own health and well-being and that of their families. Individuals with high SES ratings are likely to work in prestigious positions, such as in medicine or law; have higher salaries; and have more advanced education. These individuals have greater access to resources that can contribute to their success and to the perpetuation of similar benefits for their families.

### Importance

Low SES has been associated with a variety of negative developmental and social outcomes, especially for children. For example, low SES is associated with health problems, such as premature birth, low birth weight, respiratory illnesses, and iron deficiencies in children. Children in low-SES households are more likely to be exposed to tobacco, less likely to have adequate nutrition, less likely to be immunized, and less likely to receive high-quality health care than their higher SES peers. These conditions also affect the health of adults, with women living in poverty being more likely than their higher SES counterparts to suffer from disease, chronic health conditions, and disabilities.

Low SES also is associated with lower academic performance and IQ scores for children. Low-SES parents likely have limited access to high-quality books, libraries, and schools for their children, and they may provide fewer enriching educational opportunities for their children to develop their intellectual skills. Teachers also may unknowingly contribute to the lower academic performance of these children, by subtly conveying their low expectations in a way that actually undermines performance. Ultimately, a low-SES child's poor performance may confirm the teacher's original negative expectation, creating a self-fulfilling prophecy. Some experts think the causation goes in the opposite direction, that low IQ (which they regard as genetically determined) causes people to end up with low SES.

Low SES also has been linked with maladaptive social functioning. Children and adolescents growing up in low-SES households exhibit more aggressive and delinquent behavior, and both low SES children and adults have a higher likelihood of suffering from

psychological disorders, such as depression. Moreover, individuals with limited financial resources likely have more difficulty finding and receiving appropriate, affordable, and effective mental health treatment, further limiting their functioning.

Low SES often co-occurs with minority, recent immigrant, and disability status; single-parent households; and exposure to violence, making low-SES individuals frequent targets of prejudice. People may assume that low SES reflects personal failings, without considering possible societal constraints. This assumption may undermine their willingness to help low-SES individuals improve their social standing, further perpetuating a cycle of social inequality.

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*See also* Prejudice; Self-Fulfilling Prophecy

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## SOCIOLOGICAL SOCIAL PSYCHOLOGY

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### Definition

Although most social psychologists are psychologists working in psychology departments, an important minority are sociologists working in sociology departments. The two groups share an interest in many of the same research problems, but their approaches are distinct. Psychological social psychologists tend to focus on the single person, on how an individual's perceptions of a social situation affect how she or he thinks, feels, and behaves in that situation. Sociological social psychologists, however, tend to focus on the relationship between the individual and larger social systems (e.g., society). Beyond this general orientation, however, sociological social psychology consists of a diverse set of perspectives and theories. Most often, sociologists distinguish between two major variants of sociological social psychology—symbolic interactionism and social structure and personality—though an emerging third variant has come to be called structural social psychology.

## History and Background

### *Symbolic Interactionism*

Symbolic interactionism is itself a diverse variant of sociological social psychology, the rise of which is connected with the emergence of American sociology in the early part of the 20th century, largely because of George Herbert Mead's ideas concerning the self-society relationship. At the core of Mead's theorizing is the idea that society gives rise to the self, the self in turn influences behavior, and behavior acts back to maintain society, though emergent behavioral patterns may also promote societal change.

Toward the mid-20th century, symbolic interactionism split into two different strands, often referred to as the Chicago School and the Iowa School. Although both claimed inspiration from Mead's ideas on self and society, the two schools make different assumptions about the nature of the individual, the nature of interaction, and the nature of society. Consequently, the two schools offer contrasting views regarding the kinds of empirical and theoretical methods that are appropriate for sociological analysis.

*The Chicago School.* After Mead's death in 1931, a version of his work was carried on at the University of Chicago by his student Herbert Blumer, who posthumously published Mead's lecture notes and is credited with coining the phrase *symbolic interactionism*. Blumer's interactionism emphasizes the ever-changing, chameleon-like nature of the self and its tentative role in social interaction (i.e., the self is only one object among many objects that can influence a person's behavior in a situation). Accordingly, Blumer viewed social interaction as largely unpredictable, and society as carefully balanced, infinitely alterable, and thus full of potential for change. As such, Blumer advocated explorative methodologies and inductive theory-building as a means of achieving an interpretive understanding of social life.

*The Iowa School.* An alternative view of Mead's interactionism was developed by Manford Kuhn, who taught at the State University of Iowa from 1946 until his death in 1963. Compared with Blumer, Kuhn saw far more constancy in the self, arguing that people have a core self (i.e., a set of stable meanings toward themselves) arising from the social roles they occupy. According to Kuhn, the core self constrains a person: Each person experiences social reality and chooses

behaviors in line with his or her core self across situations. Thus, Kuhn viewed social interaction as highly patterned and predictable, and society as a relatively stable place relating people in role networks. Accordingly, Kuhn argued on behalf of developing deductive theories from which predictions about human behavior could be formed and subsequently tested. Toward this effort, Kuhn developed the now-famous Twenty Statements Test in 1950, which within a few years became a popular research tool used for assessment of the core self. In this test, respondents are asked to provide 20 responses to the statement, "Who am I?"

*Recent Advances.* Major developments in modern symbolic interactionism represent ongoing efforts to translate Mead's ground-breaking yet vague ideas about self and society into testable claims. Central to some of these noteworthy efforts is the concept of identity, which refers to the components of the self containing the specific meanings that individuals assign to themselves because of the roles they occupy in society. Modern theories of identity fall under two distinct (though not competing) approaches. The *structural approach*, represented by the pioneering work of Sheldon Stryker and his colleagues, focuses on how social structures shape identities that, in turn, influence social behavior. *Cognitive approaches*, represented by Peter Burke's identity control theory and David Heise's affect control theory, focus on the psychological mechanisms that affect how individuals express identities in social interaction. One important similarity between Burke's theory and Heise's theory is that both offer a "control systems" view of the relationship between identities and behavior. In other words, identity meanings work like a temperature setting in a thermostat. When a room gets too cool, the thermostat tells the furnace to turn on and heat the room to the desired temperature. Similarly, if a person receives feedback from the environment (i.e., from others) that is not consistent with meanings associated with an identity, then the person will change her or his behavior to try to bring feedback into line with the identity.

An important difference between Burke's identity control theory and Heise's affect control theory, however, concerns the assumptions each makes about what people strive to control. Burke's view is more individualistic: People behave in ways that confirm their own self meanings. For example, a person who thinks of herself or himself as a bright student will behave in ways (e.g., working hard, striving to achieve

excellent grades, participating frequently) to produce social feedback from others (parents, teachers, classmates) that confirms this self-view. By contrast, Heise argues that people behave in ways to create situations that confirm not only their own self meanings but also the meanings of other objects in the situation, including other people. Thus when a bright student interacts with a hardworking teacher in a classroom, each is motivated to behave toward the other in a manner that creates a socially appropriate situation for these identities in this particular context (i.e., the classroom). In this respect, Heise's theory is consistent with Blumer's view that the self is only one object that influences social behavior. Yet Heise's theorizing, unlike Blumer's, shows how behavior can nonetheless be predicted amid such incredible social complexity.

### ***Social Structure and Personality***

Social structure and personality shares many of symbolic interactionism's general ideas and concerns, yet it has traditionally emphasized how societal features influence many different aspects of people's individual lives. In this perspective, individuals are viewed as occupying different positions in a society. The relationships among the positions characterize the system's social structure. Social-structural positions place individuals in different social networks (including family, friendship, and coworker networks), involve specific expectations for behavior, and convey different levels of power and prestige. In turn, these features of social-structural positions affect their occupants in numerous ways. Social structure and personality studies have shown how the positions that people occupy in society (e.g., in terms of factors such as their occupational roles, gender, race, and relationship status) determine a variety of outcomes, including physical and mental health, involvement in criminal behavior, personal values, and status attainment. Mark Hayward at the University of Texas Population Center has conducted fascinating research showing that social conditions in childhood (such as socioeconomic status, whether the child grew up with both biological parents or in another type of family structure, whether the child's mother worked outside the home, etc.) affect age of death in adulthood. In recent years, however, analyses of social structure and personality have begun to place more emphasis on how individuals can influence societal patterns and trends. The actions of members of disadvantaged

groups can sometimes lead to societal-level changes in the distribution of power, prestige, and privileges. A classic example is that of Rosa Louise McCauley Parks, an African American woman whose refusal to give up her bus seat to a White passenger in 1955 eventually led to the overturning of racial segregation laws across the United States. Indeed, Congress awarded Parks the prestigious Congressional Gold Medal in 1999, recognizing that she is widely hailed as the first lady of civil rights and the mother of the freedom movement.

### ***Structural Social Psychology***

Structural social psychology is an emerging variant of sociological social psychology that is similar to symbolic interactionism and social structure and personality in its recognition that social structures influence social interaction, and that social interaction perpetuates and sometimes leads to changes in social structure. However, the most distinctive and controversial feature of structural social psychology is its minimalist view of individuals. Although, for example, some social structure and personality researchers have called for richer, more detailed descriptions of individuals (incorporating a wide range of personality attributes, personal interests, goals, desires, etc.), structural social psychological theories stress just the opposite: Only those qualities of individual actors thought to be relevant to a specific theoretical question ought to be included. The guiding principle of this approach is what is referred to as scientific parsimony. That is, structural social psychologists aim to develop general theories that explain as much as possible while employing as few concepts and assumptions as possible. In contrast to a "more is better" ambition, structural social psychologists advocate a "less is more" approach. Major theories in this tradition include (but are not limited to) Joseph Berger and colleagues' expectation states theory, Noah Friedkin's social influence network theory, Barry Markovsky's multilevel theory of distributive justice, and Barry Markovsky and colleagues' network exchange theory.

An especially promising aspect of structural social psychological theorizing is its compatibility with agent-based modeling (ABM), the most recent approach to designing computer simulations of complex phenomena. Using what is called a bottom-up strategy, ABMs illustrate how complex system-level patterns emerge from the coordinated behaviors of

actors assumed to follow very simple interaction rules (i.e., minimalist actors). For example, Craig Reynolds from Sony Corporation developed a now-famous ABM called *boids* that shows how complex and elegant flocking formations exhibited by birds in the real world are produced by computer-simulated birds that follow just three simple collision-avoidance rules. ABMs are now being used to model emergent complex patterns of human social behavior, including crowd behavior, cooperation, learning, and social influence. ABMs and structural social psychology have much to gain from one another. ABMs currently stress how complex social patterns and structures emerge from individual behavior, whereas structural social psychological theories have tended to emphasize (though not by necessity) the opposite (i.e., how social structures influence individual behavior). In the future, the two will realize their full potential by drawing from one another's strengths.

### Implications

What do we make of the diversity of approaches to social psychology within the field of sociology? On one hand, the diverse character of sociological social psychology (and of sociology more generally) may in part indicate a lack of shared standards for developing and testing theories, which, as Barry Markovsky has argued in various places, lends itself to the creation of nebulous theories that lack true explanatory power. On the opposing hand, one might argue that the wide variety of approaches in sociological social psychology may reflect the diverse and multifaceted nature of the social phenomena under investigation, so theoretical and methodological differences ought to be tolerated, if not appreciated and cultivated. Resolution of this ongoing debate is perhaps one of the most important tasks facing sociology today.

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*See also* History of Social Psychology; Self; Symbolic Interactionism

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## SOCIOMETRIC STATUS

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### Definition

Sociometric status refers to how much a child is liked and noticed by peers. It reflects a broader categorization of peer acceptance than simple friendships. Sociometric categories include popular, rejected, neglected, controversial, and average children. Sociometric status is important because peer relations play a significant role in the social and emotional development of children.

### Evaluation

Sociometric status is evaluated by asking children to nominate the peers whom they most like and dislike, rate each peer on a scale ranging from *like very much* to *dislike very much*, or indicate their preferred playmates from among different pairs of children. Teachers, parents, and researchers also can provide their observations. Researchers use these positive and negative nominations to categorize each child's sociometric status.

### Sociometric Categories

#### Popular

Popular children receive many positive and few negative nominations. They are well liked by others. Popular children are cooperative, sociable, friendly, and sensitive to others. Although they are assertive and capable of using aggression, they exhibit few disruptive and negative behaviors. Instead, they appear to use their

social skills to get what they want without resorting to aggression. Popular children also tend to show high levels of academic and intellectual abilities. Children, teachers, and parents generally agree which children are popular. Overall, popular children are skilled in initiating and maintaining positive social interactions and relationships.

### **Rejected**

Rejected children receive many negative and few positive nominations. They are actively disliked. Rejected children exhibit fewer positive social skills and traits than do children in the other groups, and they show weaker academic and intellectual abilities. Recent research indicates two types of children who are rejected: Children who display disruptive and aggressive behavior, and children who are socially anxious and withdrawn.

Children in the rejected-aggressive group display high levels of hostile and threatening behavior, physical aggression such as pushing and fighting, and disruptive behavior such as breaking rules. They also may display a hostile attribution bias or a tendency to assume that other children have hostile intentions in ambiguous situations. For example, if one child drops an art project and a second child steps on it before it can be retrieved, the scenario is ambiguous; it is unclear whether the second child stepped on it on purpose or by accident. Although nonrejected children recognize the ambiguity, rejected-aggressive children may assume that the negative act was purposeful, subsequently responding with aggressive retaliation. This aggressive retaliation is perceived as unwarranted by those who recognized the situational ambiguity, which feeds into the cycle of peer rejection.

Other children may be rejected because they display socially anxious behavior. These children are not overly aggressive. Rather, they are timid and wary in social situations, leading to uncomfortable, awkward interactions. Peers may find it difficult to predict how these children will act and may be less willing to approach them. Socially anxious children may then withdraw from future social situations. Rejected-withdrawn children appear to lack the social skills that make smooth interactions with peers possible.

### **Neglected**

Neglected children receive few positive and few negative nominations. They engage in few disruptive

and aggressive behaviors, and they show less sociability than their peers. However, research indicates that neglected children are not at great risk for negative outcomes. Indeed, in more structured activities, these children show more sociability. Otherwise, they may prefer solitary activities, ultimately contributing to their neglected status. Neglected children are not disliked. They simply are not noticed.

### **Controversial**

Controversial children receive both positive and negative nominations. They are well liked by some children but actively disliked by others. These children engage in as much aggressive behavior as rejected-aggressive children. However, they compensate for their aggression with positive social behaviors. Similar to popular children, they tend to have high levels of academic and intellectual abilities. Their positive behaviors and attributes offset their higher levels of aggression. Ratings by children, teachers, and parents are less consistent regarding controversial children, perhaps because controversial children curb their aggressive displays when adults are present. Although controversial children engage in aggressive behavior, they are also cooperative and sociable.

### **Average**

Average children receive an average number of positive and negative nominations. They do not fit into one of the more extreme categories. Most children fit into this category. They are more sociable than rejected and neglected children but not as sociable as popular and controversial children.

## **Stability and Implications**

Over short periods, such as a few weeks or months, ratings for popular and rejected children remain fairly stable. Children in the neglected and controversial categories may fluctuate as school activities change and social skills develop. Over longer periods, stability ratings for rejected children are higher than for the other groups. In other words, children who are popular, neglected, or controversial when they are young may or may not hold that status several years later. However, children who are actively rejected at a young age still tend to be rejected several years later. Without intervention, they do not acquire the social skills they need to experience peer acceptance.

Rejected children, especially rejected-aggressive children, are at high risk for negative outcomes such as delinquency, hyperactivity, attention deficit hyperactivity disorder, conduct problems, and substance abuse. In addition, they are at higher risk than are the other groups for feelings of loneliness, depression, and for obsessive-compulsive disorder. However, these children can benefit from interventions. Parents and teachers who coach children on how to deal with conflict and difficult social situations, how to meet and interact with unfamiliar peers, and who also model and reinforce socially competent behavior can assist children in developing their social skills. Ultimately, children who learn about appropriate social behaviors, how to implement them, and how to interpret social feedback from others should become more socially competent and experience better peer relations.

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*See also* Aggression; Hostile Attribution Bias; Ostracism; Rejection; Research Methods

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## SPONTANEOUS TRAIT INFERENCE

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### Definition

The notion of spontaneous trait inferences (STIs) refers to a frequently demonstrated empirical finding. Observing behaviors or reading behavior descriptions gives rise to immediate trait inferences, beyond the actually given information. Thus, somebody who steps on a partner's feet on the dance floor elicits the inference *clumsy*. Witnessing a student succeeding on a difficult task gives rise to the spontaneous inference *clever*. Such inferences take place even though the trait is not strictly implicated. Stepping on someone's feet can happen to nonclumsy people, just as even a dull student can solve a task under auspicious conditions. Logically, singular behaviors do not imply general traits. STIs are called spontaneous because they can be assumed to occur in the absence of explicit task instructions and deliberate intentions to think about

the traits that correspond to a given behavior. In STI experiments, researchers make serious attempts to conceal their interest in trait inferences, ruling out demand characteristics that might account for controlled trait inferences.

### Measurements

Several paradigms have been developed to investigate STI effects experimentally. In the original cued-recall paradigm, participants are exposed to a list of behavior descriptions (e.g., "Steven stepped on his partner's feet on the dance floor"). Then, on a so-called cued-recall test, their task is to recall the previously presented behavior descriptions based on variable cue words or phrases. The specific types of cues given in the recall test are manipulated. As it turns out, trait words that represent reasonable inferences but that never appeared in the original sentences (such as *clumsy*) provide more effective retrieval cues than such words or phrases that actually occurred in the list, suggesting that traits must have been inferred spontaneously. In another word-fragment completion paradigm, being exposed to behavior descriptions facilitates the subsequent generation of a corresponding trait concept from an incomplete letter string. For instance, a person who has been primed with the earlier sentence takes less time to generate the word concept *clumsy* from the word fragment c-m-y than does somebody who was not exposed to that behavior. The faster response latency provides evidence that the trait concept has already been inferred implicitly. Unlike the cued-recall method, this method warrants trait inferences that occur immediately after the behavior has been presented, ruling out inferences during a later recall stage.

In a picture-priming paradigm, behaviors are presented in pictures or moving pictures (film clips), and participants have to identify a trait word that is first hidden behind a mask and that appears only gradually (over 3 seconds or so) as small pieces of the mask are removed in random order. Again, an STI effect is evident in response speed. When the trait to be identified constitutes a reasonable inference from the behavior presented in the preceding picture or film, the identification time is slower than on nonmatching trials. This method has been extended to control for the mental activity during behavior presentation, by inserting a verification task. Thus, participants have to verify an aspect of the picture or film (e.g., whether the presented behavior is an instance of *hitting* or *attacking* or an instance of *hostile*), before the trait

identification task (e.g., involving the trait *aggressive*) starts. In this fashion, the trait inference process can be guided or tuned experimentally.

In still another method based on response latencies, the probe-recognition paradigm, the reaction time required to correctly falsify a trait word as having not appeared in a text passage is prolonged if that trait constitutes a plausible inference from a behavior read in a preceding sentence. Last but not least, the savings-in-relearning paradigm measures STI effects in terms of the reduced time required to relearn trait words when the list to be learned involves traits inferred from previously presented behaviors.

### Practical and Theoretical Relevance

STIs have important practical and theoretical implications. Practically, drawing quick and unreflected inferences about people's traits can lead to premature action, uncritical decisions, and serious conflicts in diverse areas, such as personnel assessment or legal decisions. STIs can contribute to social stereotypes and cultural knowledge.

Theoretically, STI research is expected to further the understanding of quick and seemingly automatic social judgments based on unintended thought and unplanned, effortless cognitive operations. However, although trait inferences can occur spontaneously, in the absence of deliberate instructions or intentions, and demand little mental resources, other evidence suggests that the process is not fully automatic in some respects. First, STIs are stronger when inferred traits are consistent with an existing stereotype of the target. Accordingly, the trait *submissive* is more likely to be inferred from a corresponding behavior when the target person is female than male because submissive is part of the female gender stereotype. Second, trait inferences depend on the linguistic implications of the verbs used to describe a behavior. The same aggressive behavior will more likely elicit the trait inference *aggressive* when an action verb (such as *attack*) is used to describe this behavior than when a state verb (*hate*) is used because action verbs imply internal causes within the actor, whereas state verbs imply external causes outside the actor. Third, trait inferences can be influenced through attentional manipulations; they are bound to persons or faces that are the focus of attention when behaviors are observed.

The STI effect provides a theoretical model for the interpretation of several intriguing phenomena. These include the correspondence bias (default tendency to attribute behavior internally to person dispositions,

while neglecting situational constraints), spontaneous trait transference (blaming or praising communicators of unpleasant or pleasant messages), and perseverance effects (adhering to premature inferences that full debriefing has revealed to be wrong). Importantly, STI must not be equated with internal attributions of behaviors to person dispositions. Behaviors can also give rise to spontaneous situation inferences, implying external causes of the observed behavior in the environment.

### Current Issues

Current research and theoretical discussions revolve around such issues as the cognitive states or mind-sets that facilitate STI tendencies, the binding of trait inferences to particular persons or faces associated with the observed behavior, and the intriguing issue of differences between cultures. Members of (Eastern) collectivist cultures have been shown to be less prone to trait inferences than are members of (Western) individualist cultures, in accordance with the assumption that collectivist cultures put less weight on personal factors in explaining the world than individualist cultures do.

*Klaus Fiedler*

*See also* Attributions; Collectivistic Cultures; Personality Judgments, Accuracy of; Priming

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## SPOTLIGHT EFFECT

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### Definition

The spotlight effect is a very common psychological phenomenon that psychologists define as a person's tendency to overestimate the extent to which others notice, judge, and remember his or her appearance and

behavior. In other words, it represents a person's conviction that the social spotlight shines more brightly on him or her than is actually the case. Would you be reluctant to go to the movies alone because of a fear that others might see you there and conclude that you don't have many friends? Do you spend long periods in front of the mirror each day making sure that your hair is groomed just right or that your clothes create just the right impression? Does it feel like all eyes are on you when you walk into a classroom a few minutes late? If you answered yes to any of these questions, you are prone to the spotlight effect.

### Evidence

It's easy to find evidence of the spotlight effect. In one study, students arrived individually at a laboratory and were asked to don a T-shirt with a large picture of the pop singer Barry Manilow on the front. (This student population generally regarded Manilow as corny and uncool.) Students were then instructed to report to another laboratory down the hall. When they did so, they encountered another experimenter and several students seated around a table filling out questionnaires. After a brief time in this room, the student was told to wait outside because everyone else was too far ahead with the day's tasks. After waiting outside for a few minutes, the second experimenter emerged from the laboratory and asked the student a simple question: "How many of the students who were filling out questionnaires in the laboratory would be able to state who was pictured on your T-shirt?" Consistent with the idea that people tend to overestimate the extent to which others attend to them, the students wildly overestimated the number of students who noticed that it was Barry Manilow depicted on their T-shirts. The students thought that roughly half of those in attendance noticed, when in reality only about a quarter of them did so.

Other research has demonstrated that people overestimate the extent to which their own contributions to a group discussion are noticed and affect the other group members, that people think their absence from a group will stand out to others more than it actually does, and that people are convinced that the ups and downs of their performances—their good days and bad days—will register with others more than it truly does. Research has also shown that people tend to overestimate the extremity of others' judgments of them: They think they will be judged more harshly for potentially embarrassing mishaps and judged more favorably for their momentary triumphs than is actually the case.

People of all ages are prone to the spotlight effect, but it appears to be particularly pronounced among adolescents and young adults. This can be attributed to the fact that people are intensely social creatures, and so a heightened concern with how one stands in the eyes of others is an essential component of successful group life. But having a heightened concern with one's social standing means, by its very nature, that one is vulnerable to having an *excessive* concern with one's standing—and hence, is likely to overestimate the extent to which one is the target of others' thoughts and attention.

### Implications

Should knowing about the spotlight effect encourage people to act differently than they would otherwise? Perhaps. One must often decide whether to act or not—to dive in the waves or stay on the beach, to go to the dance or stay home, to audition for a theater production or join a softball league—and sometimes social considerations play a prominent role in these calculations. What would others think? How would I look if I tried (and possibly failed)? What the existence of the spotlight effect suggests is that if these sorts of social considerations are largely making one lean against pursuing such actions, perhaps one should be more venturesome and take the plunge. After all, fewer people are likely to notice, and the social consequences are likely to be less pronounced, than one imagines.

Not that one should be cavalier about taking such actions. These calculations are rarely simple and, given that humans are fundamentally social creatures, their excessive sensitivity to what others think of them exists for a reason. What knowledge of the spotlight effect can contribute to these internal debates is a focus on the opinions that really matter—who the audience is that individuals are most concerned about—and a recognition that they are less salient to most audiences than they tend to think.

*Thomas Gilovich*

*See also* Self-Awareness; Social Anxiety; Social Comparison

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## SPREADING OF ALTERNATIVES

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Inspired by cognitive dissonance theory, hundreds of experiments have demonstrated that following a difficult decision, compared with an easy one, individuals change their attitudes to be more consistent with their decisions. That is, following a decision, individuals evaluate the chosen alternative more positively and the rejected alternative more negatively than they did before the decision. This effect has been referred to as *spreading of alternatives* because the attitudes toward the chosen and rejected alternatives spread apart. Attributes of decision alternatives also become more coherent or more related with each other following decisions. Memories are also affected by choice, such that individuals incorrectly remember more positive features of chosen options and more negative features of rejected options.

In experiments on spreading of alternatives, people are induced to make an easy or difficult decision. An easy decision is created by having people choose between two things that are very different in value, with one being liked much and the other not being liked as much. A difficult decision is created by having people choose between two things that are close in value but with different attributes. According to the theory of cognitive dissonance, after one makes a difficult decision, one will evaluate the chosen alternative as more positive and the rejected as more negative. The decision does not need to be between two initially positively valued items; negatively valued items cause spreading of alternatives too.

After the person makes a decision, each of the negative aspects of the chosen alternative and positive aspects of the rejected alternative is dissonant (that is, inconsistent) with the decision, whereas each of the positive aspects of the chosen alternative and negative aspects of the rejected alternative is consonant or (that

is, consistent) with the decision. Difficult decisions arouse more dissonance than do easy decisions because there are a greater proportion of dissonant cognitions after a difficult decision than after an easy one. Because of this, there will be greater motivation to reduce the dissonance after a difficult decision. Dissonance following a decision can be reduced by removing negative aspects of the chosen alternative or positive aspects of the rejected alternative, or adding positive aspects to the chosen alternative or negative aspects to the rejected alternative.

Research in both lab and field settings has provided support for the prediction that difficult decisions cause more spreading of alternatives than easy decisions do. Most evidence has been in the form of self-reported attitudes, though some research used behavioral and physiological measures. Research has revealed that individuals high in action orientation (who efficiently implement actions) show greater spreading of alternatives than do individuals low in action orientation. Spreading of alternatives research has implications for life satisfaction, interpersonal relationships, gambling, smoking, and many other issues. For example, when persons make a decision to commit to a relationship, they would be expected to increase their positive evaluations of the relationship partner and decrease their negative evaluations. This would lead to greater relationship satisfaction.

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*See also* Attitude Change; Cognitive Dissonance Theory; Decision Making

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## STANFORD PRISON EXPERIMENT

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The Stanford Prison Experiment (SPE) is a highly influential and controversial study run by Philip

Zimbardo and his colleagues at Stanford University in 1971. The researchers originally set out to support the notion that situational forces are just as powerful and perhaps more powerful than dispositional forces in influencing prison behavior. In addition to providing support for their hypothesis, the study was heavily covered in the mainstream media and had far-reaching ethical implications. Regardless, and perhaps because of its controversial nature, the SPE remains one of the most well-known experiments in social psychology.

### Purpose

The SPE was conceived as a reaction to the popular belief that the violent and oppressive nature of U.S. prisons and subsequent reports of humanitarian violations were due to the unique personality characteristics of the prisoners and guards. Because of self-selection, prison guards were believed to possess characteristics such as sadism and a lack of sensitivity. Prisoners, of course, are usually incarcerated because at some point in time they exhibited illegal behavior. Zimbardo and colleagues argued that this view discounts the powerful influence of the social situation in which guards are pitted against prisoners under a variety of social and political influences.

### Methodology

To test their hypothesis, Zimbardo and colleagues created a realistic mock prison in the basement of Stanford University. The participants included 21 male college students, specifically chosen for their normal responses on a battery of background questionnaires. The participants were randomly assigned to be either a guard or a prisoner, with an undergraduate research assistant acting as warden and Zimbardo himself taking on the role of superintendent. The prisoners stayed in the prison 24 hours per day, while the guards worked 8-hour shifts. Aside from a restriction on physical violence, guards were given great latitude in how they could deal with prisoners, including the rules they could establish and punishments they could dole out.

The experimenters went to great lengths to establish realism. Prisoners were unexpectedly “arrested” at their houses by the local police department, were taken to the police station to be charged their “crime” and brought to the prison at Stanford. Prisoners were assigned a number and wore only a smock, which was designed to deindividuate the prisoners. Guards were

fitted with a uniform, nightstick, and reflective sunglasses to establish power. The prison cells consisted of a 6- by 9-foot space furnished with only a cot. To further increase realism, a catholic priest and attorney were brought in and a parole board was established.

Once the participants had arrived at the prison, the situation escalated at a surprising rate. On the second day, a prisoner rebellion was quickly quelled by the guards, who punished the prisoners through means conceived without guidance from the experimenters. For example, prisoners were stripped naked, forced to do menial tasks, and in many cases were deprived of their cots, meals, and bathroom privileges. After the attempted revolt and subsequent punishment, five prisoners began to experience extreme emotional reactions and were eventually released. As the obedience tactics became more brutal and humiliating and prisoners displayed increasingly negative affectivity, Zimbardo eventually decided to end the study on the sixth day of what had been planned as a 2-week study.

### Findings

Zimbardo and colleagues construed the increasingly hostile behavior of the guards and increasingly passive behavior of the prisoners, each of which had started out as groups of normal young men, as evidence that the extreme nature of the prison situation breeds such volatile and desperate behavior. Indeed, the SPE is often cited as evidence for the strong role of the situation over individuals in ways in which they often do not predict. The researchers also compared their work to Stanley Milgram’s research on obedience in that both provide support for the notion that given an extreme situation, good people can be coerced into doing evil things. Despite these exciting findings, the SPE has been criticized from both a methodological and ethical standpoint.

### Methodological Criticisms

Methodologically, critics have argued that participants of the SPE never fully accepted the situation as real and were merely playing the stereotypic roles of prisoners and guards. In essence, it was argued that the results were driven by demand characteristics of the experimental situation. It did not help the original authors’ argument that Zimbardo himself played a prominent role in the experiment, sometimes guiding the way in which the study played out. Regardless, evidence

suggests that participants did internalize the situation, as well as their roles in the situation. For instance, only one-tenth of the conversations between prisoners contained speech about life outside of the experiment.

### Ethical Criticisms

The SPE was likely more controversial from an ethical point of view. The ethical implications of the study, as well as Zimbardo's dual role as investigator and superintendent of the Stanford prison were highly criticized at the time. Zimbardo himself admitted that his own acceptance of the prison situation and his desire to run a good prison clouded his judgment, suggesting that even he had internalized his role in the situation. Although the experiment did conform to the guidelines set forth by the ethics review board at the time, few would argue that the sadistic and humiliating acts performed during the study were ethical by today's standards. Even Zimbardo admits that it was unethical for the study to continue after the first prisoner showed an extreme negative reaction.

### Replications

Stephen Reicher and S. Alexander Haslam attempted to replicate the SPE, skirting ethical guidelines through allowing the experiment to take place in the context of a British reality television show. The results of the SPE were not replicated; in Reicher and Haslam's version, the guards never organized themselves and were eventually overthrown.

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*See also* Aggression; Fundamental Attribution Error; Milgram's Obedience to Authority Studies; Robbers Cave Experiment

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## STEALING THUNDER

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### Definition

Stealing thunder is a social influence tactic in which in anticipation of negative information being revealed about a person, that person chooses to reveal it first. By doing so, the negative impact is reduced or, in some cases, eliminated. An individual's representative can also steal thunder with similar consequences, as in the case of an attorney who steals thunder by revealing the worst bit of evidence before the opposing counsel brings it out.

Courtrooms provide the best example of the use of stealing thunder. Defense attorneys may reveal incriminating evidence about their clients, for instance that they had a prior conviction, before prosecuting attorneys can reveal it. The defense attorney might use the stealing thunder technique to minimize the damage caused by incriminating evidence against his or her client.

### Evidence

Based on naive theories and research, beginning an interaction by revealing damaging information about one's self would seem to backfire by creating a negative first impression that would negatively bias future information and impressions. In many circumstances, the fact that the negative information is revealed again (as in the case of a courtroom trial) by someone else would also increase the salience of the information. Nevertheless, research has demonstrated that stealing thunder can be quite effective. In mock trial studies, researchers have found that both the defense (in a criminal trial) and plaintiffs (in a civil trial) can benefit by stealing thunder. Legal experts suggest that the reason that stealing thunder is potentially effective is that the attorney who reveals it first can put a positive spin on the negative information.

In addition to showing the effectiveness of stealing thunder in courtroom settings, research has also found positive benefits in a political domain. Voters (or mock voters) are more likely to indicate a willingness to vote for a candidate who reveals a transgression himself or herself, than they are if an adversary

(or the media) reveals the same information. News editors also indicate less interest in pursuing the story when candidates reveal the information.

### Reasons for Effectiveness

Recent research suggests several reasons stealing thunder might work. One is that the revealer appears to be credible, and thus, likeable. Another is that because the negative self-revelation is so unexpected, message recipients force the meaning of the information to be less damaging. Another reason is that stealing thunder allows the revealer to cast the information in a favorable light, but the available research suggests that putting a positive spin on the information is not necessary for the effect to emerge. Still another reason that stealing thunder may work is that by making the information more public and common, less attention and value are placed on it. When people perceive information to be scarce or secret, they think it is more valuable. Stealing thunder diminishes the perception that the information is scarce.

### Limitations

The question still remains, when will stealing thunder work and not work? Do factors such as the timing of stealing thunder, the seriousness of the thunder information, and the use of compelling spin moderate the effects? In a courtroom context, the existing research suggests that the timing of stealing thunder does not seem to affect how well thunder stealing works. Damaging information presented by the defendant's lawyer earlier or later in the case did not reduce the benefits of stealing thunder. Nor did it matter if the opposing counsel chose not to reveal the negative information after all. However, acknowledging incriminating evidence after it has been disclosed does not reduce the impact of negative information.

Regardless of how serious the damaging information is (bouncing a series of check compared with smuggling drugs), stealing thunder appears to reduce the information's negative impact. Stealing thunder continues to work even if the information is very damaging. In a mock court case involving homicide resulting from reckless driving, stealing thunder remained effective at reducing negative information even when the defendant admitted veering into the oncoming traffic lane. One boundary condition discovered so far

is that if the message recipients (in this case, mock jurors) are told during closing arguments that the other attorney manipulated their opinions by using the stealing thunder tactic, then they are no longer positively influenced by stealing thunder.

Whether stealing thunder works best under heuristic (i.e., low effort) or systematic (i.e., high effort) processing remains to be determined. Whereas source credibility is often used as a short-cut to message processing, changing the meaning of the message to be consistent with the message source would require considerable cognitive effort and elaboration.

### Implications

Stealing thunder has been demonstrated to be an effective way to minimize (or eliminate) the impact of incriminating information in a variety of different contexts. Most legal experts already are aware of its benefits (even if they are not aware of the reasons why it works) and use it regularly in court. Ironically, politicians (many of whom are lawyers) are generally not willing to take the chance of stealing thunder and are more likely to deny wrongdoings to the bitter end.

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James Wirth*

*See also* Embarrassment; MUM Effect; Self-Presentation

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## STEREOTYPES AND STEREOTYPING

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### Definition

A stereotype is a generalized belief about the characteristics that are associated with the members of a social group. In 1922, the journalist Walter Lippmann first popularized the term *stereotype*, which he described as the image people have in their heads of what a social group is like. Early researchers examined the content of social stereotypes by asking people to indicate which psychological traits they associate with various

ethnic and national groups (e.g., Germans, Blacks, Jews). This research indicated that there was a good deal of consensus in the public's image of these social groups, with generally strong agreement about which characteristics are typical of each group. There was also a tendency for these "pictures in our heads" to contain more negative than positive characteristics.

### Origins

Having cataloged the content of stereotypes, subsequent generations of researchers sought to explain how and why stereotypes develop. One approach examined how socialization processes perpetuate stereotypes, emphasizing the ways whereby parents, peers, and the media communicate and reinforce stereotypic images of social groups. The consensus of stereotypes can be explained, from this perspective, by the transmission of broader cultural biases to new generations of children as they develop within a society. However, this approach does not explain where the stereotypes came from in the first place. To answer that question, some researchers turned to motivational approaches. From this perspective, stereotypes arise to satisfy important psychological needs. For example, a person's stereotypes about other groups may make the person feel superior. In support of that possibility, researchers have shown that after experiencing a threat to one's self-esteem, stereotypic thoughts about a minority group are more likely to come to mind. Stereotypes also function to support and rationalize intergroup conflict over valuable resources, making one social group feel justified in hostile actions taken toward other groups. In addition, as noted in system justification theory, stereotypes work to justify the status quo, making a person feel comfortable with the disparities that are present in society. That is, stereotypes provide people with a way of convincing themselves that there are good (and fair) explanations for social inequality. For example, a person might reason that if some social groups have achieved less economic success, it must be because of their inherently deficient characteristics (e.g., laziness, lack of ability). In this way, social inequality can be blamed on the disadvantaged groups themselves (rather than on unfair discrimination or the legacy of historical disadvantages). Interestingly, the need to justify the social system appears to be so strong that even disadvantaged minorities themselves sometimes accept these negative stereotypes of their own groups. These kinds of motivational explanations can readily account for the predominantly negative quality of many social stereotypes.

Recent research shows that stereotypes tend to cluster around two broad themes. One theme concerns competence: Are members of the group smart and successful? The second theme concerns warmth: Are members of the group likeable, friendly, and unthreatening? Perhaps unsurprisingly, members of the dominant (majority) social group tend to regard their own group as both competent and warm. Many other groups are regarded with a mixture of ambivalent stereotypes. Some groups, such as women and the elderly, are commonly seen as being quite warm but lacking competence, whereas other groups, such as Asians and Jews, tend to be seen by the majority group as being quite competent but lacking in warmth. Only relatively few groups (e.g., the homeless, drug addicts) are seen as lacking on both dimensions. In general, however, this research confirms that the stereotypes of many social groups are marked by at least one negative theme.

Much research in recent decades has examined the cognitive processes underlying stereotyping. From this perspective, stereotypes serve a knowledge function, organizing and structuring one's understanding of the social environment. The social cognition perspective emphasizes that stereotypes arise from the normal, everyday operation of basic mental processes such as attention, memory, and inference. In everyday life, a person is potentially exposed to information about the members of various social groups in diverse ways. One may see them on TV, hear friends talk about them, or actually encounter them in person. The social cognition perspective asserts that the stereotypes a person forms will be determined by which aspects of this parade of information he or she pays attention to and remembers. Essentially, there is a basic process of learning involved in the formation of stereotypes, but this process may not necessarily be objective and unbiased. Indeed, an important question that has not yet been fully addressed is the extent to which everyday learning processes result in stereotypes that are reasonably accurate.

Certainly, it seems intuitively unlikely that one would form wildly inaccurate stereotypes, and even if one did, it is still unclear how he or she could maintain them in the face of continual disconfirmation. Yet social cognition research suggests that it is indeed possible for people to be systematically biased in what they "know" about social groups. People often possess an extensive mental database containing evidence supporting the apparent accuracy of their stereotypes, but this seemingly compelling evidence may be substantially illusory. First, for people to form accurate

images of a social group, they would need to be exposed to representative samples of group members; however, representative samples may be hard to come by (especially for groups that are personally encountered less frequently) if the media, gossip, and other forms of public discourse focus selectively on the more negative aspects of a social group's behavior. Even if a representative sample of behavior is available, people would still have to be equally sensitive to all types of presented information for their mental image of a group to be objectively accurate. Research suggests that again, there is a tendency to pay greater attention to negative information, especially when it is associated with a distinctive social group (such as a minority group). And when people start out with a clear expectation about what a group is like, they may be biased in what they perceive and remember in subsequently encountered information about the group. Although it is an open question just how accurate most social stereotypes are, available research shows that exaggerated and inaccurate stereotypes can form and be maintained under at least some circumstances.

### Consequences

When a person encounters a member of a stereotyped group, the stereotypes associated with that group may be automatically *activated*; that is, the specific characteristics that are seen as typical of the group may become more accessible in the person's mind. This process of stereotype activation can happen even in cases in which a person does not personally endorse or accept the stereotype as accurate. As long as there is an association between the group and the stereotypic characteristic stored in memory (e.g., from frequent exposure to common cultural images of a group), the stereotype can become activated upon encountering a member of the stereotyped social group. If this happens, the stereotype can exert a host of effects on the way this person is perceived and treated. Most of these effects occur rapidly, involuntarily, and often without any awareness that they are taking place.

Social psychologists have developed several ways of detecting that stereotypes become activated in people's minds rapidly and automatically. For example, research indicates that many people are influenced by gender stereotypes in this manner. Participants are exposed to a series of photographs of men and women, and after each photograph, they have to respond to a target word as quickly as possible. After seeing a picture of a man, people tend to be reliably

faster to respond to stereotypically masculine concepts (e.g., "strong") but reliably slower to respond to stereotypically feminine concepts (e.g., "soft"). The converse pattern happens after exposure to a picture of a woman. Thus, merely encountering a picture of a person is all it takes for gender-related stereotypic concepts to become more accessible in the minds of perceivers. The automatic activation of stereotypes is common but by no means universal. Substantial individual differences exist, and the immediate context is important too. For example, in a situational context in which ethnicity is more salient than sex, the same set of target photos might evoke automatic racial stereotypes but not gender stereotypes. In most cases, however, a person does form some kind of rapid impression of another person, and often this impression is based partly on the application of activated stereotypes regarding some (but probably not all) of the target person's social groups.

Once activated, stereotypes can exert a host of important effects on the way a person sees the world. For example, once a stereotype is activated, it can bias the way the person interprets ambiguous behavior. If one holds the stereotype that Arabs are dangerous, then even fairly mundane behavior by an Arab (or someone who looks vaguely like an Arab) can take on seemingly sinister overtones in one's mind. In this kind of situation, ambiguous behavior is *assimilated* to the stereotypic ideas that are activated in the perceiver's mind. Stereotypes can also bias the way a person explains social events. For example, leadership skill is stereotypically associated more with men than with women. A successful male executive is often credited with business savvy and leadership skill, whereas a successful female executive's performance might be explained by favorable economic conditions or even blind luck. Because the causes of most events are often at least somewhat ambiguous, stereotypes can influence which elements of the situation stand out as causally important. Stereotypic outcomes readily suggest stereotypic personal causes (e.g., a male's leadership skill), whereas counterstereotypic outcomes call for situational or temporary causes (e.g., favorable market conditions). Notice that these biasing effects of stereotypes tend to reinforce the stereotype's apparent accuracy by adding to one's mental database of confirmatory instances (simultaneously overlooking or discounting disconfirming instances).

Stereotypes may also be self-perpetuating in the sense that people who hold strong stereotypes may act in ways that bring about the confirmation of their

beliefs. For example, if a person believes that African Americans are hostile, then he or she may interact with African Americans in a relatively unfriendly way; such treatment often tends to elicit a response that is also unfriendly, thereby seeming to confirm the expected hostility. This kind of self-fulfilling prophecy adds to the appearance of stereotype accuracy.

People form stereotypes about all kinds of social groups, but much of the focus of social psychological research has been on stereotypes about groups defined by basic demographic features (such as ethnicity, sex, or age). Because of the historical injustices associated with racism, sexism, and ageism, researchers have sought to understand the connections between stereotypes and discrimination in these particular domains. In most cases, it does not seem that people engage in generalized discrimination toward minority groups; that is, they do not tend to respond negatively or unfairly to group members generally, irrespective of context or circumstances. Instead, the forms of discrimination often align with the content of stereotypes. Sexist discrimination provides a clear example. Women face employment discrimination primarily in situations in which they seek to take on traditionally masculine roles (e.g., business executive), but not in cases in which they seek traditionally feminine roles (e.g., school teacher). Stereotypes create the expectation that women, despite their many positive qualities, “don’t have what it takes” to be forceful, effective business leaders. Research on racial stereotypes similarly shows that race-based discrimination against ethnic minorities is much more likely in stereotypic cases. In some studies, for example, African Americans and Latinos have been judged more likely to be guilty of blue-collar crimes (such as theft or assault) than a White defendant, but the pattern reverses for white-collar crimes (such as embezzlement or computer hacking). Thus, people do not discriminate against any particular group across the board; rather, the content of social stereotypes directs the focus and form of discrimination faced by the members of stereotyped groups.

Social psychologists are not the only ones to notice these connections between stereotyping and discrimination. During the 20th century, the general public also came to associate stereotyping of these groups with social injustice, leading to the common view that stereotyping is inappropriate and unacceptable. As a result, people often disavow stereotypic ideas, yet as previously noted, this personal rejection of stereotypes provides no guarantee that their activation and

influence will be avoided. One strategy for avoiding unwanted stereotypic reactions is to try to suppress stereotypes, or prevent them from coming into one’s mind. Numerous studies have examined the effects of trying not to have stereotypic thoughts come to mind. This research emphasizes that, although the process of activating and using stereotypes is often quite efficient and largely automatic, the process of trying to squelch these stereotypes is typically much more effortful. It takes mental energy and focused effort to do it successfully. If perceivers have consistent motivation and ample free attention, they can succeed in suppressing stereotypic responses, but if their motivation lapses, or they become distracted, trying to suppress stereotypes can actually result in a rebound effect, in which the stereotypes become even more accessible than they would have been if suppression had never been attempted. Fortunately, there is growing evidence that it is possible for perceivers to unlearn unwanted cultural stereotypes and to become quite efficient in inhibiting these stereotypes. Research examining the most rapid responses that happen in the first seconds of encountering a member of a stereotyped group confirm that individuals can succeed in overcoming stereotypic biases and that this process of inhibiting stereotypic responses does not have to remain effortful and taxing (although it may start out that way).

## Implications

Stereotypes play an important role in how people perceive and form impressions of others. Once an individual is categorized as a member of a particular group, he or she can come to be judged in terms of group-based expectations. In the absence of clear disconfirmation, the person can easily be seen as a “typical” member of that group, interchangeable with other group members. In contrast to such category-based impressions, perceivers can instead judge individuals on the basis of personal attributes, some of which may be typical of their group, but many of which are not. This process of *individuation*, though escaping the risks of inaccurate or exaggerated stereotyping, requires a much larger investment of time and energy. To come to know an individual’s personal attributes, rather than simply assuming that he or she possesses group-typical attributes, requires fairly extensive contact and unbiased appraisals of the individual who is encountered. Given these demands, stereotyping may often be the default process guiding

social perception when the need or desire for accurate impressions is not especially pressing.

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**See also** Automatic Processes; Expectancy Effects; Mental Control; Outgroup Homogeneity; Prejudice; Racism; Self-Stereotyping; Sexism; Social Categorization; Subtyping; System Justification

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## STEREOTYPE THREAT

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### Definition

Stereotype threat arises from the recognition that one could be judged or treated in terms of a negative stereotype about one's group. This sense of threat usually happens when one is doing something to which such a stereotype applies. Then one knows that one is subject to be judged or treated in terms of that stereotypes—as when, for example, an older person is trying to remember where he or she placed the house keys. The negative stereotype alleging poorer memory among older people applies. As the person searches, he or she is aware of confirming this stereotype or being seen as confirming it. If the person is invested in having a good memory, the prospect of being judged or treated this way could be upsetting, distracting. It

could even have the ironic effect of interfering with the person's ability to find the lost keys. Most research on stereotype threat has examined how this threat affects the intellectual performance of groups whose intellectual abilities are negatively stereotyped in the larger society—for example, women performing advanced math, as well as minority groups performing difficult cognitive tasks in general.

Most often stereotypes are seen to affect their targets through the discriminatory behavior and judgment of people who hold the stereotype. An implication of stereotype threat, however, is that stereotypes can affect their targets even before they are translated into behavior or judgments. The mere threat of such judgment and treatment—like the threat of a snake loose in the house—can have effects of its own.

Stereotype threat has several features and parameters.

### General Features

Stereotype threat is situational in nature. It arises from situational cues signaling the relevance of a stereotype to one's behavior. Experiencing it doesn't depend on a particular state or trait of the target such as believing in the stereotype, or holding low expectations that might result from chronic exposure to the stereotype. Such internal states or traits are neither necessary nor sufficient to the experience of stereotype threat.

Stereotype threat is a general threat that is experienced in some setting or another by virtually everyone. All people have some social identity for which negative stereotypes exist—the elderly, the young, Methodists, Blacks, Whites, athletes, artists, and so forth. And when they are doing things for which those stereotypes apply, they can experience this threat.

The nature of the threat depends on the content of the negative stereotype. The specific meaning of the stereotype determines the situations, the people, and the activities to which it applies, and thus becomes capable of causing a sense of stereotype threat. For example, the type of stereotype threat experienced by men, women, and teenagers would vary considerably, focusing on sensitivity in the first group, math skills in the second, and maturity and self-control in the third. And for each group, the threat would be felt in situations to which their group stereotype applies, but not in other situations. For example, a woman could feel stereotype threat in a math class where a negative group stereotype applies but not in an English class where it doesn't apply.

## The Strength of a Stereotype Threat

The strength of a stereotype threat also depends, in part, on the meaning of the stereotype involved. Some stereotypes have more negative meaning than others do. A stereotype that demeans a group's integrity should pose a stronger threat than a stereotype that demeans a group's sense of humor, for example.

How much a person identifies with the domain of activity to which a stereotype applies should also affect the strength of the stereotype threat he or she experiences. The more one cares about a domain, the more upset one is likely to be over the prospect of being stereotyped in it.

The more one cares about the group identity that is being stereotyped, the more upset one should be by the prospect of being group stereotyped

Generally, the more capable one feels about coping with the threat, the less intense the experience of stereotype threat should be.

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*See also* Identity Status; Self-Stereotyping; Stigma

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## STERNBERG'S TRIANGULAR THEORY OF LOVE

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*See* TRIANGULAR THEORY OF LOVE

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## STIGMA

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### Definition

Stigma is an attribute or characteristic that marks a person as different from others and that extensively discredits his or her identity. Ancient Greeks coined the term *stigma* to describe a mark cut or burned into the body that designated the bearer as someone who was morally defective, such as a slave, criminal, or traitor. Sociologist Erving Goffman resurrected the term, defining *stigma* as an attribute that spoils a person's identity, reducing him or her in others' minds "from a whole and usual person to a tainted, discounted one." Stigmatizing marks are associated with negative evaluations and devaluing stereotypes. These negative evaluations and stereotypes are generally well known among members of a culture and become a basis for excluding, avoiding, and discriminating against those who possess (or are believed to possess) the stigmatizing mark. People who are closely associated with bearers of stigma may also experience some of the negative effects of stigma, a phenomenon known as *stigma by association*.

Stigma does not reside in a person but in a social context. For example, within the United States, gays and lesbians are stigmatized across a range of situations, but not in a gay bar. African Americans are stigmatized in school but not on the basketball court. This contextual aspect of stigma means that even attributes that are not typically thought of as being stigmatizing may nonetheless lead to social devaluation in some social contexts (e.g., being heterosexual at a gay pride rally). Some marks, however, are so pervasively devalued in society that they cause bearers of those marks to experience stigmatization across a wide range of situations and relationships. The consequences of stigmatization are far more severe for these individuals than for those who experience stigmatization only in very limited contexts.

### Types and Dimensions

Goffman categorized stigmatizing marks into three major types: tribal stigma, abominations of the body, and blemishes of character. Tribal stigmas are passed from generation to generation and include membership in devalued racial, ethnic, or religious groups. Abominations of the body are uninherited physical

characteristics that are devalued, such as obesity or physical deformity. Blemishes of character are individual personality or behavioral characteristics that are devalued, such as being a child abuser or rapist.

Stigmas also differ on important dimensions, such as the extent to which they are concealable, controllable, and believed to be dangerous. These differences have important implications for how the stigmatized are treated by others, and how stigma is experienced by those who have a stigmatizing condition.

Some marks (e.g., obesity) are visible or cannot be easily concealed from others, whereas others (e.g., being a convicted felon) are not visible or can more easily be concealed. Individuals whose stigma is visible must contend with different issues than do those whose stigma is invisible. The visibly stigmatized are more likely to encounter avoidance and rejection from others than those whose stigmas are concealed. Consequently, the former may be more likely to interpret others' behavior in terms of their stigma and be more concerned with managing others' treatment of them. People whose stigmas are concealable, in contrast, have a different set of concerns. Although they may be able to "pass" or hide their stigma from others, they may be preoccupied with figuring out the attitudes of others toward their (hidden) stigma and with managing how and when to disclose their stigma to others. They must live with the fear of others finding out about their stigma, and of being discredited. They may also have a harder time finding others like themselves to interact with, which may lead to social isolation and lowered self-esteem.

The perceived controllability of a stigma is also important. Stigmas are perceived as controllable when the bearer is thought to be responsible for acquiring the stigmatizing mark or when it is thought that the condition could be eliminated by the behavior of the bearer. Obesity, drug addiction, and child abuse are examples of marks generally perceived to be controllable; whereas skin color and physical disability are examples of marks generally thought to be uncontrollable. People with stigmas that are believed to be controllable are more disliked, rejected, and less likely to receive help than are people whose stigmas are perceived as uncontrollable. Perceived controllability can also affect the bearer's behavior. Those who view their stigma as controllable, for example, may focus more on escaping or eliminating it than might those who perceive their stigma as uncontrollable.

## Functions

Most scholars regard stigma as socially constructed, meaning that the particular attributes or characteristics that are stigmatized are determined by society. This view is supported by evidence of variability across cultures in the attributes that are stigmatized. For example, obesity is severely stigmatized in the United States, far less so in Mexico, and is prized in some cultures. Even within the same culture, the degree to which a particular attribute is stigmatizing can change over time. For example, in the United States, being divorced was much more stigmatizing in earlier than it is today. Some commonalities exist across cultures, however, in what attributes are stigmatized.

Social stigma occurs in every society. This universality suggests that stigmatization may serve some functional value for individuals, groups, or societies. At the individual level, putting someone else down may make one feel better about oneself as an individual. At the group level, devaluing other groups may help people feel better about their own groups by comparison. At the societal level, negatively stereotyping and devaluing people who are low in social status may make their lower status seem fair and deserved, thereby legitimizing social inequalities in society. Stigmatization may also serve a fourth function. Evolutionary psychologists propose that it may have evolved among humans to avoid the dangers that accompany living with other people. Specifically, they posit that humans have developed cognitive adaptations that cause them to exclude (stigmatize) people who possess (or who are believed to possess) attributes that (a) signal they might carry parasites or other infectious diseases (such as a having a physical deformity or AIDS), (b) signal that they are a poor partner for social exchange (such as a having a criminal record), or (c) signal they are a member of an outgroup that can be exploited for one's own group's gain.

## Consequences

Stigmatization has profound and wide-ranging negative effects on those who bear (or who are thought to bear) stigmatizing marks. Stigmatization has been linked to lower social status, poverty, impaired cognitive and social functioning, poorer physical health, and poorer mental health. These negative effects can occur through several pathways.

### **Direct Effects**

Stigma has direct negative effects on bearers by increasing their likelihood of experiencing social rejection, exclusion, prejudice, and discrimination. Research has established that the stigmatized are vulnerable to a variety of types of social rejection, such as slurs, slights, derision, avoidance, and violence. People who are stigmatized also receive poorer treatment in the workplace, educational settings, healthcare system, housing market, and criminal justice system. Stigma even has negative effects on family relationships. For example, parents are less likely to pay for the college education of their daughters who are heavy than of daughters who are thin. Discrimination can be interpersonal (e.g., when a woman is rejected by a man because of her weight) or institutional (e.g., when a woman is denied a job as a flight attendant because of institutionalized height and weight requirements).

Stigma also can have direct, negative effects on the stigmatized through the operation of expectancy confirmation processes. When people hold negative beliefs about a person because of the person's stigma (e.g., believe that someone who has been hospitalized for mental illness is dangerous), their beliefs (incorrect or correct) can lead them to behave in certain ways toward the stigmatized that are consistent with their beliefs (e.g., avoid the stigmatized, watch them suspiciously, refuse to hire them). These behaviors can cause the stigmatized to respond in ways that confirm the initial evaluation or stereotype (e.g., they get angry, hostile). This can happen without the stigmatized person even being aware that the other person (perceiver) holds negative stereotypes, and even when the perceiver is not conscious of holding negative stereotypes.

People who are stigmatized are not always treated negatively by those who are not stigmatized. People often feel ambivalence toward the stigmatized; they may feel sympathy for the plight of the stigmatized while feeling that the stigmatized are dependent, lazy, or weak. People may also experience aversion and negative affect toward the stigmatized yet also desire to respond positively toward them to avoid appearing prejudiced, either to others or to themselves. As a result of these conflicting motives and feelings, bearers of stigma sometimes are treated extremely positively, and at other times extremely negatively. People behave more positively toward the stigmatized in public settings than in private settings, and report being less prejudiced on explicit measures of liking (such as attitude questionnaires) than implicit measures of liking (such as reaction time, or other measures of attitudes

that are not under conscious control). These conflicting responses can make it difficult for the stigmatized to gauge how others really feel about them.

### **Indirect Effects**

Stigma also has indirect effects on the stigmatized by influencing how they perceive and interpret their social worlds. Virtually all members of a culture, including bearers of stigma, are aware of cultural stereotypes associated with stigma, even if they do not personally endorse them. People who are stigmatized are aware that they are devalued in the eyes of others, know the dominant cultural stereotypes associated with their stigma, and recognize that they could be victims of discrimination. These beliefs are *collective representations*, in that they are typically shared by others who bear the same stigma. These collective representations influence how bearers of stigma approach and interpret situations in which they are at risk of being devalued, negatively stereotyped, or targets of discrimination. For some, their stigma may become a lens through which they interpret their social world. They may become vigilant for signs of devaluation and anticipate rejection in their social interactions.

Collective representations can have negative effects on the stigmatized by increasing their concerns that they will be negatively evaluated because of their stigma, a psychological state termed *identity threat*. Identity threat is not chronic, but situational; it occurs only in situations in which people are at risk of devaluation because of their stigma. When experienced, identity threat can interfere with working memory, performance, and social relationships and can increase anxiety and physiological stress responses. One form of identity threat is *stereotype threat*, concern that one's behavior will be interpreted in light of or confirm negative stereotypes associated with one's stigma. Stereotype threat occurs in situations in which negative group stereotypes are relevant and may be applied to the self and can impair performance in those domains.

Collective representations can also lead bearers to experience *attributional ambiguity* in situations in which their stigma is relevant. Attributional ambiguity stems from bearers' awareness that they may be targets of prejudice and discrimination. As a consequence of this awareness, bearers of stigma (particularly those whose stigma is visible) who are treated negatively may be unsure whether it was caused by something about themselves (such as their performance or lack of qualifications) or was caused by prejudice and discrimination

based on their stigma. Positive outcomes can also be attributionally ambiguous. As noted earlier, bearers of stigma are often exposed to inconsistent treatment and are aware of discrepancies between how the nonstigmatized feel and how they behave toward the stigmatized. As a consequence, bearers of stigma may mistrust the validity, sincerity, and diagnosticity of positive as well as negative feedback. This, in turn, can negatively affect their social relationships as well as interfere with their abilities to make accurate self-assessments.

Collective representations associated with stigma influence how bearers of stigma perceive, interpret, and interact with their social world. Through this process, stigma can have negative effects on bearers in the absence of any obvious forms of discriminatory behavior on the part of others, even if a stigmatizing mark is unknown to others, and even when no other person is present in the immediate situation.

### Coping Strategies

Some psychological theories describe bearers of stigma as passive victims who cannot help but devalue themselves because they are devalued by society. In fact, research shows that not all bearers of stigma are depressed, have low self-esteem, or perform poorly. Indeed, members of some stigmatized groups have higher self-esteem on average than do members of nonstigmatized groups. How bearers of stigma respond to their predicament varies tremendously. An important determinant of their response is how they *cope* with the threats to their identity that their stigma poses.

Bearers cope with stigmatization in a variety of ways. Some coping efforts are problem focused. For example, the stigmatized may attempt to eliminate the mark that is the source of stigmatization, such as when an obese person goes on a diet or a stutterer enrolls in speech therapy. This strategy, of course, is not available to bearers whose stigma cannot be eliminated. Bearers may also cope by trying to avoid stigmatization, such as when a person with a concealable stigma “passes” as a member of more valued group, or an overweight person avoids going to the gym or the beach. This coping strategy may severely constrain the everyday lives of the stigmatized. The stigmatized may also cope by attempting to overcome stigma by compensating, or striving even harder in domains where they are negatively stereotyped or devalued. For example, one study showed that overweight women who believed that an interaction partner could see them (and hence believed their weight might negatively affect the interaction)

compensated by behaving even more sociably compared with overweight women who thought their interaction partner could not see them. Although this strategy can be effective, it can also be exhausting, especially in the face of enormous obstacles.

Other coping strategies focus on managing the negative emotions or threats to self-esteem that stigmatization may cause. For example, the stigmatized may cope with threats to their identity by disengaging their self-esteem from domains in which they are negatively stereotyped or fear being a target of discrimination and investing themselves more in domains in which they are less at risk. When they encounter negative treatment, another coping strategy they may use is to (often correctly) shift the blame from stable aspects of themselves (“I am stupid,” “I am unlikable”) to the prejudice of others. This strategy may protect their self-esteem from negative outcomes, especially when prejudice is blatant. Bearers of stigma may also cope by identifying or bonding with others who share their stigma. Similarly stigmatized others can provide social support, a sense of belonging, and protect against feelings of rejection and isolation. Furthermore, bonding with others who are similarly stigmatized may also enable bearers to enact social changes that benefit their stigmatized group, as demonstrated by the success of the civil rights movement and the gay pride movement. In sum, through various coping strategies, bearers of stigma may demonstrate resilience even in the face of social devaluation.

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*See also* Attributional Ambiguity; Coping; Expectancy Effects; Ostracism; Rejection; Social Exclusion; Social Support; Stereotype Threat

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## STRESS AND COPING

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### Definition

Stress occurs when an individual perceives that the demands of a personally important situation tax or exceed his or her capabilities and resources. The situation can be a major event such as the death of a loved one, an interaction with another person such as a disagreement with a coworker, or even an internal event such as a realization that one is aging but has not accomplished important life goals. Stress, especially if experienced chronically, can have serious negative physical and psychological consequences. Coping consists of the individual's thoughts and behaviors aimed at eliminating the source of the stress, reducing the negative emotions associated with the stress, or increasing positive emotion in the context of stress. The study of coping is important because adaptive coping can be taught, which can help short-circuit the potentially harmful effects of stress on mental and physical health.

### History and Background

*Stress* is a ubiquitous term that is commonly used to describe a wide range of situations, experiences, and states of being. Practically everyone has had personal, often daily, experience with stress, and the idea that stress is harmful to mental and physical well being is well ensconced in popular culture. Empirical studies of stress began early in the 20th century with research

focused on the biological aspects of the stress response. In 1932, Walter Cannon outlined the fight-or-flight response in which the organism reacts to a threat by releasing catecholamines that ready the organism physically to respond to the stressor. Increased heart rate, blood pressure, blood sugar, and respiration are among the physiological results of catecholamine release. The fight-or-flight response is adaptive in the sense that it provides the necessary physical resources for the organism to react to acute stress. When the fight-or-flight response is repeatedly or chronically triggered, there are likely to be harmful physical consequences. Hans Selye discovered that a variety of stressors such as extreme cold or fatigue caused enlarged adrenal glands, shrinking of the thymus, and bleeding ulcers in rats. Selye outlined a three-stage process called the General Adaptation Syndrome in which prolonged stress leads to a breakdown of bodily resistance leaving the organism vulnerable to what he called diseases of adaptation such as cardiovascular disease, kidney disease, or arthritis.

Early biological theories of stress led researchers to investigate the types of occurrences or events that resulted in biological changes. A natural outgrowth of the research of Cannon and Selye was stressful life events research. Researchers in this tradition were interested in quantifying the impact of various life events by their effects on psychological and physical well-being. Initially, the idea was that those individuals who experienced life events that required some sort of adjustment (such as marriage, death of a close family member, pregnancy, or changing to a different line of work) would be more likely to experience distress, depression, and physical illness than would those who experienced fewer life events. Results of these studies indicated that although there is a significant association between life events and well-being, the link is not particularly strong. Even among those individuals who are categorized as high risk for deleterious effects based on the number of stressful life events they experience, a substantial number do not show increased illness. Thus, the research focus in stressful life events turned from an emphasis on the stressful events per se to the study of other factors that play a role in the association between stressful events and physical or psychological well-being. Coping is one such factor. Two people who experience the same objectively stressful event can have very different psychological and physical outcomes depending on how they cope with the event.

The concept of coping was born out of the psychodynamic work on defenses. The theory developed by

Sigmund Freud in the late 1800s and early 1900s was that each form of psychopathology stemmed from unconscious reliance on a particular defense mechanism in response to uncomfortable thoughts or feelings. For example, paranoia was thought to stem from the defense mechanism of projection—attributing one's own unacceptable thoughts and feelings to someone else. Subsequent theorists classified defense mechanisms into adaptive (mature) and maladaptive (immature) with responses such as humor, suppression, and sublimation considered mature and responses such as projection and passive aggression considered immature.

One of the hallmarks of defense mechanisms is that they are relatively unconscious and traitlike. Although research on defenses continues, in the 1960s, researchers set a new course for the study of stress and coping by conceptualizing coping as a context-dependent, conscious process of thoughts and behaviors that ordinary people use in response to the events in their lives that they perceive as stressful.

## Stress and Coping Theory

The stress and coping theory developed by Richard Lazarus and Susan Folkman has served as the foundation for decades of coping research in several different samples experiencing a vast variety of types of stress. The key components of the theory are appraisal and coping, along with emotion, which is central to both components.

### Appraisal

Appraisal is the evaluation of an event in terms of its significance for well-being. Whether the individual appraises the event as stressful depends on characteristics of the individual (such as personality, goals, and beliefs) as well as characteristics of the event. Appraisal is an assessment that focuses on the meaning of an event or situation for the individual and occurs on a continuous basis. Humans naturally appraise or evaluate their surroundings and experiences constantly in relation to their own well-being. *Primary appraisal* addresses the question of whether anything is at stake for the individual in the context of the event. *Secondary appraisal* indicates what, if anything, can be done in response to the event and involves the assessment of available coping resources (e.g., money, time, social support, self-esteem) and options for coping and whether these are likely to be

effective in the particular situation. For example, imagine you have an exam coming up in your most difficult class and you must do well on it to pass the class and graduate. If graduation is something you value, your primary appraisal is likely to be one of threat—there is a lot at stake in the situation for you. As part of the secondary appraisal process you inventory the resources at your disposal for addressing the stressor/upcoming exam. Your coping resources may include textbooks and other reading materials on the test topic, notes taken by other students in the class, the willingness of the teaching assistant to spend time helping you prepare for the exam, and perhaps your own confidence in your test-taking ability. Upon reflection on your coping resources, you may reappraise the upcoming test as more of a challenge than a threat. Together, primary and secondary appraisal determine the extent to which the event is perceived as stressful.

Appraisals are associated with emotional responses. Those stressful events appraised as threatening are usually associated with negative emotions such as anxiety. Events appraised as harmful are associated with negative emotions such as sadness or anger. A challenge appraisal—the evaluation of a situation as having the potential for gain—is usually associated with both positive and negative emotions. Whereas an appraisal of challenge is likely to prompt feelings such as excitement and enthusiasm, there is also the potential for anxiety and fear because the outcome is uncertain.

Early stress and coping research focused almost exclusively on negative emotions. However, several studies have now documented that positive emotion can occur with relative high frequency, even in the most dire stressful context, even during periods when depression and distress are significantly elevated. Positive emotion in the stress process is thought to sustain coping, restore depleted resources, and provide a respite from negative emotions, particularly under conditions of chronic stress. Furthermore, positive and negative emotions are associated with different types of coping. Therefore, it is important to consider the role of positive as well as negative emotion in the coping process.

### Coping

The appraisal of the event as a harm, threat, or challenge prompts a coping response. This coping response may influence the event itself, the individual's appraisal of the event, or the emotions associated

with the event. In the context of a given stressful event, appraisal produces emotion and prompts coping, which, in turn, influences emotion and subsequent reappraisal of the situation. This appraisal-emotion-coping-emotion-reappraisal process continues until the situation is resolved or the appraisals are such that the event is no longer viewed as stressful.

Although there are potentially an infinite number of ways of coping (e.g., making a plan of action, fantasizing about an ideal outcome, reminding oneself of the good that will come out of the situation, pretending the stressful event didn't happen), on a theoretical level, there are two major functions of coping. *Problem-focused coping* involves taking steps to deal with the problem directly, whereas *emotion-focused coping* is aimed at reducing the negative emotions associated with the problem. Some examples of problem-focused coping are making a plan of action or concentrating on the next step. Some examples of emotion-focused forms of coping are engaging in distracting activities or using alcohol or drugs. Getting drunk doesn't really solve the problem, but people often think it will help them feel better.

The theoretical distinction between problem- and emotion-focused types of coping is useful for classifying and discussing the many types of coping, and it is used extensively in the coping literature. In practice, however, the distinction between coping aimed at addressing the problem and coping aimed at addressing the emotion isn't always clear. Problem-focused coping can also serve an emotion-focused function because by addressing the problem itself, the individual is also addressing the source of his or her negative emotions. Thus, if the problem-focused efforts are successful, the negative emotions associated with the problem will also be reduced. For example, a problem-focused response to having a car that repeatedly breaks down would be to buy a new car. Buying a new car effectively eliminates the negative emotions associated with the repeated breakdowns of the old car. Thus, the problem-focused coping response has also served an emotion-focused function. Sometimes, emotion-focused types of coping can ultimately serve a problem-focused function. Studying in response to an upcoming exam is a form of problem-focused coping. However, high levels of anxiety may prohibit effective studying. Therefore, doing something to reduce the anxiety such as going to the gym or getting a massage may facilitate subsequent problem-focused coping. People rarely rely on just problem-focused or

just emotion-focused types of coping. Usually, in response to a given stressful event, they employ a mix of problem- and emotion-focused responses.

Although many stressful events are short-lived and require only an abbreviated coping response, many types of life stress are ongoing. These chronically stressful situations call for repeated and continued coping efforts over a long period. Examples of such ongoing stressors include one's own or a loved one's chronic illness, a dysfunctional work environment, or living in the aftermath of traumatic life events such as a major natural disaster. Because it calls for sustained coping efforts over a long period, chronic stress can deplete an individual's coping resources. In this context, *meaning-focused coping* becomes important. Meaning-focused coping responses draw on deeply held values, goals, and beliefs and help motivate and sustain coping efforts and bolster coping resources over the long term. These responses are linked to positive emotion, which reinforces their motivational and sustaining qualities. Meaning-focused coping, for example, includes identifying realistic coping outcomes that are valued by the person. For example, a husband providing care to his wife in the terminal stages of cancer who ensures that his wife is cleaned up and dressed every day because that helps her retain a sense of normalcy even though she is unable to leave the house is engaging in meaning-based coping. The pursuit of these outcomes creates a sense of control, which produces positive emotion, which, in turn, helps reinforce coping effort. Meaning-focused coping is used when a person reorders priorities so that they are in alignment with his or her underlying values, goals, and beliefs. The reordering helps the person allocate attention, resources, and efforts according to what matters. Benefit-reminding, a form of positive reappraisal in which the individual appraises benefit in a stressful situation (e.g., improved personal relationships, appreciation of the little things in life, greater sense of self-worth), is also considered a form of meaning-focused coping.

*What Is Effective Coping?* A central tenet of stress and coping theory is that coping is not inherently adaptive or maladaptive. Instead, coping effectiveness must be judged in the context of the stressful situation. A given form of coping may be effective in one situation but not in another. For example, in a situation in which the individual has some control, problem-focused forms of coping are likely to be beneficial. But in situations that

are completely out of the individual's control, problem-focused coping is less likely to be effective. Furthermore, the effectiveness of a given coping strategy will depend on the outcome of interest. A given coping response can be beneficial in terms of one outcome but detrimental in terms of another. For example, increasing the amount of time you spend on a project at work may be effective for your career success but damaging to your relationship with your spouse. Another consideration in judging coping effectiveness is proximity of the outcome. A particular coping strategy may be beneficial in the short run (e.g., confronting the person responsible for the problem may make you feel better) but detrimental in the long run (damage the potential for working with the person you confronted in the future). Thus, in judging coping effectiveness, it is important to identify the outcome, the time point (proximal vs. distal), and the context.

*Can Coping Be Changed?* Part of the appeal of studying coping is that because it is a conscious response, it is potentially amenable to change. A growing body of evidence indicates that coping can be changed and people can be taught to cope more effectively with a variety of stressors. One approach to improving coping effectiveness is to help individuals identify whether a situation is changeable or not and then to match the form of coping to the situation (problem-focused types of coping for changeable situations, emotion-focused types of coping for unchangeable situations, meaning-focused coping in chronic situations). Another type of coping intervention targets the individual's appraisals of the stress and works to enhance confidence in his or her coping skills. Traditional stress management interventions can be viewed as training in emotion-focused coping, and problem-solving interventions can be thought of as training in problem-focused coping. In addition, coping training can take the form of enhancing coping resources such as social support.

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**See also** Anxiety; Coping; Emotion; Health Psychology; Projection; Search for Meaning in Life; Stress Appraisal Theory (Primary and Secondary Appraisal)

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## STRESS APPRAISAL THEORY (PRIMARY AND SECONDARY APPRAISAL)

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### Definition

Stress appraisal refers to the process by which individuals evaluate and cope with a stressful event. It is concerned with individuals' evaluation of the event, rather than with the event per se. People differ in how they construe what is happening to them and their options for coping. Stress appraisal comes in two forms, primary and secondary appraisal, which should be considered as two stages of appraisal or evaluation. These two types of appraisal are not mutually exclusive; they work in concert with one another to complete the appraisal process.

### Primary Appraisal

Primary appraisal is the cognitive process that occurs when one is appraising whether an event is stressful and relevant to him or her. During this phase, a decision is made about whether the event poses a threat, will cause harm or loss, or presents a challenge. Harm or loss is associated with damage that has already occurred, such as a death or a job loss. Threat is the possibility of a harm or loss in the future, such as sickness or poor job performance. Conversely, challenge consists of events that provide a person an opportunity to gain a sense of mastery and competence by confronting and overcoming a dilemma. Such a struggle would be considered a positive type of stress and allows a person to expand one's knowledge and experience, and to develop extra tools to embrace future challenges or stresses. Finishing a marathon or writing a book might be an example of a challenge.

## **Secondary Appraisal**

Secondary appraisal is the cognitive process that occurs when one is figuring out how to cope with a stressful event. During this process, a person decides what coping options are available. A harmful event requires immediate evaluation of coping options because it has already occurred, whereas threatening or challenging events allow one time to gather more information about events. Prior experience or being exposed to similar situations previously provides a frame of reference to determine the options available for dealing with the situation.

### **Background**

Richard Lazarus, the originator of stress appraisal theory, became interested in the early 1950s in studying differences between individuals with relation to stress and the coping mechanisms. He was deeply impressed by a monograph written by two psychiatrists, Roy Grinker and John Spiegel, about how flight crews dealt with the constant stress of air war. He came to realize that stress was associated with the subjective meaning of what was happening to the personnel, who, in combat, were in imminent danger of being killed. A person constantly weighs coping options to deal with stress in the context of his or her personal goals or resources or environmental constraints. Lazarus argued that individuals differ in how they perceive circumstance as relevant and in how they react to and cope with situations.

### **Environmental and Person Variables**

Stress appraisal theory takes into consideration precursory conditions that affect the process of appraisal. These antecedent conditions are divided into two classes, environmental variables and personal variables. Environmental variables are those that are beyond the person and lend rules of behavior that are governed by societal norms. Environmental variables include demands, constraints, opportunity, and culture. Person variables are those that lie within the person, including goals and goal hierarchies, beliefs about self and world, and personal resources.

#### ***Demands***

Demands are pressures from the social environment to behave in certain ways and to conform to social conventions. Examples of demands include helping others in need, taking care of children, and performing well at

one's job. Although demands originate from external pressure, they are later internalized.

#### ***Constraints***

Constraints are composed of the behaviors in which one should not engage. They are defined by social norms or laws and are usually backed by punishment if violated. The punishment can come in social form, such as in banishment, or in legal form such as a fine or incarceration.

#### ***Opportunity***

Opportunity refers to taking the right action at the right moment. Being able to take advantage of an opportunity involves recognizing the opportunity and knowing when to take action. An example of an opportunity would be making a decision right away to take a job that has been offered.

#### ***Culture***

Culture generally refers to cultural norms and how those norms shape emotional perception. An example of a cultural norm would be understanding that (in most Western cultures) you should strive for individuality and distinction. This is inherent knowledge because of where you grew up, who your peers are, how people behave around you, and so on.

The four environmental variables—demands, constraints, opportunities, and culture—do not operate alone on the appraisal of an event. They interact with person variables on the appraisal of harm or loss, threat, and challenge, and the coping process. The person variables—goals and goal hierarchies, beliefs about self and world, and personal resources—give meaning to the events encountered and order them into an implicit understanding of how things work and how to cope with stresses elicited by environmental variables.

#### ***Goals and Goal Hierarchies***

Goals and goal hierarchies refer to motivations to achieve one's objectives and to order them into a meaningful succession of importance. When a person attempts to fulfill goals or has multiple goals in conflict, stress will arise. It is important to determine which goals he or she values most and least. An example of goal and goal hierarchies would be that a person contemplates current goals in term of importance, such

as striving to achieve a good grade in one's classes, getting more involved in community services, and cleaning one's apartment every Sunday.

### **Beliefs About Self and World**

Beliefs about self and world refer to what one thinks of oneself and the world. These beliefs form perceptions and emotions, lending information as to what one expects to happen in a given situation. A person operates in a certain way because he or she *knows* what the outcome will be. For instance, a person knows that one's parents would withdraw their financial support if one fails one's classes. Even though studying is not fun, this person studies hard to conceive of oneself as a good student for his or her parents.

### **Personal Resources**

Personal resources are those things that a person has at his or her disposal that influence what he or she can and cannot do to satisfy his or her needs. Some of these resources a person is born with; others are acquired by effortful measures. Some examples of personal resources include intelligence, physical attractiveness, social standing, and money.

During the process of primary appraisal, environmental and person variables interact to determine whether an event is considered a threat, harm or loss, or challenge. If an event is considered a harm, threat, or challenge, the relationship between environmental and person variables is considered again during the secondary appraisal process to determine appropriate coping options. Take two persons, A and B, who have recently lost their jobs. Person A feels threat because A has a large family to support (demands) with little savings (personal resources). Person A decides to look for a job right away because supporting family is one's most important role (beliefs about self and culture). Meanwhile, person B feels challenge because losing the job provides an opportunity to do something B has always wanted to try (opportunity and goal). Person B decides to send out applications to graduate schools because obtaining an advanced degree has long been one of B's goals, and B's partner can provide financial support (opportunity, goal, and personal resources).

### **Importance and Implications of Stress Appraisal**

Stress appraisal theory considers how individual differences play a critical role in assessing stressors and

determining appropriate coping responses. By understanding how stress is appraised, one obtains information about the best methods for coping with stress. Understanding how stress occurs and the way in which one deals with it is important so that one can become more effective at reducing the adverse effect of negative stress and the ability to maximize positive stress.

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*See also* Coping; Culture; Goals; Health Psychology; Personality and Social Behavior; Stress and Coping

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## **STRUCTURAL EQUATION MODELING**

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Structural equation modeling (SEM) is a particular form of data analysis. According to this approach, a researcher begins with a model that specifies how multiple variables are related to each other. These theorized relationships are formalized into a set of equations that include the variables in question. These variables are then measured and their relations to each other are quantified. The test of the model involves an assessment of how well the equations can reproduce or "fit" the observed relations.

As a simple example, consider a model in which the researcher theorizes that variable A influences C because of its influence on B. Schematically,  $A \rightarrow B \rightarrow C$ . This model has two equations, one that predicts B using A and one that predicts C using B. To test this model, the researcher measures the observed relations between A, B, and C. Application of SEM provides tests of (1) whether A is actually a useful predictor of B, (2) whether B is actually a useful predictor of C,

and (3) whether the model as a whole fits the observed data. The latter test is not simply redundant with the previous two tests. The reason for this is that the model specifies that A is *only* a predictor of C because of its relation to B. A might be a useful predictor of B, and B of C, but the model might provide a poor fit because the researcher has incorrectly specified that A has no direct relation with C.

As can be seen, the proper use of SEM requires that the researcher has carefully thought about the ways variables are related to each other before collecting the data. In this sense, application of SEM is typically considered to be confirmatory in nature rather than exploratory. Although researchers often conceptualize the associations among variables in terms of causal influences, causality cannot be inferred simply from observed relations (the term *causal modeling* is therefore a misnomer). Once a relation has been identified and placed in the context of a larger set of variables using SEM, researchers are best advised to test for causality using experimental designs.

As might be imagined, SEM can be an extremely powerful and flexible data analytic technique. Indeed, many other data analytic strategies can be thought of as specific forms of SEM, including linear and nonlinear regression, path analysis, factor analysis, and hierarchical modeling. SEM actually allows the researcher to combine several of these simpler data analytic techniques in a single analysis rather than conducting separate analyses using multiple steps. For example, one of the more popular applications of SEM involves a combination of factor analysis and path analysis. Because factor analysis deals with latent, or unobserved, variables, this form of analysis is often referred to as latent variable modeling.

As might be expected, most application of SEM are computationally complex and require sophisticated statistical computer packages. Among the most popular of these is LISREL.

Jay Hull

See also LISREL; Nonexperimental Designs; Research Methods

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## SUBLIMINAL PERCEPTION

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The term *subliminal* is derived from the terms *sub* (below) and *limen* (threshold), and it refers to perception so subtle it cannot reach conscious awareness. Most of the research on subliminal perception is done on visual subliminal perception. For instance, one can flash words or pictures so quickly on a computer screen (generally faster than 10–15 milliseconds) that perceivers have the feeling they do not see anything at all. In other words, they are not consciously aware of the presented words or pictures. However, such visual stimuli are processed unconsciously, and they can have brief and subtle effects on our feeling and thinking. In addition, some research has been done on auditory subliminal perception. No reliable scientific evidence exists, however, for psychological effects of auditory subliminal perception.

The idea of an objective “threshold” is misleading. No objective threshold exists for conscious perception. Whether a briefly presented stimulus reaches conscious awareness depends on many different factors, including individual differences. The threshold is merely subjective.

Effects of subliminal perception are generally small and not easy to establish in controlled laboratory research. However, a few findings are reasonably well established, the most prominent being subliminal mere exposure; Repeated subliminal exposure to a stimulus (for example a picture) leads perceivers to like this picture a little more. Effects of mere exposure have even been obtained for stimuli that were perceived for only one millisecond. Perceivers can to some extent infer the valence (is something good or bad?) from subliminal stimuli. This is shown in research on the subliminal perception of short positive (e.g., sun) and negative (e.g., death) words.

Subliminal perception is controversial mainly because of the notion of subliminal persuasion: The strategy that may be used by marketers or politicians to deliberately influence customers or voters subliminally. In 1957, James Vicary claimed that he increased

the sale of cola and popcorn in a New Jersey cinema by subliminally flashing “Drink Coke” and “Eat popcorn” during movies. This however, turned out to be a myth. Perhaps because of the media attention subliminal perception and persuasion sometimes receives, most of the American population does believe subliminal persuasion to have far reaching consequences. However, although subliminal perception exists, research shows the effects to be minor and usually short-lived. There is no scientific reason to believe it can substantially change consumer behavior.

*Ap Dijksterhuis*

*See also* Automatic Processes; Mere Exposure Effect; Nonconscious Processes; Persuasion; Priming

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## SUBTYPING

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### Definition

Subtyping refers to a process whereby people come to view individuals who don't fit a stereotype as exceptions or as poor members of a group. The concept is important because it explains why people often do not change their stereotypes in the face of disconfirming information. Subtyping involves psychologically fencing off deviant group members so that perceivers need not consider information about those individuals when thinking about the group as a whole.

### Background and Research

Early research on stereotype change showed that the same amount of stereotype disconfirming information was more likely to weaken a stereotype when it was

dispersed across many group members rather than concentrated in only a few. In these studies, participants read about multiple group members who each exhibited various behaviors. Participants who read about many group members who committed one disconfirming behavior each later reported weaker stereotypes than those who read that the disconfirming behaviors were all committed by a small subset of the group. This finding suggests that it may be easy to subtype, and therefore ignore, small numbers of extreme deviants.

Researchers have gone on to study specific conditions that promote subtyping. Strong evidence indicates that people are especially likely to subtype individuals who seem atypical rather than typical of their group. For example, in one study, people were more likely to change their stereotype that lawyers are extraverted if they learned about an introverted lawyer who seemed otherwise typical of the group (e.g., was White), rather than one who seemed deviant on multiple dimensions (e.g., was Black). Other research suggests that people are more likely to subtype individuals who deviate a lot on a particular stereotypic trait rather than just a little, presumably because extreme deviants seem more atypical of the group. At least one study points to the disturbing finding that getting to know someone in a stereotyped group personally can promote subtyping, suggesting that making friends across group boundaries is not enough to change stereotypes. Research also suggests that people may perceive neutral information about a disconfirming group member in ways that promote subtyping and stereotype preservation.

Subtyping is not an inevitable process. When people encounter large numbers of disconfirming individuals, subtyping may become more difficult. In addition, if perceivers view disconfirming individuals as legitimate group members, a process referred to as subgrouping rather than subtyping, then perceivers may come to see the group as more diverse, and the stereotype may eventually weaken. As predicted by this theoretical distinction, people encouraged to pay attention to similarities and differences among all group members, a manipulation intended to induce subgrouping, later report weaker stereotypes than those in a subtyping condition instructed to think about distinctions between typical and atypical group members.

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*See also* Contact Hypothesis; Person Perception; Prejudice; Stereotypes and Stereotyping

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## SUICIDE

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### Definition

Suicide is the act of intentionally taking one's life. This definition, however, has been expanded to describe the range of thoughts and behaviors that are exhibited by individuals who are in some manner considering suicide. *Suicidal ideation* involves having thoughts of killing oneself or of being dead. *Suicidal intent* involves having a plan for how to kill oneself and intending to carry that plan out. *Suicidal behavior* is a broad term that includes all actions related to suicide (i.e., all the terms in this paragraph), but also includes some behaviors not captured by the other terms listed here, including actions related to suicide that did not result in an attempt, such as gathering bottles of pills (without taking them), or tying a noose (without using it). A *suicide attempt* occurs when an individual intends to take his or her own life, acts on that intent, but does not die. A *suicide completion* occurs when an individual intends to take his or her own life and dies as a result. One way to understand *suicidal behavior* is to think of it as a continuum with ideation at the far left and completion to the far right: In this way, behaviors toward the left of the continuum are relatively less severe and behaviors to the right are relatively more severe because of their differing proximities to suicide completions. This continuum view has not been empirically validated (e.g., it is possible that suicidal ideation differs from suicide attempt in kind rather than just in degree), and in any event, all suicidal behaviors are serious and warrant assessment by a mental health professional.

### Importance and Context

Suicide is a serious health problem worldwide, including in the United States. In 2002, it is estimated that

31,655 individuals died by suicide, making suicide the 11th leading cause of death (homicide ranks 14th). Although rates vary somewhat year to year, approximately 30,000 people in the United States, and almost a million people die by suicide each year worldwide. On one hand, 30,000 U.S. deaths per year—one every 18 minutes or so—is a lot. On the other hand, suicide is a rare cause of death compared with other causes of death in the United States. For example, given that a person has died, the chance that the cause was heart disease or cancer is 52%. Given that someone has died, the chance that the cause of death was suicide is a little over 1%. However, the number of deaths by suicide (i.e., the number of suicide completions), though an accurate representation of the fact that death by suicide is rare, also greatly underestimates the magnitude of the problem: For every death by suicide, there are as many as 25 nonfatal attempts. Suicidal ideation is even more common than attempts: Estimates suggest that approximately 13% of individuals in the United States will experience substantial suicidal ideation at some point in their lifetime. Thus, suicide completions are relatively rare in the United States, but attempts are more common, and ideation is even more common.

The prevalence of suicidal behavior (i.e., how common it is) differs for men and women. Males complete suicide more often than females do, but females attempt suicide more often than males do. More specifically, men are approximately 4 times more likely than are women to die by suicide; women are approximately 3 times as likely as men to attempt suicide. This pattern can be explained in part by research showing that, in general, men engage in more violent behavior than women. Suicide attempts by women, on average, use methods that are less violent, and therefore are less likely to be lethal. For example, 2 of 3 male suicide victims in the United States die by firearm, whereas 1 of 3 female suicide victims in the United States die by firearm. The most common method for female victims is overdosing or poisoning.

### Measurement

Although attempts and completions can be investigated with medical records, the other aspects of suicidality (i.e., ideation and intent) cannot be measured in such a straightforward manner. One commonly used measure is the Beck Suicide Scale, a self-report measure with 21 questions. For each of the questions, respondents pick one of three statements that best

describes how he or she has been feeling; each statement is scored as 0, 1, 2 with increasing level of severity. For example, one of the items that indicates suicidal ideation is as follows: “I have no desire to kill myself” (0 point response), “I have a weak desire to kill myself” (1 point response), and “I have a moderate to strong desire to kill myself” (2 point response). Higher scores on the Beck Suicide Scale indicate more severe suicidal ideation or intent.

## Theories of Suicide

One of the most prominent theorists of suicide is Edwin Shneidman. His theory states that suicide results from the perception of unendurable psychological pain, which he calls *psychache*. Another researcher of suicide, Aaron Beck, theorizes that our thoughts (i.e., cognitions) play a causal role in the development of suicidal behavior. This theory proposes that suicide results from cognitions that involve hopelessness—beliefs that things will not get better in the future. Roy Baumeister proposed that suicide results from a desire to escape from painful self-awareness resulting from discrepancies between expectations and actual events. A more recent theory was proposed by Thomas Joiner. This theory states that suicide results from the combination of three factors: thwarted belongingness, perceived burdensomeness (i.e., the belief that one is a burden on others), and an acquired ability to enact lethal self-injury. The last component of the theory, acquired ability, involves the idea that it is difficult to overcome the most basic instinct of all—self-preservation—and that individuals acquire this capability through experience with painful and provocative events. Through these experiences, individuals get used to the pain of self-injury, become less afraid of self-injury, and build knowledge that facilitates self-injury.

## Risk Assessment

Suicide risk assessment is a process conducted by a mental health professional to determine if an individual is at risk for engaging in suicidal behavior. Two main questions guide suicide risk assessment: Is the individual being assessed a danger to himself or herself and is the danger both immediate and severe? The answer to these questions can come from the use of standardized assessment measures (such as the Beck Suicide Scale) as well as clinical interviews. A thorough risk

assessment for suicide gathers information from the individual on both present suicidal symptoms as well as past suicidal behavior, current stressors, and other psychological symptoms (e.g., hopelessness). For example, individuals who suffer psychiatric disorders are at higher risk for suicide. A disorder with one of the highest rates is major depressive disorder. One of the strongest predictors of completed suicide is a prior attempt; thus, considering presenting symptoms is not sufficient for thorough risk assessment.

If risk is deemed to be immediate or severe, emergency mental health services are used, most often involving hospitalization until the individual is no longer at imminent risk for suicide. If risk is not deemed immediate or severe, alternatives to emergency mental health can be used. For example, with the help of a trained mental health professional, individuals may be helped to create a coping card that lists concrete steps to take in the event that suicidal symptoms intensify.

## Warning Signs

Members of the American Association of Suicidology are researchers and clinicians who research and treat suicidal behavior. This group devised a list of warning signs for suicide that indicate severe and immediate risk for suicide. These warning signs are designed for the friends, family members, and any other people who may come into contact with a suicidal individual. The warning signs instruct that a person should get help immediately if he or she witnesses, hears, or sees any one or more of the following:

- Someone threatening to hurt or kill himself or herself
- Someone looking for ways to kill himself or herself by seeking access to pills, weapons, or other means
- Someone talking or writing about death, dying, or suicide

The warning signs also instruct that should seek immediate help if one witnesses, hears, or sees someone exhibiting any one or more of the following:

- Hopelessness
- Rage, anger, seeking revenge
- Acting reckless or engaging in risky activities, seemingly without thinking
- Feeling trapped—like there’s no way out
- Increasing alcohol or drug use
- Withdrawing from friends, family, or society

- Anxiety, agitation, unable to sleep or sleeping all the time
- Dramatic changes in mood
- No reason for living
- No sense of purpose in life

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Thomas E. Joiner, Jr.*

*See also* Depression; Need to Belong; Rejection; Social Exclusion

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## SUNK COST

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### Definition

Sunk cost refers to money, time, or effort that has already been spent on a particular endeavor and that cannot be recovered. Economic principles dictate that sunk costs should not be considered when making decisions about whether to continue one's present course of action or to divert resources elsewhere. Such decisions rationally should be based only on consideration of the anticipated costs and benefits of current options.

For example, after 6 months of exclusively dating one man, a woman ponders whether it makes sense to maintain the relationship. Upon weighing the positives and negatives, she comes to the realization that continuing to date this same man will not allow her to achieve the quality of relationship she desires. That being the case, the clearly rational thing for the woman to do is to immediately terminate the relationship.

Unfortunately, people do not always make decisions in accord with rational principles. In this instance, the woman may factor into her deliberations what she has already invested in the relationship. Perhaps she has put considerable time, effort, and money into helping the man update his wardrobe, tolerated many insufferable visits to his parents, and passed up opportunities to date more promising long-term partners. Although these

prior investments cannot be undone or canceled out by staying in the relationship (or leaving for that matter), they often lead decision makers to choose to hang on to a current relationship despite knowing that it will never fully meet their expectations. This kind of irrational behavior has been described as throwing good money after bad. More formally, psychologists identify such behaviors as instances of the sunk-cost fallacy.

### Sunk-Cost Fallacy: Scientific Evidence

Scientific demonstrations of the sunk-cost fallacy are numerous. For example, in one study some people were asked to imagine that they enjoy playing tennis, but that on one occasion they develop a bad case of tennis elbow, thereafter making it extremely painful for them to play. Their doctor tells them to expect to experience pain while playing for approximately a year. People were then asked to estimate the number of times they would play tennis over the next 6 months. Another group of people was presented with a similar scenario, but were additionally told to imagine that they had recently paid a \$400 nonrefundable fee for a tennis-club membership, which expires in 6 months. If people were making a decision rationally, the two versions of the scenario should produce comparable estimates. Their decision to play tennis in both instances should be determined by an evaluation of the costs and benefits of engaging in this activity. If people believe that their enjoyment will exceed the physical discomfort, then they should decide to play. If they instead anticipate that the pain will sap any pleasure from the experience, they should logically choose not to play. Whether or not they paid the \$400 fee should not influence their decision. Play or not play, that money is irretrievably lost and thus should be irrelevant to any decision to play tennis in the near future. However, people estimated that they would play tennis 2.5 times more in the situation in which they had paid the membership fee, thereby honoring sunk cost.

Although the sunk-cost fallacy has been shown to be a fairly common judgment error, whether it occurs may depend on aspects of the situation and characteristics of the decision makers themselves. For example, people are more likely to fall prey to the sunk-cost fallacy in circumstances in which they feel personally responsible for making the initial investment in an endeavor. Also, some evidence demonstrates, interestingly, that adults are more susceptible to the sunk-cost fallacy than are 5- and 6-year-olds. This seems at odds with common sense because young children have

more modest cognitive abilities to apply to any decision-making task and, therefore, should have even more difficulty than adults sidestepping maladaptive decisions. This finding, however, becomes more understandable once possible explanations for the sunk-cost fallacy are examined.

### Why Sunk-Cost Fallacy Occurs

One explanation for the sunk-cost fallacy is that people tend to justify their behavior. According to this self-justification account, people continue to invest in endeavors that are unlikely to produce desired outcomes because failing to do so could be interpreted as an admission that their initial decision to invest was a mistake. Abandoning the initial course of action could also make decision makers appear inconsistent. Neither of these possibilities is tolerated well, so people choose instead to escalate their commitment to the initial decision in a misguided attempt to reaffirm its “correctness” to themselves and others. This self-justification explanation receives support from the previously mentioned study showing that greater personal responsibility for the initial decision heightens the likelihood of the sunk-cost fallacy occurring.

Another possible explanation for the sunk-cost fallacy is people’s desire not to be wasteful. “Waste not, want not” is a maxim that most Americans have been exposed to since childhood, and it may be that this generally beneficial rule is inappropriately applied in sunk-cost situations. That is, abandoning a failing course of action could be construed as wasting the resources that have already been expended. As noted earlier, children have been found to be less likely to manifest the sunk-cost fallacy. This may be because children tend to stay focused on the immediate consequences of their actions, whereas adults are sidetracked by abstract rules such as “Don’t waste,” which most of the time help simplify decision-making tasks. But in situations in which sunk costs are involved, the misapplication of well-ingrained rules on waste may only make it more difficult to ignore prior investments when deciding whether anticipated benefits outweigh anticipated costs for any given course of action.

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*See also* Cognitive Consistency; Consumer Behavior; Decision Making

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## SUPPLICATION

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We often want to influence the way other people perceive us. For instance, a professor might want her class to see her as intellectual and competent, whereas a boxer might want his competitors to see him as physically powerful and mean. Both the professor and the boxer are likely to act in ways that influence how others see them. The professor might take extra time preparing her notes for class or use impressive words in her lectures, whereas the boxer might affect a scowl or show off his muscles before a match. These are examples of strategic self-presentation—the term for acting in a manner that shapes how people view us.

Supplication is one kind of strategic self-presentation. Although most strategic self-presentations strategies are designed to make positive impressions on others, sometimes we lack the ability or impress others with our capabilities. Supplication is a strategy for this kind of situation. Rather than trying to look able, strong, or smart, people using supplication as a self-presentation strategy purposely emphasize their incompetence or weakness. They want to appear helpless. The purpose of appearing helpless is to advertise their dependence on others to get help or sympathy. For example, a schoolchild might feign a complete inability to do homework to a parent. This seeming dependence on the parent is designed to provoke the parent’s sense of nurturance toward the child, resulting in the parent doing the homework for the child. However, supplication does not necessarily entail pretending to be dependent; it can refer to emphasizing actual inadequacies. Panhandlers frequently emphasize their destitute condition to increase their chances of getting money. The need for money may or may not be real, but the advertising of need constitutes supplication. Another example familiar to most people is crying. The student who cries to a professor over a grade or the driver who cries to the police officer over a ticket may be supplicating—trying to get help or mercy via pity.

Whether the supplicant is a family member, a coworker, or a stranger, the purpose is to arouse a sense of obligation toward the supplicant. Supplicants exploit their weakness by throwing themselves on the

mercy of others, which places both supplicant and target in an uncomfortable position. This may explain why, of the many different methods of strategic self-presentation, supplication is used infrequently. The extreme difference in power inherent is a supplication disrupts the day-to-day stability of close relationships. Most people to whom supplication is directed will quickly tire of repeated demands on their pity. Supplication is also distasteful to the supplicant because it is personally demeaning, which limits how much an individual would want to resort to using it.

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*See also* Helplessness, Learned; Self-Handicapping; Self-Presentation

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## SURPRISE

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### Definition

Surprise is the sense of astonishment, wonder, or amazement that is caused by something sudden or unexpected. The experience of surprise varies with the importance of the outcome, as well as beliefs about the outcome. Some formalists have offered mathematical definitions of surprise (i.e., a comparison of Bayesian priors and posteriors), but there is little consensus about a psychological definition. Some researchers treat surprise as a cognitive assessment based on the probability of an event, whereas others treat it as an emotion, on par with happiness, sadness, anger, disgust, and fear because of its unique pattern of facial expressions. If surprise is an emotion, it is an unusual one; it can be positive or negative, and it dramatically shapes the experience of other emotions.

### Importance

The concept of surprise is relevant to many aspects of human behavior. Humans notice and focus on surprising events and are more likely to attend to surprising events. Surprise facilitates curiosity and learning. It

also affects beliefs about other events. When a person takes an unexpected stance that violates his or her self-interest, the person's arguments are surprising and quite often more persuasive.

Surprise is a key factor in emotional life. Neurological studies show that when monkeys expect a reward, dopamine neurons fire. When monkeys get the reward, neuronal firing depends on prior expectations. Unexpected rewards lead to greater firing than expected rewards. Apparently, unexpected pleasures are more rewarding than expected ones.

### What Makes Something Unexpected?

If surprise depends on sudden or unexpected events, what makes something unexpected? An unexpected event is a low-probability event. Surprise usually follows the event, but it can also be anticipated. However, the intensity and duration of surprise may be harder to forecast than the valence of a future event.

An unexpected event may be an unfamiliar event. A tourist who travels to Hawaii may be surprised to see 30-foot waves, despite the fact that such waves are common during the winter months and familiar to local inhabitants. An unexpected event may also be a novel event. Most people expect swans to be white, so a black swan is unique and rare.

Unexpectedness depends on the ease with which a person can imagine an event. Some people are more surprised to draw a red ball at random from an urn containing 20 balls, 1 of which is red, than to draw a red ball from an urn with 200 balls, 10 of which are red. Although the two events are equally likely, the first event can happen in only *one* way, whereas the second event can happen in 10 different ways.

Unexpectedness also varies with the ability to imagine other events unfolding. Some people are more surprised to select a red ball at random from a jar with 1 red ball and 19 blue balls than to pick a red ball from a jar with 20 balls, each a different color. In the first case, the blue ball is the only referent, but in the second, there are many referents. In a similar fashion, a negative event is often more surprising, and more tragic, if there were many ways it could have been avoided than if there was only one way.

Finally, unexpectedness depends on social and cultural norms. A person learns how to react to events from his or her social environment. Research shows that East Asians tend to take contradictions and inconsistencies for granted and are less surprised by most events than are Americans.

## Magnifier of Emotions

Psychologists have developed a theory that connects surprise to the pleasure or pain of an outcome. Decision affect theory predicts that surprising outcomes have greater emotional intensity than expected outcomes; a surprising positive event is more pleasurable than an expected positive event, and a surprising negative event is more painful than an expected negative event.

In gambling studies, a surprising outcome had a small probability of occurrence. Surprising wins or losses are more intense than expected wins or losses. In studies of skill, a surprising outcome is one that deviates from expectations. A person may expect to succeed or fail at a task. In this case, surprising success is more pleasurable than expected success, and surprising failure is more painful than expected failure.

When assessing the ability to be successful, a person often sees himself or herself through rose-colored glasses. Inaccurate self-assessments are sometimes called *positive illusions*. One such illusion is overconfidence, the tendency of a person to believe he or she will do better at a task of skill than reality suggests. Overconfidence has two detrimental effects on affective experiences. It makes successes less surprising and therefore less pleasurable, and it makes failures more surprising and therefore more painful.

Another positive illusion is called hindsight. After learning what happened, a person thinks he or she knew it all along. The person recollects past beliefs as too accurate. Hindsight makes events seem less surprising, and it has one detrimental effect on emotional experiences. An expected negative event will be less painful than a surprising negative event, but an expected positive event will be less pleasurable than a surprising positive event.

## Strategic Shifts

Can beliefs be systematically altered before an event occurs to make a person feel better? People are aware that bad news feels worse when unexpected, and some lower their expectations to avoid a surprising disappointment. In one experiment, researchers asked college sophomores, juniors, and seniors to estimate their starting salary for their first job at the beginning and end of the spring term. Sophomores and juniors showed no change, but seniors lowered their estimates. They were the only group that would soon face reality.

People also shift their beliefs after the event, especially if it was bad. They convince themselves that the event was inevitable. For example, sports fans might

convince themselves that their team lost because the umpire was biased. Such thoughts diminish the pain by making the loss seem expected. To feel better about negative events, people should remember that much of life is unpredictable, and surprises should be expected.

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*See also* Affect; Beliefs; Emotion; Expectations; Hindsight Bias

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# SYMBOLIC INTERACTIONISM

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## Definition

Symbolic interactionism is a major theoretical perspective in North American sociological social psychology that studies how individuals actively define their social reality and understand themselves by interacting with others. Symbolic interactionism has its origins in pragmatism, the American philosophy of how living things make practical adjustments to their surroundings. American sociologist and pragmatist philosopher George Herbert Mead (1863–1931) is generally identified as the founder of this theory, although the term *symbolic interactionism* was actually coined by Mead's student, Herbert Blumer, who formally articulated Mead's ideas following his death.

## Assumptions and Implications

According to symbolic interactionism, social reality is not fixed and unchanging. Instead, people are continually constructing (and reconstructing) the meaning of their social lives through interacting with others. An essential component of this creative interaction is the use of symbols. Spoken or printed words are symbols, as are many nonverbal gestures. Symbols in their various forms are the basis of social life because they

create a shared meaning in both the expresser and the recipient. When socializing, people interpret others' expressions and respond on the basis of this interpreted meaning. However, the meaning of these words and gestures may differ depending on the social context. For example, the question "Do you want to spend the night at my place?" may have a very different meaning when spoken by a romantic partner rather than by a platonic friend.

To understand others' intentions during social interactions, Mead argued that people engage in role taking, which is imaginatively assuming the point of view of others and observing their own behavior from this other perspective. Mead believed that through such symbolic interaction, humans cease being puppets controlled by environmental strings and, instead, become coactors who have control in creating their social reality. Thus, unlike many social scientists who believe that society dictates meanings to people, interactionists believe that meaning emerges and is transformed as people interact. Although society does shape the conduct of its individual members, those same individuals have the capacity to shape society by redefining their social reality.

### Reflected Appraisal and Self-Development

Through symbolic interaction, individuals also develop a sense of themselves as they learn to use symbols, but this self-development occurs in stages. Mead asserted that children become selves as they begin taking the role of other people in their play activities. The roles they adopt in the first stage of self development, the play stage, are those of specific others, such as parents and siblings, and they can only adopt one role at a time. For example, after disobeying a family rule, a young child may spontaneously adopt the perspective of "Daddy" and reprimand himself or herself. Through such role taking, children develop an understanding of societal norms, and they develop beliefs about themselves, which are largely a reflection of how they believe others evaluate them. This reflected appraisal is an important determinant of the beliefs and attitudes that form people's self-concepts. In other words, individuals develop a sense of themselves as they learn to see themselves the way they believe others see them.

As children mature, Mead stated that they learn to take the role of many others simultaneously and, as a result, the self becomes more cognitively complex. In this second stage of self-development, the game stage,

they can engage in complex activities (often in the form of games) involving the interaction of many roles. An example of such role taking would be people playing soccer. To play effectively, players must understand how everyone on the field is related to one another, and each player must cognitively adopt these multiple roles simultaneously. Mead stated that as the self becomes increasingly complex, older children begin responding to themselves from the point of view of not just several distinct others, but from the perspective of society as a whole. By internalizing the attitudes and expectations held by the larger society—what Mead called the *generalized other*—the person becomes a mature self.

### Presentation of Self and Social Roles

The emphasis that symbolic interactionists place on symbols, negotiated reality, and the ever-changing social construction of society explains their interest in the social roles people play. Erving Goffman, a prominent theorist in this tradition, suggests that social life is like a theatrical performance, with people behaving like actors on stage playing prescribed roles. Goffman's approach is called *dramaturgy*, and it focuses on the techniques people use to manage the impression they make on others by carefully constructing and monitoring their presented selves. According to Goffman, while "on stage," people act out "lines" and attempt to maintain competent and appropriate presented selves. In observing this performance, the audience generally accepts the presented selves at face value and treats them accordingly because to do otherwise would disrupt the smooth flow of social interaction. Figuratively "booing" performers off stage by rejecting their presented selves typically occurs only when performers are so incompetent that they cannot adequately play their roles.

### Research Focus

Because symbolic interactionists view human societies as consisting of actively created realities among individuals, their research focuses on observable face-to-face interactions. Furthermore, because symbolic interactionists believe that social reality is continually being modified, they tend to shift their focus away from stable norms and values in society toward more fluctuating and continually adjusting social processes. Regarding the scientific methods employed by symbolic interactionists, they tend to rely on participant observation, although some interactionists employ surveys, interviews, and

experiments. This emphasis on participant observation is based on the belief that close contact and immersion in the everyday lives of participants is necessary for understanding the meaning of actions, the definition of the situation itself, and the process by which actors construct the situation through their interaction. Symbolic interactionists have been criticized for being overly subjective and impressionable in their reliance on qualitative methods, as well as being somewhat unsystematic in their theoretical formulations. However, although more quantitatively oriented social psychologists find fault in this methodology, symbolic interactionists contend that their approach allows them to watch behavior in its “wholeness,” providing the full context in which to understand it.

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*See also* Interpersonal Cognition; Self; Self-Presentation; Social Cognition; Sociological Social Psychology

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## SYMBOLIC RACISM

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### Definition

Symbolic racism is a form of prejudice that Whites in particular hold against Blacks, although it is likely to be held in some measure by other American ethnic groups, and in principle some version of it may target groups other than Blacks. Symbolic racism is usually described as a coherent belief system that can be expressed in several beliefs: that Blacks no longer face much prejudice or discrimination, that Blacks' failure to progress results from their unwillingness to work hard enough, that they make excessive demands, and that they have gotten more than they deserve. The theory of symbolic racism centers on four essential propositions: (1) Symbolic racism has largely replaced

old-fashioned racism, in that only a tiny minority of Whites still accept the latter, whereas they are about evenly divided about the beliefs contained in symbolic racism; (2) symbolic racism now influences Whites' political attitudes much more strongly than does old-fashioned racism; (3) Whites' opposition to racial policies and Black candidates is more influenced by symbolic racism than by realistic self-interest, defined as threats posed by Blacks to Whites' own lives; and (4) the origins of symbolic racism lie in a blend of negative feelings about Blacks, acquired early in life, with traditional moral values. The label “symbolic” therefore highlights its roots in abstract moral values rather than in concrete self-interest or personal experience, and its targeting Blacks as a group rather than as specific Black individuals. The label “racism” reflects its origins partly in racial antagonism.

### Background

Symbolic racism has been the most influential form of racial prejudice in American political life since the civil rights era of the 1960s. Racial conflicts have plagued the United States from its very beginnings, driven in particular by prejudice against Blacks. At the end of World War II, African Americans were second-class citizens, denied the pursuit of the American dream socially, economically, and politically. Since then, the Southern system of institutionalized Jim Crow segregation has been eliminated, as has most formal racial discrimination elsewhere. Old-fashioned racism, embodying beliefs in the biological inferiority of Blacks and support for formal discrimination and segregation, has greatly diminished. However, African Americans continue to experience substantial disadvantages in most domains of life. A variety of government race-targeted policies have addressed those disadvantages, such as busing for racial integration, affirmative action in university admissions, protection of equal opportunity in hiring and promotion, and special assistance in housing. These racial policies have been greeted with much White opposition. One explanation for that opposition is that some new form of racism, such as symbolic racism (also known as modern racism or racial resentment), has become influential in contemporary politics.

### Contemporary Politics

Research on symbolic racism finds it to be the most powerful influence over Whites' attitudes toward

racial issues and that it strongly influences Whites' voting behavior in election campaigns that involve Black candidates or racial issues. Its explanatory power typically outweighs that of other important political attitudes, such as conservative ideology, preference for smaller government, or of more traditional racial attitudes such as old-fashioned racism, negative stereotypes, or pure anti-Black feelings. This has even affected the politically crucial change of the once solidly Democratic White vote in the South to conservative Republican dominance. The especially high levels of symbolic racism among White Southerners and its especially strong influence over their voting preferences seem to be leading factors in that change.

The symbolic racism claim is an important one that the politics of race are not merely politics as usual, but that they are significantly distorted by the underlying racial prejudice held by many racial conservatives, with ostensibly race-neutral rhetoric often disguising underlying racial animosity. Not surprisingly, then, the theory has stimulated some heated criticism.

### Criticism

Some conservatives say that racial prejudice has become only a minor political force, and that the theory of symbolic racism mistakenly treats ordinary political conservatism as reflecting racial prejudice. Its political effects might not be the result of racial prejudice, but of unprejudiced conservatives' aversion to large, active government programs. However, symbolic racism invariably has far greater power than does ostensibly race-neutral conservatism in explaining White opposition to racial policies, such as affirmative action, when both are considered.

Critics on the political left say that symbolic racism theory ignores the vested interest that Whites have in maintaining their privileged position as the dominant group in a racially hierarchical society. In their view, symbolic racism is not the product of early acquired prejudices, but is a way of rationalizing Whites' defense of their own and their group's privileges. But considerable research shows that neither White opposition to greater racial equality nor symbolic racism stems to an important degree from Whites' feelings of personal racial threat, their degree of identification with other Whites, or their perceptions that Blacks threaten Whites' interests.

### Relevance

These controversies are of more than mere academic relevance. They go to the substantive core of America's longest-running and most difficult social problem. If the symbolic racism claim is right, much remedial work of a variety of kinds needs to be done on the White side of the racial divide. If it is wrong, and racial conservatives' views about the optimal relative balance of governments and markets in modern societies are largely free of underlying racial prejudice, much obligation would be placed upon Blacks to adapt to a society in which they no longer are being treated much less fairly than other Americans.

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*See also* Discrimination; Political Psychology; Prejudice; Racism; Stereotypes and Stereotyping

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## SYMBOLIC SELF-COMPLETION

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### Definition

Symbolic self-completion refers to having or seeking social symbols of achievement regarding a goal important to one's self-identity. R. A. Wicklund and P. M. Gollwitzer's symbolic self-completion theory was based on the pioneering work of Kurt Lewin and his collaborators. Wicklund and Gollwitzer posited that once an individual commits to a goal, psychological tension exists until the goal is achieved. If the individual engages in a task to accomplish the goal but

is interrupted, the tension will motivate a return to the task or to a substitute task that could also lead to goal accomplishment. Personality psychologists, beginning with Alfred Adler, proposed a similar notion of substitutability in their concept of compensation, in which the individual compensates for perceived deficiencies through renewed efforts in either the domain in which one feels inferior or in other domains that could also broadly compensate for the deficiency.

### Theory and Research

The theory proposes that when an individual is committed to a self-defining goal, such as a role like physician or an attribute like intelligence, that individual will seek symbols of completeness, socially acknowledged indicators that one has achieved that goal. For example, a medical degree is one symbol of being a physician and high scores on the Scholastic Aptitude Test are symbols of intelligence. When an individual has an ample supply of symbols regarding a particular self-defining goal, he or she will not need to seek additional symbols of completeness. However, if the individual perceives a deficit in symbols, efforts will be made to display symbols that restore completeness.

Two strategies have been used to test these ideas. The first is to compare people with and without a strong background of symbols of completeness. For example, one study asked people with extensive and limited educational backgrounds in their self-defining domains to admit to mistakes in that domain. As symbolic self-completion theory predicts, individuals with limited educational backgrounds, being more incomplete, were far more reluctant to admit mistakes.

The second strategy is to bring participants into the lab and induce half of them to believe they are incomplete with regard to a self-defining goal. In one study, participants were asked to write about mistakes they had made in a self-defining domain or in an unimportant domain. The participants were then asked to write a self-descriptive essay regarding the self-defining domain. As the theory predicted, those led to feel incomplete in the self-defining domain spent more time writing the essay, presumably to restore completeness.

### Theoretical implications

Symbolic self-completion theory provides insight into goal striving and has been used to help explain the

desire for cosmetic surgery, impulsive shopping, and subscription to particular magazines. The theory and research also indicate that those who feel the least adequate in an important domain may be most boastful, least willing to admit mistakes, and most likely to display degrees and awards. This suggests that people should not judge the competence of a person based solely on that person's outward presentation of their own qualifications and attributes. If one does so, one's judgments may be quite contrary to the truth.

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*See also* Goals; Self-Affirmation Theory; Self-Presentation; Self-Promotion

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## SYSTEM JUSTIFICATION

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### Definition

System justification refers to a social psychological propensity to defend and bolster the status quo, that is, to see it as good, fair, legitimate, and desirable. A consequence of this tendency is that existing social, economic, and political arrangements tend to be preferred, and alternatives to the status quo are disparaged. System justification refers, therefore, to an inherently conservative tendency to defend and justify the status quo simply because it exists, sometimes even at the expense of individual and collective self-interest.

### System Justification Theory

To understand how and why people accept and maintain the social systems that affect them, social psychologists have developed system justification theory. According to system justification theory, people want to hold favorable attitudes about themselves (ego-justification) and their own groups (group-justification), and they want to hold favorable attitudes about the overarching social order (system-justification). Importantly, system justification theory holds that this motive is not unique to

members of dominant groups, who benefit the most from the current regime; it also affects the thoughts and behaviors of members of groups who are harmed by it (e.g., poor people, oppressed minorities, gays, and lesbians). System justification theory therefore accounts for counter-intuitive evidence that members of disadvantaged groups often support the societal status quo (at least to some degree), even at considerable cost to themselves and to fellow group members.

### **Evidence for the System Justification Motive**

Several lines of research have documented the means by which individuals engage in system justification. First, sociologists and psychologists have identified several distinct but related system-justifying ideologies adopted by members of both advantaged and disadvantaged groups in the service of rationalizing the status quo, including the belief in a just world, Protestant work ethic, meritocratic ideology, fair market ideology, power distance, opposition to equality, and political conservatism.

Second, evidence indicates that most people want to perceive existing authorities and institutions as largely benevolent and legitimate. The dominant tendency, at least in the Western world, is for people to trust and approve of their government, to restrict criticism of it, and to believe in the fairness of their own system. Similarly, most people disapprove of protest and radical social change. Paradoxically, these tendencies are (at least sometimes) most pronounced for members of disadvantaged groups, who would have the most to gain from the implementation of a new system.

Third, members of advantaged and disadvantaged groups tend to internalize intergroup preferences that reinforce and legitimate the existing social hierarchy. Hundreds of studies have shown that members of advantaged groups tend to exhibit ingroup favoritism (preferences for their own kind), whereas members of disadvantaged groups exhibit this tendency to a much lesser extent and in many cases show outgroup favoritism (preferences for others who are more advantaged), especially but not exclusively on implicit (nonconscious) measures of preference. Outgroup favoritism among the disadvantaged maintains the status quo by accepting rather than supplanting existing forms of inequality.

Fourth, studies have also shown that consensual stereotypes (as well as evaluations) are used to differentiate between advantaged and disadvantaged groups

in such a way that the existing social order, with its attendant degree of inequality, is seen as legitimate and even natural. For example, members of low-status groups are routinely stereotyped by themselves and by others as less intelligent, competent, and hard-working than members of high-status groups. At the same time, complementary, off-setting stereotypes also lead people to show increased support for the status quo, insofar as such stereotypes maintain the belief that every group in society benefits from the existing social system. For example, individuals who are exposed to “poor but happy,” “poor but honest,” “rich but miserable,” and “rich but dishonest” stereotype exemplars score higher on a measure of system justification than do individuals who are exposed to non-complementary stereotype exemplars.

If there is indeed a psychological motive to defend and justify the status quo, as system justification theory suggests, then people should be especially likely to exhibit the patterns of behavior described previous when the legitimacy or stability of the social system is threatened, as in the terrorist attacks of September 11, 2001. Numerous studies have indeed shown that there are increases in the endorsement of system-justifying beliefs and ideologies and the use of evaluations and stereotypes to differentiate between groups of unequal status in response to threats directed at the status quo.

### **Consequences of System Justification**

In accordance with the motivational perspective of system justification theory, the successful rationalization of the status quo is associated with reduced negative affect and satisfaction of basic epistemic and existential needs (e.g., uncertainty reduction, threat management) for everyone in the system. However, the long-term consequences of system justification can differ for members of advantaged and disadvantaged groups. Whereas members of advantaged groups experience increased self-esteem and subjective well-being to the extent that they engage in system justification, members of disadvantaged groups who buy into the legitimacy of the system suffer in self-esteem and subjective well-being and hold more ambivalent attitudes about their own group membership.

System justification may also have detrimental consequences for society as a whole. Although there are hedonic benefits associated with minimizing the unjust and oppressive aspects of everyday life, processes of rationalization inhibit the motivation to change and improve the status quo, thereby undermining efforts to

reform society's institutions and to redistribute social and economic resources in a more just manner. By highlighting the ways in which people consciously and unconsciously defend and bolster the status quo, system justification theory helps explain why acquiescence in the face of injustice is so prevalent and why social change is so rare and difficult to accomplish.

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*Ido Liviatan*

*See also* False Consciousness; Ideology; Political Psychology; Prejudice

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## SYSTEMS THEORY

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*See* DYNAMICAL SYSTEMS THEORY

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## TEASING

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Teasing is central to human social life. In fact, in one study of grade-school children, more than 96% of respondents said they had been teased, and more than 50% admitted to teasing others. Teasing is as varied as the people doing the teasing and being teased. Teasing can be purely physical or verbal, and ranges widely in its affiliative or hostile intent. People tease to socialize, negotiate conflicts, flirt, and play. Empirical studies of this pervasive social practice have yielded answers to several intriguing questions.

### Definition

A first question may be the most basic and most elusive to answer: What is teasing? Empirical studies of teasing lead to the following definition: *Teasing* is a behavior designed to provoke a target through the use of playful commentary on something relevant to the target. This provocation can be verbal (a cutting remark) or physical (an embarrassing gesture) and, by definition, threatens the teaser's and the target's desired social identity, or what some call "face." If the tease is too harsh, the target risks embarrassment or hurt feelings, and the teaser risks looking overly aggressive. To minimize these risks, teases are often accompanied by playful behaviors designed to signal that the tease is not meant to be taken too literally and that it is delivered, in part, in the spirit of play. Some examples of these behaviors, called off-record markers, include using a singsong voice, exaggerated facial expressions, metaphors, and

unusual speed of delivery. Lastly, the tease is directed at something relevant to the target: either a commentary on the target himself or herself, the relationship between the target and the teaser, or some object of interest to the target. This definition helps clarify the differences between teasing and other related behaviors. The most common of these is bullying, which is a direct act of hostility that lacks the playful markers that signal playful, even affectionate, intent.

### Occurrence

Equipped with a working definition of teasing, a second question can be asked: When do people tease? Observational studies in which researchers have documented the occurrence of teasing in naturalistic contexts, for example, in family dinner conversations or at work, reveal that teasing usually occurs in response to two kinds of social disturbances: norm deviations and interpersonal conflicts. First, individuals often tease others who have violated social norms. Elementary school children have been observed teasing each other for playing with classmates of the opposite sex or following violations of gender norms. Parents sometimes tease their children when they sulk or act selfishly. Coworkers tease one another in response to violations of the ethics and standards of the workplace.

Teasing often arises in a second context of social tension: conflict. Studies have indicated that siblings tease each other more during conflict situations, friends are more likely to tease each other during discussions of their conflicting goals and beliefs, and coworkers are more likely to tease when addressing

hot-button issues, such as allocation of office space. Provocative and at times unpleasant, teasing in fact serves important prosocial functions, enabling individuals to signal and negotiate norm violations and interpersonal conflict.

### Variations in Contexts

Given that teasing socializes and figures in conflict resolution, how then does it vary across different contexts? The same tease, it seems on the surface, acquires radically different meaning when delivered by superiors rather than peers or in formal as opposed to informal settings. Several studies have documented how the nature of the social context influences the content and meaning of a tease. Qualities of the relationship between the teaser and the target, such as social power and familiarity, have been found to influence teasing. High-power individuals are less dependent on others and are thus less concerned with the risks associated with teasing. High-power individuals, it should come as little surprise, are more likely to tease than low-power individuals, and they tease in a more hostile, less playful manner. The degree of closeness between teaser and target also affects teasing behavior, as individuals are less concerned about saving face in front of close others. As a result, people are more likely to tease close others than strangers, and to do so in a more direct manner. This may account in part for the ironic tendency for teasing, although aggressive, to be a signal of affection.

There also exist developmental differences in the content and meaning of teasing. Teasing, by its very nature, involves several capacities that develop with age. Among these are the ability to understand non-literal communication and many of the playful tactics used in teasing such as irony and sarcasm. As a result, older children are more likely to tease than are younger children, and to do so in a more subtle and sophisticated manner. The content of teasing also changes with age, as certain social norms become more or less relevant. For example, possessiveness and aggression are important topics for teasing in preschool, whereas experimental behaviors related to sex and drug use are focused on in adolescence and young adulthood.

### Teasers

Who, then, is more likely to tease? Gender is one important determinant of the frequency and content of

teasing. In general, men have been found to tease more than women when interacting with same- and opposite-sex friends as well as with children. Some studies suggest that while men have been observed to tease in more hostile and direct ways, women use more indirect methods, such as social exclusion. Gender has also been related to differences in teasing content, with men teasing more about physical appearance and women teasing more about the target's relationships.

The personalities of the individuals involved also shapes teasing in important ways. Highly agreeable individuals, who report great warmth and cooperativeness, tease less often in general, and when they do tease, they do so in more affectionate, less hostile fashion. In addition, Agreeableness has also been associated with stronger feelings of remorse after teasing someone. Highly extraverted individuals tease more often and feel less empathy toward the target than do those low in Extraversion. In addition, the target's personality and past history of teasing have been related to reactions to being teased. Among individuals who have been teasers themselves, individuals high on Agreeableness and Extraversion respond more positively to being teased than those low in Agreeableness and Extraversion.

### Research

The empirical study of teasing is relatively new, and numerous questions await empirical answers. Current research is systematically examining how culture shapes the content and meaning of teasing. Studies within development are exploring how teasing is involved in language acquisition. Other studies are exploring how individuals with deficits in the cognitive capacities required of teasing understand teasing and tease themselves. It looks as though high-functioning autistic children have particular difficulties in seeing the playful intent of teasing and generating playful teasing. Still other lines of research are exploring how the teasing of bullies goes woefully awry and how to intervene. Continued research of these and other important issues pertaining to teasing will continue to enhance understanding and appreciation of this complex social phenomenon.

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*See also* Bullying; Conflict Resolution

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## TEMPORAL CONSTRUAL THEORY

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### Definition

Temporal construal theory is a general theoretical framework that describes the effects of psychological distance on thinking, decision making, and behavior. Psychologically distant objects and events are those beyond one’s direct experience of the here and now and can be distant on a number of dimensions: time, space, social distance (self vs. other, ingroup vs. outgroup), and hypotheticality. A central proposition of temporal construal theory is that psychologically distant objects or events evoke mental representations, or construals, that capture the general and essential features of the objects or events (i.e., high-level construals), whereas psychologically near objects or events bring to mind unique, concrete, and incidental features (i.e., low-level construals). The activation of high-versus low-level construals produces systematic differences in individuals’ understanding of objects and events, leading to changes in evaluation, judgment, and action.

### Background

Temporal construal theory (also referred to as construal level theory) was originally proposed by Nira Liberman and Yaacov Trope as an integrative framework for understanding the effects of time on decision making and behavior. Objects and events, however,

can be distant not only in time but also in space, social distance, and hypotheticality. As such, the theory has since been expanded beyond time to incorporate these other dimensions of psychological distance. The term *construal* refers to the construction of knowledge structures that represent objects or events in an individual’s mind (i.e., how information is processed so that an individual can think about and understand an object or event).

When objects and events are psychologically distant, less information is known about them. An individual can learn about a dog, but without direct experience, there is little to distinguish this particular dog from other dogs. Without such information, individuals can only think of objects and events in broad, general terms (i.e., high-level construals). Thus, the individual might know that the dog has four furry legs and barks. As the objects and events become more psychologically near, direct experience of these objects and events becomes increasingly available. This allows individuals to think about objects and events in more concrete details, highlighting their specific, unique, incidental features (low-level construals). Through more direct experience, for example, an individual might learn about the unique properties or characteristics of a dog: the breed, specific coloration, or temperament. This association between the psychological distance of an object and its corresponding level of construal is thought to be so ingrained that respective construals are activated even when all necessary information is available. That is, even if an individual knows that a dog is called Fluffy and is a white poodle, when the dog is psychologically distant (e.g., far away in time or space), the individual is more likely to think of the dog as a furry animal with four legs rather than as Fluffy.

As high- and low-level construals bring to mind different features of objects and events, they can systematically change individuals’ decisions and behavior. They can focus individuals on contrasting aspects of a situation and lead to very different evaluations and judgments of the same thing. Going on a vacation in the abstract (high-level construal) may evoke images of the beach and pleasant company. When psychologically distant, going on a vacation should therefore engender positive feelings. Going on a vacation, however, more concretely (low-level construal) entails making plans, dealing with travel agencies, and having to bear the inconveniences of traveling. Thus, when psychologically near, going on a vacation may

evoke more negative evaluations. Hence, psychological distance, through the activation of different levels of construal, plays an important role in human decision making and behavior.

### Evidence

Empirical data have supported the proposition that increasing psychological distance leads individuals to construe objects and events more broadly and generally (i.e., activate high-level construals). Research has shown, for example, that individuals organize objects associated with temporally distant events in fewer, broader, and more abstract categories than objects associated with temporally near events. Similarly, when feeling socially distanced from others, individuals are more accurate in recalling the gist rather than the specifics of material that they have seen before. Individuals are also more likely to access global, abstract concepts, such as stereotypes and traits, when making judgments about psychologically distant others, whether they be distant by physical space, time, or social distance.

There is also accumulating evidence that by changing how individuals construe situations, psychological distance can influence the kinds of judgments and decisions individuals make. High-level construals, when activated by increasing psychological distance, lead individuals to be more concerned with high- rather than low-level features of objects and events. That is, individuals are more likely to make choices on the basis of global, primary concerns over local, secondary considerations when events are psychologically distant rather than near. For example, increasing the temporal distance of an event leads individuals to make decisions more on the basis of ends (why they might engage in an action) rather than means (how they would perform an action). They also prefer activities that accord with their goals and values to a greater extent when those activities are associated with distant future rather than near future events.

All of the research described here has suggested that increasing any dimension of psychological distance—time, space, social distance, or hypotheticality—leads to similar effects on mental representation (i.e., activates high-level rather than low-level construals) and decision making (i.e., preferences and choices based on high-level rather than low-level features). Providing additional support for the notion that these various dimensions of psychological distance are interrelated

is research that suggests that thinking about one type of distance facilitates thinking about others. That is, thinking about “here” leads one also to think about “now” and “us,” whereas thinking about “there” leads to thoughts of “then” and “them.”

### Beyond Psychological Distance

The psychological distance of objects and events are not the only factor that leads individuals to evoke high- versus low-level construals. It has been found, for example, that positive moods tend to activate higher-level construals as compared to negative moods. Moreover, engaging in any mental process that leads one to extract generalized properties of objects and events, such as causal reasoning or superordinate categorization, can activate high-level rather than low-level construals. Construals can also carry over from unrelated prior contexts. For example, imagining one’s life at a distant location or distant time can lead individuals to use high-level construals in subsequent contexts, even those that had nothing to do with what one imagined.

In addition, there may be individual differences in the use of high- versus low-level construals. That is, in addition to situational factors, there may be personality factors in the tendency to represent objects and events at different levels of construal. Some individuals may habitually use high-level construals, whereas others tend to use low-level construals.

### Importance

Individuals make decisions about objects and events that are psychologically distant in almost every domain of life. Indeed, the ability to make choices about objects and events beyond one’s direct experience is one of the hallmarks of the human mind. Despite this remarkable ability, individuals are fallible decision makers, often making decisions that seem good at the time but that they later regret. Temporal construal theory provides a general framework for understanding why and how this occurs and has important implications for interventions aimed at improving decision making. As such, the theory has been applied to a wide array of research topics in psychology that range from attribution, attitudes, and self-control to interpersonal perception, social power, and negotiation.

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*See also* Action Identification Theory; Actor–Observer Asymmetries; Delay of Gratification; Ingroup–Outgroup Bias; Outgroup Homogeneity; Self-Regulation

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## TEND-AND-BEFRIEND RESPONSE

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In times of stress, humans and many animal species tend and befriend. Tending involves quieting and caring for offspring during stressful times, and befriend-ing involves engaging the social network for help in responding to stress.

### Background

Threatening circumstances trigger a cascade of neuroendocrine responses to stress, including engagement of the sympathetic nervous system and corticosteroids that mobilize a person or animal to cope with stress. Consequently, stress responses are heavily marked by physiological arousal. Historically, the prototypical response to stress has been regarded as fight or flight. That is, in response to a threat, arousal mobilizes the person to behave aggressively or assertively (fight), or flee or withdraw instead (flight). Contemporary manifestations of fight responses in humans assume the form of aggressive reactions to stressful circumstances, and flight responses are often manifested as social withdrawal or substance abuse, as through alcohol or drugs.

Although fight or flight is somewhat descriptive of human responses to stress, scientists have noted that social affiliation distinguishes human responses to stress as well, and it has long been known to protect against the adverse changes in mental and physical health that stress can produce. Social support from a partner, relative, friend, or coworkers and from social and community ties reliably reduces cardiovascular and neuroendocrine stress responses and psychological distress. Correspondingly, social isolation has been consistently tied to poor health and a higher risk of mortality in both animal and human studies. Taken together, these findings may account for the robust relations between social support and a

lower likelihood of illness, faster recovery from illness, and greater longevity.

Further refining of these social responses to stress has led to the characterization “tend and befriend.” That is, the fight-or-flight response seems incomplete when one realizes that humans have few of the physical resources necessary to do either (e.g., sharp claws, speed). Instead, human survival has depended on group living. From an evolutionary standpoint, humans would not have survived had they not evolved ways of coping with stress that involved the protection of offspring from harm and group living to fend off threats and predators.

### Gender Differences

The tend-and-befriend response to stress appears to be especially characteristic of females. Historically, females have had primary responsibility for the care of offspring, and consequently, the tend-and-befriend responses may have evolved in females especially in light of these selection pressures. That is, a female stands a better chance of protecting both herself and her immature offspring if she tends to those offspring and enlists the help of the social group for protection as well.

What is the evidence that tend-and-befriend characterizes females’ responses to stress? Across the entire life cycle, girls and women are more likely to mobilize social support, especially from other females in times of stress. Compared to men, women seek out social contact more, they receive more social support, they provide more social support to others, and they are more satisfied by the support they receive. Whereas men also draw on social support, especially from their partners, women seek more social support from a broader array of sources, including friends and relatives, and these findings are consistent across many different cultures. The sex difference in women’s seeking of social support in times of stress is modest in size but very robust.

Research suggests that there may be biological underpinnings of these tending and befriending responses. In particular, oxytocin has been identified as an affiliative hormone that is known to increase maternal behavior and affiliative activity. Because the effects of oxytocin are strongly enhanced by the presence of estrogen, oxytocin has been thought to have more important effects on the social behavior of

females than males. Although there is modest evidence to date that oxytocin is implicated in these affiliative processes under stress, studies do suggest that oxytocin levels rise when women experience gaps in their social network, potentially providing a neuroendocrine basis for an increased desire to affiliate with others in difficult times. Studies also show that oxytocin reduces sympathetic nervous system arousal and corticosteroid activity and that it is associated with reduced anxiety and a sense of calm. Consistent with this point, tending activities represent adaptive responses to stress, not only because of the protection they provide for offspring but also because tending quiets biological stress responses in both offspring and mother. Endogenous opioid peptides, that is, opioids naturally produced by the body, also appear to play a role in these tending and befriending processes.

The exploration of the tend-and-befriend response is a relatively new theoretical and empirical undertaking for social psychologists. This is in large part because, until recently, stress studies were based heavily on animal studies and on males. As females have been included in stress studies, the fact that their responses to stress are more social than men's has come into focus. This gender difference must not be overstated, however. Both men and women demonstrate affiliative responses to stress, and men profit from social support just as women do. Although oxytocin may not play a role in men's affiliative behavior (because of its regulation by estrogen), possibly vasopressin, a hormone similar to oxytocin that is regulated in part by androgen, may be implicated. Vasopressin appears to underpin male monogamous behavior, protection of mate and offspring, and guarding of territory, for example, in some rodent studies; however, whether vasopressin plays a role in human behavior is not yet known.

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*See also* Fight-or-Flight Response; Social Support; Stress and Coping

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## TERRITORIALITY

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### Definition

Territoriality is a pattern of attitudes and behavior held by a person or group that is based on perceived, attempted, or actual control of a physical space, object, or idea, which may involve habitual occupation, defense, personalization, and marking of the territory. Marking means placing an object or substance in a space to indicate one's territorial intentions. Cafeteria diners leave coats or books on a chair or table. Prospectors stake claims. Personalization means marking in a manner that indicates one's identity. Many employees decorate their workspaces with pictures and mementoes. Some car owners purchase vanity license plates. Territoriality usually is associated with the possession of some physical space, but it can also involve such processes as dominance, control, conflict, security, claim staking, vigilance, and identity. If a territory is important to a person, his or her sense of identity may be closely tied to it. Although it is sometimes associated with aggression, territoriality actually is much more responsible for the smooth operation of society because most people, most of the time, respect the territories of others.

### Types of Territories

Territoriality is extremely widespread. Once you recognize them, the signs of human territoriality are everywhere: books spread out on a cafeteria table to save a place, nameplates, fences, locks, no-trespassing signs, even copyright notices. There are billions of territories in the world; some are large, others small, some are nested within others (such as a person's "own" chair within a home), and some are shared.

Primary territories are spaces owned by individuals or primary groups, controlled on a relatively permanent basis by them and central to their daily lives. Examples include your bedroom or a family's dwelling. The psychological importance of primary territories to their owners is always high.

Secondary territories are less important to their occupiers than primary territories, but they do possess moderate significance to their occupants. A person's desk at work, favorite restaurant, locker in the gym, and home playing field are examples. Control of these territories is less essential to the occupant and is more likely to change, rotate, or be shared with strangers.

Public territories are areas open to anyone in good standing with the community. Beaches, sidewalks, and hotel lobbies are public territories. Occasionally, because of discrimination or unacceptable behavior, public territories are closed to some individuals. Retail stores, for example, are public territories open to anyone. However, someone who causes trouble may be banned from a particular store.

The physical self may be considered as a body territory. The boundary is at one's skin. Bodies may be entered with permission (as in surgery) or without permission (as in a knife attack). Some people mark and personalize their own bodies with makeup, jewelry, tattoos, piercings, and clothing, but they certainly defend and try to control access to their bodies by other people.

Two other types of territories exist, although they are not universally considered territories. Objects meet some of the criteria for territories—we mark, personalize, defend, and control our possessions. Ideas are also, in some ways, territories. We defend them through patents and copyrights. There are rules against plagiarism. Software authors and songwriters try to protect ownership of their programs and songs.

## Infringements

Even though territories usually work to keep society hassle-free, sometimes they are infringed upon. The most obvious form of infringement is invasion, in which an outsider physically enters someone else's territory, usually with the intention of taking it from its current owner. One obvious example is one country trying to take the territory of another.

The second form of infringement is violation, a temporary infringement of someone's territory. Usually, the goal is not ownership but annoyance or harm. Vandalism, hit-and-run attacks, and burglary fall into this category.

Sometimes a violation occurs out of ignorance, as when a boy who cannot yet read walks into a women's wash-room. Other times the violation is deliberate, such as computer pranksters worming their way into others' machines. Violation may occur without the infringer personally entering the territory. Jamming radio waves and playing loud music are some examples.

The third form of infringement is contamination, in which the infringer fouls someone else's territory by putting something awful in the territory. Examples would be a chemical company leaving poisonous waste in the ground for later residents to deal with, a houseguest leaving the kitchen filthy, or pesticide spray drifting into your yard.

## Defenses

Just as there are three general ways to infringe on territories, there are three different types of defense. When someone uses a coat, sign, or fence to defend a territory, it is called a *prevention defense*. One anticipates infringement and acts to stop it before it occurs.

Reaction defenses, on the other hand, are responses to an infringement after it happens. Examples range from slamming a door in someone's face or physically striking the infringer to court actions for copyright violations.

The third type is the social boundary defense. Used at the edge of interactional territories, the social boundary defense consists of a ritual engaged in by hosts and visitors. For example, you need a password to enter many Web sites. Another example is the customs office at the national border. Social boundary defenses serve to separate wanted visitors from unwanted ones.

## Territoriality in Everyday Life

One way territoriality has been used in everyday life involves defensible space theory, sometimes called crime prevention through environmental design. The theory proposes that certain design features, such as real or symbolic barriers to separate public territory from private territory and opportunities for territory owners to observe suspicious activity in their spaces, will increase residents' sense of security and make criminals feel uneasy. It has been used widely to reduce crime in residences, neighborhoods, and retail stores.

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*See also* Control; Identity Status; Personal Space

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## TERRORISM, PSYCHOLOGY OF

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Terrorism is certainly the scourge of our times. Considerable economic, military, political, and scientific resources are devoted these days to the “war on terrorism.” Psychological research is not only relevant but also essential to understanding this issue. Indeed, the psychology of terrorism has become one of psychology’s major growth markets. Books and journals on the topic have been published in unprecedented quantities. Terrorists’ acts of self-destruction and their indiscriminate killings of innocent civilians cry out for a psychological explanation. But what explanations has psychology provided? How do psychologists analyze the phenomenon of terrorism? And how can psychology help eradicate it?

### What Is Terrorism?

Before answering these questions, it is important to first describe what terrorism is. This is not an easy task. Terrorism researchers have proposed over a hundred different definitions of the phenomenon. Why is it so hard to agree on a definition?

A major problem is that this term carries a negative connotation. It is for that reason that one person’s terrorist is another’s person freedom fighter. Thus, applying the “terrorism” label to an act depends not only on the act but also on who is applying the label.

The U.S. Department of State formally defines *terrorism* as “premeditated, politically motivated violence conducted in times of peace, perpetrated against noncombatant targets by sub-national groups or clandestine state agents, usually intended to influence an audience to advance political ends.” This definition contains a number of ingredients: For it to be called terrorism, an act needs to be planned (“premeditated”), to be politically motivated, to involve violence, to be carried out in peacetime, to be directed

against civilians (i.e., “noncombatants”), and to involve no government directly. Such a multidimensional definition allows one to set terrorism apart from (1) state-originated violence at times of war (e.g., the bombings of German or Japanese cities during World War II), (2) incidental killings of noncombatants (so-called collateral damage), and (3) underground resistance to occupation.

### Terrorism as Syndrome Versus Terrorism as Tool

Over the years, two psychological approaches to terrorism have appeared. One approach treats terrorism as a syndrome; the other treats it as a tool. The syndrome view treats terrorism as a unique phenomenon with its own psychology. From this perspective, terrorists are considered different from nonterrorists. They are assumed to differ not only in *what* they do, but also in *who* they are, and *why* they do what they do. In this respect, terrorism is considered akin to a mental disorder, like depression or schizophrenia. The syndrome view of terrorism also suggests that there could exist external root causes of terrorism, such as poverty or political oppression, which inevitably breed terrorism.

In contrast, the tool view of terrorism does not assume anything psychologically abnormal or unique about terrorists. This view depicts terrorism as a means to an end, a tactic of warfare that anyone could use. It suggests that like the rocket launcher, the tank, or the AK-47 assault rifle, terrorism may be used by nonstate militias, state-sponsored military, and even lone perpetrators. If one assumes that terrorism is a means to an end, its psychology can be well understood by general theory and research on goals and motivations. Basically, this body of knowledge has taught psychologists that a specific means is used when a person considers it of a high expected utility. That is, if a person wants to achieve something, he or she is more likely to use a tool or means, if it is seen as helpful to such attainment. If it is so seen, the tool or means is considered to have high expected utility. Moreover, a tool is particularly high in expected utility if the thing the person wants to achieve is important to him or her. Thus, to the extent that a tool is highly helpful to the achievement of important goals, it is said to have high psychological utility.

What does this mean for the psychology of terrorism? As the name implies, the tool view of terrorism suggests that the tool of terrorism may, for some individuals and under some circumstances, be particularly high in expected utility. In such cases, terrorism may be seen as helpful to the achievement of highly important goals, and the actors involved may feel they have no other means that are equally helpful. The goals of the terrorists and their available means are of great relevance for understanding the psychology of terrorism.

In light of these ideas, it may be possible to think of various ways in which terrorism is used by different organizations. Utopian Islamist groups, for example, have doctrines and convictions that leave little room for negotiation, dialogue, or peacemaking. For them terrorism and violence represent the only available means. Given such depth of commitment to violence, it is unlikely that anything short of a total defeat will convince the Utopian Islamists to give up their use of terrorism. The situation is different for terrorism-users for whom terrorism represents merely one among several available instruments. Though not shy of using terrorism, Hamas, Hezbollah, and Sinn Féin, for example, have other means at their disposal (diplomacy, media campaigns) as well as other goals (of a political or social variety). All three have mitigated their use of terrorism or withheld it for a time when alternative means to their purpose appeared feasible or when other goals existed to which terrorism appeared inimical.

In short, different organizations may differ in their potential for relinquishing the use of terrorism. Whereas negotiating with terrorists is unlikely to work with terrorists whose commitment to terrorism is total, it might work with terrorist groups who may entertain alternative means and value alternative goals. On the level of terrorist organizations, then, the terrorism-as-a-tool view helps to explain how terrorism could be of use.

### **Root Causes Versus Contributing Factors**

What are the factors that lead individuals to embrace the goal of terrorism? This question has been answered in two ways. Some have tried to identify the root causes assumed to underlie terrorist engagement, whereas others have argued that there is no single root cause but rather several contributing factors that may help motivate an individual to embrace terrorism. The root cause

concept implies a factor that constitutes both a necessary and a sufficient condition for some effect. The concept of a contributing factor raises doubts about whether any given personality trait, need, or situational circumstance could constitute such a condition, inevitably giving rise to terrorism. But if an individual were presented with the idea of terrorism, traits, motivations, and situational conditions might well affect the likelihood of his or her embracing it.

Although it may be appealing to identify a single cause for terrorist activity, research thus far has failed to provide supportive evidence that such cause exists. Early psychological investigations asked whether terrorists are driven by some kind of psychological disturbance. However, painstaking empirical research conducted on various terrorist organizations didn't reveal anything particularly striking about the psychological makeup of terrorists.

That does not mean that psychological factors do not matter. Decades of psychological research have demonstrated that motivation significantly affects the tendency to embrace beliefs on various topics, and beliefs in the efficacy and justifiability of terrorism are no exception. Thus, individuals with appropriate motivations (deriving from their stable personality traits or situational pressures) might be more prone to endorse terrorism under the appropriate circumstances than might individuals with different motivations. In this context, it has been found that whereas in Iran, mortality salience enhanced support for suicide terrorism, in the United States, it enhanced the support for tough antiterrorist measures. In Lebanon, right-wing conservatism predicted the support for terrorism, whereas in the United States, it predicted the support for counterterrorism. In other words, mortality salience and conservative attitudes do not in and of themselves produce terrorism. They are not the root causes of terrorism, but in a social and cultural environment where terrorism is viewed as an acceptable tool, they may contribute to individuals' endorsement of terrorism.

Research has also failed to find evidence for a relation between poverty or education and terrorism, although some investigators have found that many terrorists come from countries that suffer from political repression. However, from the standpoint of psychological theory, there are reasons to doubt a general causal link between either poverty or political repression and terrorism. Presumably, the underlying logic of such a hypothesized link is that poverty and oppression

foster frustration, fomenting aggression against others, ergo terrorism. But in scientific psychology, the simple frustration–aggression hypothesis has long been questioned. Just because one is frustrated does not necessarily mean that one would become a terrorist. Instead, one could escape, withdraw, or aggress against self rather than against others. Thus, again, poverty, lack of education, and political repression may not be considered root causes of terrorism. However, being deprived of opportunities, and hence suffering and frustrated, may be considered a contributing factor in the emergence of terrorism.

### Discouraging Terrorism

The tool view of terrorism suggests that terrorism may particularly thrive in circumstances under which no alternative tools are available to achieve one's goals and in which the individual has a strong conviction that these goals are important to attain. According to this view, discouraging terrorism amounts to convincing the perpetrator that (a) this means is not of use to achieve the goal, (b) there are alternative and better means to achieve the goal, and (c) once terrorism is chosen to achieve particular goals, it will be carried out at the expense of other goals that may also be worthwhile to attain.

### Perceived Use of Terrorism

Though schematically simple, implementation of these strategies is anything but that. A major difficulty is that events are perceived differently by different parties. Such perceptions are often biased by interests and motivations. For example, throughout much of the second intifada, about 80% of the Palestinian population supported the use of terror tactics against the Israelis, believing this to be an effective tool of struggle. By contrast, the majority of the Israelis (85%) viewed Palestinian terror as counterproductive. It seems plausible to assume that the divergent motivations of Israelis and Palestinians importantly colored their beliefs in this matter.

Terrorism may be difficult to give up also because, apart from presumably helping to achieve the ideological (political, religious, ethnonationalistic) objectives of the terrorist, it brings about the emotional satisfaction of watching the enemy suffer. In that sense, terrorism is multipurpose, adding up to its appeal or the

total value of objectives to which it appears of use. Such counterterrorist policies as ethnic profiling, targeted hits, or inadvertent collateral damage might further enhance the terrorists' rage, amplifying the emotional goal of vengeance against the enemy. A recent empirical analysis suggests that targeted hits by the Israeli forces boosted the estimated recruitment to the terrorist stock, presumably due to Palestinians' revenge motivation. Thus, whereas targeted hits do hurt the terrorist organizations and may decrease the perceived efficacy of terrorism, they may also increase the appeal of terrorism by increasing the intensity of the emotional goal it may serve.

### Feasibility of Alternatives to Terrorism

Whereas alternative goals (such as revenge) may increase terrorism's appeal by increasing the total expected utility of terrorism, perceived availability of alternative means to the terrorism's ends may decrease it. Such availability brings about the possibility of shifting to a different means and abandoning terrorism, at least for a time. For instance, following the election in 2005 of Mahmud Abbas to the presidency of the Palestinian Authority and a renewed chance for a peace process (i.e., an alternative means potentially helpful to end the Israeli occupation), support for suicide attacks among the Palestinians dipped to its lowest in 7 years: a mere 27%.

### Alternative Objectives

Discouraging people from using terrorism may also be attained by making potential users of terrorism aware of alternative objectives that do not fit well with terrorism. In the Palestinian context, the opposition to suicide attacks is particularly pronounced among Palestinians likely to possess the means to alternative, individualistic goals, for example, professional, family, or material goals. Such opposition reached 71% among holders of B.A. degrees compared to 61% among illiterates, 75% among employees compared to 62% among students, and, curiously enough, 74% among individuals willing to buy lottery tickets (i.e., individuals presumably interested in material goals) compared to 64% among those unwilling to buy them.

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*Mark Dechesne*

*See also* Aggression; Frustration–Aggression Hypothesis; Goals; Ideology; Mortality Salience; Peace Psychology; Political Psychology

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## TERROR MANAGEMENT THEORY

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### Definition

Terror management theory is an empirically supported theory developed to explain the psychological functions of self-esteem and culture. The theory proposes that people strive to sustain the belief they are significant contributors to a meaningful universe to minimize the potential for terror engendered by their awareness of their own mortality. Cultures provide their members with meaning-imbuing worldviews and bases of self-esteem to serve this terror management function.

### Background

Former University of Kansas graduate student colleagues Sheldon Solomon, Jeff Greenberg, and Tom Pyszczynski developed terror management theory in 1984. These social psychologists were searching for answers to two basic questions about human behavior: Why do people need self-esteem? Why do different cultures have such a difficult time coexisting peacefully? The trio found potential answers to these questions in the writings of anthropologist Ernest Becker. Becker integrated insights from psychoanalysis, psychology, anthropology, sociology, and philosophy into a framework for understanding the motives that drive human behavior. Solomon, Greenberg, and Pyszczynski

designed terror management theory to summarize, simplify, and elaborate Becker's scholarly synthesis into a unified theory from which they could generate new testable hypotheses regarding the psychological functions of self-esteem and culture, and thereby address the two basic questions they originally posed.

### The Theory

Terror management theory begins with two simple assumptions. The first is that, being evolved animals with a wide range of biological systems serving survival, humans have a strong desire to stay alive. The second is that, unlike other animals, humans have evolved cognitive abilities to think abstractly; to think in terms of past, present, and future; and to be aware of their own existence. Although these cognitive abilities provide many adaptive advantages, they have led to the realization that humans are mortal, vulnerable to all sorts of threats to continued existence and that death, which thwarts the desire to stay alive, is inevitable. According to the theory, the juxtaposition of the desire to stay alive with the knowledge of one's mortality creates an ever-present potential to experience existential terror, the fear of no longer existing. To keep the potential terror concerning mortality at bay, people need to sustain faith in a meaning-providing cultural worldview and the belief they are significant contributors to that meaningful reality (self-esteem). By psychologically living in a world of absolute meaning and enduring significance, people can obscure the possibility that they are really just transient animals in a purposeless universe destined only to absolute annihilation upon death.

The terror management functions of worldviews and self-esteem emerge over the course of childhood. Parents are the initial basis of security for the small vulnerable child and convey the core concepts and values of the prevailing cultural worldview. Throughout socialization, religious, social, and educational institutions reinforce and further elaborate this worldview. As part of this process, parents impose conditions of worth on the child that reflect the culture's customs and standards of value. These conditions must be met to sustain the parental love and protection and, later, the approval of one's peers, teachers, and cultural ideals and authority figures. In this way, believing in and living up to the values of the culture confer self-esteem and become the individual's basis of

psychological security. As the child matures, the limits of the parents become apparent and the basis of security gradually shifts to the culture's broader spiritual and secular ideals and figures. Each cultural worldview offers its own bases of self-esteem, such that what bolsters self-esteem in one culture might not in another.

The most obvious examples of how worldviews provide the basis for terror management are religious worldviews such as Christianity and Islam, in which one's earthly purpose is to serve one's deity, after which those who have been true to the teachings of the deity will be rewarded with eternal life. Indeed, a spiritual dimension and concept of eternal soul had been central to all known cultures until the rise of science-based secular worldviews in the 19th and 20th centuries. These forms of literal immortality (or death transcendence) are supplemented by symbolic modes of immortality offered by secular components of culture. Symbolic immortality can be achieved in modern society through identification with collectives and causes that transcend individual death, such as one's nation; it can also be achieved through offspring, inheritances, memorials, and many forms of cultural achievement in the arts and sciences (novels, paintings, sculptures, discoveries, etc.). Thus, as a result of the socialization process, people everywhere live out their lives ensconced within a culturally derived orderly and meaningful construal of reality in which they strive to be significant beings qualified for transcendence of death through an eternal soul and/or permanent contributions to the world.

### **Terror Management Theory and Social Behavior**

Terror management theory can help explain much of what has been learned about humans from history and the social sciences. People by and large conform to their culture's ways, following its norms and obeying authorities. People vehemently defend their cherished beliefs and rituals. Religious, governmental, and educational institutions reinforce cultural beliefs and values in myriad ways. Cultural belief systems provide explanations of where the world and humans come from, what humans should strive for, and how humans will persist in some form after individual death.

The theory answers basic questions about self-esteem and intercultural disharmony. Self-esteem, the belief that one is a valuable member of a meaningful

universe, serves to minimize anxiety concerning one's vulnerability and mortality. This view of self-esteem can help explain why those with high self-esteem fare much better in life than those with low self-esteem and why threats to self-esteem engender anxiety, anger, and defensive reactions, ranging from self-serving attributions to murder.

The theory also offers an explanation for what is perhaps humankind's most tragic flaw: people's inability to get along peacefully with those different from themselves. People who subscribe to a different cultural worldview call into question the validity of one's own, thus threatening faith in one's own basis of security. To minimize this threat, people derogate those with different beliefs, perhaps labeling them "ignorant savages"; try to convert them, as in missionary activity; or, in extreme historical cases such as Hitler's Germany and Stalin's Soviet Union, try to annihilate them.

### **Research**

Since its initial development, a body of more than 250 studies conducted in 14 different countries has supported terror management theory. Prominent contributors to this research in addition to the codevelopers of the theory include Linda Simon, Jamie Arndt, Jamie Goldenberg, Victor Florian, Mario Mikulincer, Mark Dechesne, Eva Jonas, and Mark Landau.

The first research based on the theory tested the idea that self-esteem protects people from anxiety. A series of studies showed that when people feel really good about themselves, they can deal with potentially threatening situations in an especially calm manner. One such study showed that when people are given a very favorable report regarding their personality, they perspire less while anticipating exposure to painful electric shocks. Follow-up research found that high self-esteem is particularly protective regarding death-related concerns.

Subsequent studies examined the idea that if self-esteem protects people from their concerns about death, making people think about their own mortality (known as mortality salience [MS]) should lead them to defend their self-esteem more fervently and strive harder to exhibit their worthiness. For example, research has shown that MS leads people who base their self-esteem partly on their driving ability to drive more boldly, those who base it partly on physical strength to display a stronger hand grip, and those

who base it on their appearance to become more interested in tanning. In addition, MS leads people to give more generously to valued charities, to strengthen their identification with successful groups, and to reduce their identification with unsuccessful groups.

The other general terror management idea tested early on was that MS would lead people to strongly defend and uphold the beliefs and values of their own worldview. Using a variety of approaches, more than 100 studies have supported this idea. The first such study found that MS led municipal court judges to set higher bonds for an alleged prostitute in a hypothetical but realistic case. Many subsequent studies have supported the idea that MS increases harsh judgments of others who transgress the morals of one's worldview. But MS also increases favorable treatment of those who uphold the worldview, such as heroes. Furthermore, MS increases favorable reactions to others who praise or otherwise validate one's worldview and intensifies negative reactions to others who criticize or otherwise dispute the validity of one's worldview. For example, a study using American participants found that MS increased positive reactions to a pro-U.S. essayist and negative reactions to an anti-U.S. essayist. Similarly, a study using Christian participants found that MS engendered positive reactions to a fellow Christian and negative reactions to a Jewish person.

These studies have reminded people of their mortality in a variety of ways and in comparison with many control conditions. Reminders of mortality have included two questions about one's own death, gory accident footage, death anxiety scales, proximity to funeral homes and cemeteries, and exposure to extremely brief subliminal flashes of death-related words on a computer screen. Control conditions have reminded participants of neutral topics such as television, and aversive topics such as failure, worries after college, uncertainty, meaninglessness, pain, and social exclusion. These findings support the specific role of mortality concerns in MS effects.

Once support for these basic terror management hypotheses had accumulated, a variety of additional directions were pursued. One body of research explored the processes through which thoughts of death produce their effects. This research has shown these effects do not occur while people are consciously aware of death-related thoughts and are not triggered by consciously experienced emotion. Rather, thoughts of death that are outside of but close to consciousness signal heightened potential for anxiety, which triggers intensified

efforts to bolster the worldview and one's self-esteem. This work shows that cultural investments and self-esteem striving often serve existential needs outside of conscious awareness.

Another set of studies has examined the effects of MS on basic ways in which people preserve their sense that life is orderly and meaningful. This work shows that MS leads people to increase their preference for believing that the world is a just place, for art that seems meaningful, and for people who behave consistently and who conform to prevailing stereotypes of their group. Thus, concerns about mortality help shape people's basic beliefs about their world.

Recent work in the political realm has shown that MS leads people to prefer charismatic leaders who emphasize the greatness of one's own group and the need to heroically triumph over evil. Because of this latter tendency, MS increases support for violent actions against those designated by one's culture as evil. One study found that although Iranian college students generally were more favorable to a fellow student who advocated peaceful strategies over one who advocated suicide bombings of American targets, after being reminded of their mortality, this preference reversed, with the students generally siding more with the advocate of suicide bombing. Similarly, although American college students were generally not supportive of extreme military actions against terrorists (including use of nuclear weapons) that would kill many innocent people, MS led politically conservative students to shift toward advocacy of such measures.

Research has also addressed the implications of the theory for people's attitudes toward their own body and its activities. The physical body is what dooms humans to death and is therefore a continual reminder of mortal fate. MS should therefore lead people to distance from reminders of their animal nature. Consistent with this idea, studies have shown that MS reduces the appeal of physical aspects of sex and increases disgust reactions to reminders of the body. MS also leads men to deny attraction to women who arouse lustful feelings in them. This body of work helps explain why all cultures try to control and disguise bodily activities, imbuing them with ritualistic and spiritual elements.

Although MS increases wariness about physical aspects of sex, the theory also posits that romantic relationships serve a valuable terror management function. Love relations serve terror management by helping people feel that their lives are meaningful and

that they are valued. Love relationships may also provide a fundamental source of comfort because, as attachment theory proposes, they hark back to the earliest security-providing relationships with one's parents. In support of these ideas, a substantial body of research has shown that MS increases the desire for close relationships and appreciation of one's romantic partner. In addition, threat to a relationship brings death-related thought close to consciousness.

### Implications

Terror management research indicates that concern about mortality play a significant role in prejudice and investment in cultural stereotypes of women and minority groups. This work suggests a variety of measures that could help reduce intergroup violence, prejudice, and discrimination. Reducing the salience of mortality could be helpful. This would be difficult in places where violence is already prevalent but could be accomplished by minimizing actions likely to increase focus on death, whether by terrorists or military forces. The mass media could also play a role given the prevalence of reminders of death in news reports, films, and television shows.

A second possibility is to alter the cultural worldviews in which we embed our children. Studies show that worldviews that are more global and that more strongly advocate tolerance of diverse beliefs and customs should reduce the propensity for feeling threatened and needing to defend against those with different customs and beliefs. Worldviews and cultural practices that reduce the fear of death, such as death awareness courses in schools, could also be helpful. Addressing the matter of our mortality in a thoughtful, conscious manner may encourage more constructive approaches to coping. Indeed, preliminary research suggests that extensive contemplation of death, long practiced in some forms of Buddhism, may actually promote tolerance rather than punitiveness toward others who do not conform to the dictates of one's own worldview.

The theory has implications for individual mental health as well as intergroup harmony. People should function securely in their daily lives as long as they have strong faith in a meaning-providing worldview and believe they are significant contributors to that meaningful world. This suggests that buttressing these psychological resources should be an important goal for psychotherapists. This goal should also

be embraced by educators and policy makers, for the culture at large provides the critical bases for viewing life as meaningful and oneself as significant. If the standards for significance offered by a culture are too narrow, too stringent, or too unavailable for many individuals or for certain minority groups within a culture, mental health problems, alternative subcultures, and drug abuse are likely to be prevalent.

The knowledge of mortality is a difficult problem that has haunted humanity since its emergence. Terror management theory offers insights into the productive and destructive ways people cope with this problem and thereby offers a psychological basis for considering potential avenues for optimizing modes of death transcendence.

Jeff Greenberg

*See also* Attachment Theory; Culture; Intergroup Relations; Mortality Salience; Prejudice; Self-Esteem

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## TESTOSTERONE

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### Definition

Testosterone is a hormone that is responsible for the development and maintenance of masculine

characteristics. Testosterone is released into the bloodstream by the testes (testicles) in males and to a lesser extent, by the adrenal cortex and ovaries in females. Not only does testosterone influence the growth and development of masculine physical characteristics, such as the penis and the beard, but testosterone is also related to masculine psychological characteristics and social behaviors, including aggression, power, sexual behavior, and social dominance. In addition, social experiences such as competition can cause testosterone levels to rise or fall.

## Background and History

The history of testosterone research dates back to ancient times, when farmers observed that castrated animals (animals whose testes had been removed) were not very aggressive and had low sex drives. Castrated humans showed similar changes in behavior.

In 1849, German scientist Arnold Berthold conducted the first formal experiment involving testosterone. It was already known that when chickens were castrated during development, they became more docile than normal roosters. These castrated chickens, called *capons*, did not fight with others and did not show normal mating behavior. But when Berthold implanted testes from other birds into the abdomen of these capons, they developed into normal roosters. Berthold concluded that the testes must influence aggression and sexual behavior by releasing a substance into the bloodstream.

In 1935, Dutch researchers identified this substance, a hormone that they named *testosterone*. Later that same year, another group of researchers developed a method for producing testosterone from cholesterol. Through the development, in the 1960s, of a method called *radioimmunoassay*, researchers were able to measure the amount of testosterone circulating in the bloodstream, and shortly after that, a technique was developed to measure testosterone levels in saliva. The ability to measure testosterone levels through saliva rather than blood has made it easier and more practical to conduct research in humans.

## Effects

Testosterone exerts its effects during three different life stages: the perinatal period (which includes

pregnancy and the period shortly after birth), puberty, and adulthood.

### **Perinatal Period**

During the perinatal period, testosterone influences the development of the sexual organs (e.g., the penis). Animal studies show that high testosterone levels during the perinatal period also cause the nervous system to develop in a more malelike way and cause more masculine adult behaviors. The evidence in humans for the effects of testosterone during the perinatal period is less clear. Some human studies have actually found an effect of perinatal testosterone in females but not in males. For example, high perinatal testosterone levels in females are associated with more masculine behaviors in early childhood and with more masculine personality traits, such as sensation seeking and emotional stability, in adulthood.

### **Puberty**

Testosterone levels rise during puberty, and this rise is related to the deepening of the voice, muscle growth, facial and body hair growth, and increased sex drive. There is also evidence in animals that a rise in testosterone level at the beginning of puberty influence competitive behaviors, including aggression and dominance, although scientists are not sure whether this relationship exists in humans.

### **Adulthood**

Across a number of animal species, high testosterone concentrations in adult males are associated with high sex drive, and seasonal rises in testosterone (e.g., during the breeding season) are related to an increase in sexual behaviors. In humans, testosterone increases sex drive and sexual behaviors among men with abnormally low levels of testosterone but not among men who already have testosterone levels within the normal range.

Adult levels of testosterone are also associated with aggression and competition over food and mates. In animals, seasonal rises in testosterone (e.g., during the breeding season) are associated with increases in aggression and mate competition. There is also a small relationship between testosterone and aggression in humans. For example, several studies of male and female prisoners have found that prisoners with

higher testosterone commit more violent crimes and break more rules in prison.

Testosterone is also related to power and social dominance. Animals with high testosterone levels tend to have high social rank within status hierarchies. In humans, high testosterone levels are associated with more masculine, dominant facial characteristics and with personality styles that are related to power and dominance. In addition, individuals with high testosterone levels are more reactive to and pay more attention to threats to their status, such as losing in a competition. For example, one study found that individuals with high testosterone levels felt badly (e.g., irritable, hostile) and could not concentrate after they lost in a competition but felt fine and could concentrate quite well after they won in a competition.

### Changes in Levels

Testosterone levels can change in both the short term and the long term. In humans, testosterone levels peak in the late teens to early 20s and decline slowly but steadily after that. Testosterone levels also change throughout the day: They are highest in the morning, drop over the course of the day, and rise again in the evening. In a number of animal species, there are seasonal changes in testosterone, and testosterone levels are typically highest during the breeding season. Social experiences can also cause testosterone levels to change. In animals and in humans, winners of competitions tend to increase in testosterone, whereas losers tend to drop in testosterone. In addition, testosterone can increase in response to sexual stimuli, such as the presence of a female.

### Gender Differences

Most of the research on testosterone has focused on men, but more studies have begun examining women. Although women have only about one-seventh the testosterone levels as men, testosterone still seems to play a role in women. For example, research has found that women with higher testosterone levels tend to smile less often, score higher on tests of social dominance, and are more vulnerable to stereotype threat.

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*See also* Aggression; Dominance, Evolutionary; Hormones and Behavior; Sex Drive

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## THEMATIC APPERCEPTION TEST

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### Definition

The Thematic Apperception Test (TAT) is a psychological assessment device used to measure an individual's personality, values, or attitudes. The TAT is a projective test that is made up of 30 pictures that show persons in black and white, engaged in ambiguous activities. The test may be adapted for adults and children, males or females by using particular cards within the set. The test taker is asked to make up a story, telling what led up to the scene in the picture, what is happening at the current moment, how the characters are thinking and feeling, and what the outcome will be.

The original purpose of the TAT was to assess Henry Murray's need theory of personality. Currently, clinicians or researchers use it more generally to assess personality, attitudes, and values.

### Background and History

The TAT is based on the projective hypothesis. Projective tests assume that the way that a test taker perceives and responds to an ambiguous scene reveals inner needs, feelings, conflicts, and desires. The responses are a "projection" of the self and are thought to be indicative of an individual's psychological functioning. This type of testing was influenced by Freudian thought and theories and became popular in the 1940s.

Projective tests have been used in psychological testing since the 1940s and remain popular in clinical settings. They have been criticized, however, for having poor reliability and validity. While the tests seem to generally reflect a participant's feelings or personality, they are also potentially influenced by other variables. In particular, there is a lot of random error

introduced into these tests. The participant can be influenced by temporary states, such as hunger, sleep deprivation, drugs, anxiety, frustration, or all of these things. The results could be influenced by instructional set, examiner characteristics, the respondent's perception of the testing situation, or all three elements. Finally, ability factors influence all projective tests, particularly verbal ability. A meaningful interpretation of projective tests must consider all of these factors.

The TAT is the most popular projective test after the Rorschach Inkblot Test, and when scored using the standardized procedure developed by Bellak or used for well-defined constructs such as achievement motivation or affiliation, it is fairly reliable and valid.

The TAT was developed as measure of Henry Murray's need theory. Murray proposed a set of psychological needs that determined personality. He also defined common environmental forces—presses—which acted on personality and behavior. Murray believed that the projective responses to the ambiguous TAT cards would reveal an individual's needs and presses. Currently, the TAT is used in clinical as well as research settings to measure personality constructs. In social psychology the TAT might be used to assess individual differences in relating to others within social settings or groups.

*Elizabeth K. Gray*

*See also* Need for Affiliation; Projection; Research Methods

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## THEORY OF MIND

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### Definition

Theory of mind (ToM) refers to humans' everyday mind reading. It is the commonsense ability to attribute mental states (such as beliefs, desires, and intentions) to one's self and to other people as a way of making sense of and predicting behavior. For example, your thought that "John thinks I ate his sandwich" reflects a basic understanding that John has internal mental states much like your own, though the

specific content of those mental states may differ from your own (in this case, perhaps you believe that Mary ate John's sandwich). ToM is fundamental to everyday social life: Normally it is taken for granted that others have beliefs and desires and that they act in accordance with those mental states; furthermore, it is assumed that other people use *their* ToM to think about *another's* mental states (e.g., "John believes that I intend to make him believe that I didn't crave his sandwich"). Although potatoes and houseflies are considered incapable of these complex forms of thought, it is less obvious whether or not other mammals and birds have a ToM. The emerging consensus on this issue is that other species have either highly limited or, more often the case, no ToM abilities resembling those of humans. Therefore, ToM may be one of the crucial attributes that make humans human and distinguish humans' social lives from the experience and behavior of all other social animals. Also, among humans, it is possible that newborn babies do not have a ToM, and so child psychologists are very interested in understanding when and how children acquire this ability.

### Background

The term *ToM* was coined by primatologists David Premack and Guy Woodruff, who were interested in whether chimpanzees could use abstract concepts such as desire and memory to interpret others' behavior. Although the matter remains controversial, ToM capabilities appear to be uniquely human. Other species may communicate with elaborate signaling and vocalizations, but they are probably not drawing on a rich understanding of mental states and how they influence behavior. Their social interactions might be characterized in the same way as your interaction with a vending machine: You do such-and-such, this thing responds in a useful and predictable way, but you don't necessarily believe that it thinks, feels, or has any intentions of its own.

### Basic Research

In addition to primatologists, scholars in diverse disciplines have taken an interest in ToM. Evolutionary psychologists have noted that the evolution of human language and social cooperation may have built on ToM. That is, without ToM, human language probably would not have developed into its present state. Some

philosophers contend that ToM figures centrally in human consciousness, since the appreciation that one's perception of the world may differ from others' requires *knowing* that one *knows* (i.e., metacognition). The most extensive ToM research comes from developmental psychologists. ToM may seem like a perfectly obvious and basic capacity, but humans are not born with it. As the psychologist Jean Piaget noted, young children have difficulty appreciating that their construal of reality may not be shared by everyone. Gradually they begin to understand that their mental states are unique to their perspective and begin to represent others' perspectives based on knowledge of their mental states. ToM is often assessed in children using a false belief task: Show a child that a container labeled "lollipops" actually contains pencils rather than the expected candy. Ask the child what someone else who has not seen the contents of the container will think it contains. Most 3-year-olds incorrectly predict "pencils," whereas most 4-year-olds predict "lollipops." Passing this test requires thinking through what another person would think given knowledge that differs from one's own.

### Implications for Everyday Life

Everyday social activities—communicating, navigating public spaces, or outsmarting a basketball opponent—depend crucially on everyday mind reading. How fundamental ToM is to everyday social life isn't realized until seeing cases where it is impaired. This seems to be the case with autistic individuals, who lack normal social insight and communication skills in part because of selective deficits in the capacity to reason about others' mental states. The following are some everyday social phenomena involving ToM.

#### Communication

In normal, reciprocal communication, a person uses ToM to monitor whether the person and his or her communication partner are still attending to the same topic, to shift topics, and to discuss imaginary or hypothetical situations. ToM is also instrumental in understanding subtle or indirect meanings, such as those conveyed through sarcasm, humor, and nonverbal communication (e.g., facial expressions). Conversely, everyday types of miscommunication occur when people fail to take into account each other's perspective. For example, you might be confused if a friend called and

abruptly announced, "I refuse to do that!" because she has failed to think through what knowledge is only in her head and what knowledge is mutually shared, or common ground.

#### Persuasion

The ability to reason about what others think, and how certain messages are likely to affect attitudes, is critical for influencing beliefs and actions. For example, if you attempted to use persuasion to influence your boss's attitude about the importance of conserving water, you would need to adopt his or her point of view and to anticipate his or her reactions to your persuasive appeal. On a similar note, effectively deceiving someone, from telling a white lie to staging an elaborate ruse, demands that the deceiver see the world through another's eyes. It would be quite impossible to tailor a persuasive or deceptive message without first appreciating what others already know, want, or feel.

#### Empathy and Helping

Imagine seeing someone struggling to open a door while negotiating six bags of groceries and three children. Would you offer help even if there was nothing in it for you? According to Daniel Batson, if you empathize with the person—that is, vicariously experience the person's suffering—you will be likely to help regardless of what you stand to gain by doing so. Whether a person lends a hand to those in need can thus depend crucially on his or her ability to put him- or herself in their shoes, to experience events and emotions the way they experience them.

#### Explaining Behavior

People often act as amateur psychologists, trying to interpret others using what Fritz Heider called a naive or commonsense psychology about how minds and actions interrelate. People use information about traits and situations, but they also interpret others' actions from the perspective of their predisposing desires and beliefs ("He's upset because he thinks I ate his sandwich"). Interestingly, people are also prone to attribute human-like mental states to nonhuman entities that presumably don't have minds ("This butterfly came by to cheer me up!" or "I think my computer hates me!"). Cultural practices (e.g., rain dances) and beliefs (e.g., karma, fate) suggest that the young child's animism,

the belief that the physical world is endowed with mental life, retains its appeal well into adulthood.

### Conflict

To have a mind is what it really means to be human. Historically, one way that people have justified their incessant brutalization and annihilation of each other is to deny that their victims are possessed of mind—they are “rats,” “bugs,” or even “filth”—and are thus (the reasoning goes) appropriate to enslave, belittle, or extinguish without compunction. Consistent with this notion is recent evidence that humans are more likely to attribute mind to those they like. Future research should explore not only the capacity for ToM but also the social ramifications of people’s motivations for admitting or denying certain others into the charmed circle of mental beings.

Mark J. Landau

See also Attributions; Empathy

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## THEORY OF PLANNED BEHAVIOR

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Developed by Icek Ajzen in 1985, the theory of planned behavior (TPB) is today perhaps the most popular social-psychological model for the prediction of behavior. It has its roots in Martin Fishbein and Ajzen’s theory of reasoned action, which was developed in response to observed lack of correspondence between general dispositions, such as racial or religious attitudes, and actual behavior. Instead of dealing with general attitudes of this kind, the TPB focuses on the behavior itself and goes beyond attitudes to consider such other influences on behavior as perceived social norms and self-efficacy beliefs.

### Conceptual Framework

According to the theory, human social behavior is guided by three kinds of considerations: beliefs about the behavior’s likely positive and negative outcomes, known as *behavioral beliefs*; beliefs about the normative expectations of others, called *normative beliefs*; and beliefs about the presence of factors that may facilitate or impede performance of the behavior, termed *control beliefs*. For example, people may believe that the behavior of exercising, among other things, improves physical fitness and is tiring (behavioral beliefs), that their family and friends think they should exercise (normative beliefs), and that time constraints make it difficult to exercise (control belief). Taken together, the total set of behavioral beliefs produces a favorable or unfavorable attitude toward the behavior; the total set of normative beliefs results in perceived social pressure to perform or not to perform the behavior, or subjective norm; and, in their totality, control beliefs give rise to a sense of self-efficacy or perceived control over the behavior.

Attitude toward the behavior, subjective norm, and perceived behavioral control jointly lead to the formation of a behavioral intention. The relative weight or importance of each of these determinants of intention can vary from behavior to behavior and from population to population. However, as a general rule, the more favorable the attitude and subjective norm are, and the greater the perceived behavioral control is, the stronger is the person’s intention to perform the behavior in question. Finally, people are expected to carry out their intentions when the appropriate opportunity arises. However, successful performance of a behavior depends not only on a favorable intention but also on a sufficient level of volitional control, that is, on possession of requisite skills, resources, opportunities, and the presence of other supportive conditions. Because many behaviors pose difficulties of execution, the TPB adds perceived behavioral control to the prediction of behavior. To the extent that perceived behavioral control is accurate, it can serve as a proxy of actual control and can, together with intention, be used to predict behavior.

Beliefs play a central role in the TPB, especially those salient behavioral beliefs that are most readily accessible in memory. In applications of the theory, these salient beliefs are elicited in a free-response format by asking a representative sample of respondents to list the advantages and disadvantages of performing

a behavior of interest (behavioral beliefs), to list the individuals or groups who approve or disapprove of performing the behavior (normative beliefs), and to list the factors that facilitate or inhibit performance of the behavior (control beliefs). The most frequently emitted behavioral, normative, and control beliefs are assumed to be the salient beliefs in the population and to determine prevailing attitudes, subjective norms, and perceptions of behavioral control. These salient beliefs are focused on the particular behavior of interest, and they serve as the fundamental explanatory constructs in the theory. More general factors, such as personality traits, gender, education, intelligence, motivation, or broad values are assumed to influence behavior only indirectly by their effects on salient beliefs. Assume, for example, that women are found to drink less alcohol than men. The TPB would explain this gender effect by predicting that men hold more favorable behavioral, normative, or control beliefs about drinking than women do.

The TPB assumes that human social behavior is reasoned or planned in the sense that people are assumed to take into account a behavior's likely consequences, the normative expectations of important referents, and factors that may impede performance of the behavior. Although the beliefs people hold may sometimes be inaccurate, unfounded, or biased, their attitudes, subjective norms, and perceptions of behavioral control are thought to follow spontaneously and reasonably from these beliefs, to produce a corresponding behavioral intention, and ultimately to result in behavior that is consistent with the overall tenor of the beliefs. This does not necessarily presuppose a deliberate, effortful retrieval of information and construction of attitudes prior to every enactment of a behavior. After at least minimal experience with the behavior, attitude, subjective norm, and perceived behavioral control are assumed to be available automatically as performance of the behavior is contemplated.

Successful application of the TPB is predicated on two conditions. First, the measures of attitude, subjective norm, perceived behavioral control, and intention must be compatible with one another and with the measure of behavior relative to the action involved, the target at which the action is directed, and the context and time of its enactment. Second, attitude, subjective norm, perceived behavioral control, and intention must remain relatively stable over time. Any changes in these variables prior to observation of the behavior will tend to impair their predictive validity.

## Empirical Support

The TPB has been applied in research on a great variety of behaviors, including investment decisions, high-school dropout, mountain climbing, driving violations, recycling, class attendance, voting in elections, extra-marital affairs, antinuclear activism, playing basketball, choice of travel mode, tax evasion, and a host of other activities related to protection of the environment, crime, recreation, education, politics, and religion. It has found its most intense application, however, in the health domain, where it has been used to predict and explain such varied behaviors as drinking, smoking, drug use, exercising, blood donation, dental care, fat consumption, breast self-examination, condoms use, weight loss, infant sugar intake, getting medical check-ups, physician referrals, protection of the skin from the sun, living kidney donation, and compliance with medical regimens. The results of these investigations have, by and large, confirmed the theory's structure and predictive validity, especially when its constructs were properly assessed. Even without this caveat, the TPB has fared very well. Meta-analytic reviews of close to 200 data sets in a variety of behavioral domains have found that the theory accounts, on average, for about 40% of the variance in intentions, with all three predictors—attitude toward the behavior, subjective norm, and perceived behavioral control—making independent contributions to the prediction; the reviews also found that intentions and perceptions of behavioral control explain about 30% of the behavioral variance.

Given its predictive validity, the TPB can serve as a conceptual framework for persuasive messages and other interventions designed to influence intentions and behavior. Influence attempts directed at one or more of the theory's predictors have been found to increase use of public transportation among college students, to raise the effectiveness of job search behavior of unemployed individuals, to promote testicular self-examination among high-school and college students, and to induce alcoholics to join a treatment program.

## Intention–Behavior Relation

For the TPB to afford accurate prediction, intentions must remain relatively stable prior to observation of the behavior. Empirical evidence supports this expectation, showing that the intention–behavior relation declines with instability in intentions over time. More important, the theory also assumes that people will act

in accordance with their intentions under appropriate circumstances. This expectation has frequently been challenged, beginning with R. T. LaPiere's classic study in which ready acceptance of a Chinese couple in hotels, motels, and restaurants contrasted sharply with stated intentions not to accept "members of the Chinese race" in these same establishments. Similar discrepancies have been revealed in investigations of health behavior where it is found that large proportions of participants fail to carry out their intentions to use condoms, to undergo cancer screening, to exercise, to perform breast self-examination, to take vitamin pills, to maintain a weight-loss program, and so forth.

A variety of factors may be responsible for observed failures of effective self-regulation, yet a simple procedure can often do much to reduce the gap between intended and actual behavior. When individuals are asked to formulate a specific plan—an implementation intention—indicating when, where, and how they will carry out the intended action, the correspondence between intended and actual behavior often increases dramatically. Behavioral interventions of this kind that focus on implementation intentions have been shown to produce high rates of compliance with such recommended practices as cervical cancer screening and breast self-examination.

### Critiques

Although popular and successful, the TPB has not escaped criticism. One type of critique has to do with the theory's sufficiency—the proposition that attitudes, subjective norms, and perceptions of behavioral control are sufficient to predict intentions and behavior. Investigators have suggested a number of variables that might be added to the theory to improve its predictive validity. Among the proposed additions are desire and need, affect and anticipated regret, personal and moral norms, past behavior, and self-identity (i.e., the extent to which people view themselves as the kind of person who would perform the behavior in question).

In another major critique, investigators have challenged the theory's reasoned action assumption, or more precisely, they have argued that reasoned action may represent only one mode of operation, the controlled or deliberate mode. According to Russell Fazio's MODE model, reasoned action occurs when people are motivated and capable of retrieving their beliefs, attitudes, and intentions in an effortful manner. When they lack motivation or cognitive capacity to do so,

they are said to operate in the spontaneous mode where attitudes must be strong enough to be activated automatically if they are to guide behavior.

A related critique of the TPB's reasoned action assumption relies on the well-known phenomenon that, with repeated performance, behavior becomes routine and no longer requires much conscious control for its execution. Some have suggested that as a result of this process of habituation, initiation of the behavior becomes automatic, and control over the behavior is transferred from conscious intentions to critical stimulus cues. The finding that frequency of past behavior is often a good predictor of later behavior and, indeed, that it has a residual impact on later behavior over and above the influence of intention and perceived behavior control, has been taken as evidence for automaticity in social behavior.

*Icek Ajzen*

*See also* Attitude–Behavior Consistency; Implementation Intentions; Reasoned Action Theory

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## THIN SLICES OF BEHAVIOR

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### Definition

*Thin slices of behavior* is a term coined by Nalini Ambady and Robert Rosenthal in their study examining the accurate judgments of teacher effectiveness. They discovered that very brief (10-second and even 2-second) clips of dynamic silent video clips provided sufficient information for naive raters to evaluate a teacher's effectiveness in high correlation with students' final course ratings of their instructors. Distinctively, *thin slices* are thus defined as brief excerpts of expressive behavior, sampled from the behavioral stream, that contain dynamic information and are less than 5 minutes long. Thin slices can be sampled from any available channel of communication, including the face, the body, speech, the voice, transcripts, or combinations

of all of these. Hence, static images (e.g., photographs) and larger chunks of dynamic behaviors would not qualify as thin slices. Thin slices retain much, if not most, of the information encoded via dynamic, fluid behavior while reducing or sometimes eliminating the information encoded within the ongoing verbal stream, the past history of targets, and the global, comprehensive context within which the behavior is taking place.

### Impact

Since its introduction to the field of psychology, research on thin-slice judgments has had a distributed impact across social, applied, and cognitive psychology, and it has recently penetrated the popular literature as well. For instance, judgments based on thin slices have been shown to accurately predict the effectiveness of doctors treating patients, the relationship status of opposite-sex dyads (pairs) interacting, judgments of rapport between two persons, courtroom judges' expectations as to a defendant's guilt, and even testosterone levels in males.

### Evidence

Recent research on thin-slice judgments has revealed that the accuracy of such judgments is bounded by several factors. Overall, the thin-slice methodology is useful only so long as relevant and valid information can be extracted from a behavioral stream. Factors that influence the accuracy of thin-slice judgments include culture and exposure, individual differences in the ability to decode information accurately, differences in accuracy based on expertise and group membership, and the type of judgment being made. Although, overall, both children and adults who enjoy greater interpersonal success are generally better decoders of nonverbal behavior, individual differences are tempered by cultural and subcultural exposure. Specifically, people are better at accurately judging targets from their own culture and cultures similar to their own than they are those more foreign. Similarly, ingroup benefits exist for groups such as homosexuals, who show an advantage at accurately determining the sexual orientation of others based on thin slices of behavior. More individually, thin-slice judgments can be affected by people's expertise and competency with the particular social context being assessed. Together, these caveats regarding thin slices illustrate

how the validity and utility of a thin slice ultimately depends both on the construct being evaluated and on the context within which accuracy is being judged.

For example, although a thin slice may provide valid information regarding an individual's affective state, it may provide entirely invalid information regarding other aspects of that individual, such as future intentions. Much of this variance due to culture and exposure is cogently explained by recent work suggesting the existence of nonverbal dialects and accents that are culturally determined. Exposure to particular dialects and familiarity with cultural norms and constructs contribute to the increased accuracy. Thus, exposure to information about persons based on their group membership and familiarity with the context of evaluation bolsters expertise and accuracy.

The type of judgment being made has an effect on accuracy as well. Thin-slice judgments are predictive and accurate only to the extent that relevant variables are observable from the thin slice sampled. Thus, thin-slice judgments of observable variables revealed through demeanor and behavior, such as how warm or likeable someone appears to be, tend to be more predictive in contrast to thin-slice judgments of less observable variables that cannot be observed rapidly through behavior, such as how persevering someone appears to be. This is because information regarding how perseverance is more likely revealed through actions and behaviors that unfold over a relatively long period of time. Such information is less likely to be gleaned from thin slices of behavior. Consequently, variables that are easily observable, such as extraversion, show the highest reliability across judges.

### Mental Processes

What mental processes underlie this ability to make accurate judgments based on thin slices? Because of the brevity of the stimuli being perceived, as well as the nature of the information being conveyed, judgments based on thin slices of behavior likely rely on a non-conscious, relatively automatic form of cognitive processing. In this way, important social information can be gleaned without the perceiver having to rely on elaborate information-processing strategies, which strain precious cognitive resources. Thus, thin-slice judgments seem to be made rapidly and efficiently. Depletion of cognitive resources does not seem to disrupt accuracy based on thin slices. In other words, even when people are distracted or preoccupied, they

can still form accurate impressions based on thin slices. Conversely, practice does no better to facilitate accurate judgments, nor does providing incentives such as monetary reward for higher accuracy. In sum, the accurate impressions and judgments formed from thin slices occur automatically, are intuitive in nature, and seem to proceed outside of conscious awareness or control.

## Implications

Thin slices of behavior are diagnostic of many affective, personality, and interpersonal conditions. Examining judgments based on thin slices can inform us about the sensitivity people have to this information as well as the process by which immediate impressions are formed. This scrutiny will then lead to a better understanding of how subsequent expectations of, and behavior toward, others come about.

*Nalini Ambady  
Nicholas O. Rule*

*See also* Nonconscious Processes; Nonverbal Cues and Communication

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although there is evidence that most violent criminals, bullies, and terrorists tend to think highly of themselves, most people who think highly of themselves are not violent. An accurate characterization of the theory is that violence is perpetrated by a subset of people who exhibit an unstable and overly inflated high self-esteem. They respond with hostile aggression to what they perceive as challenges to these self-views to express the self's rejection of ego-threatening feedback.

## Context and Importance

This theory runs counter to the widely held belief that low self-esteem is the cause of violent behavior. High self-esteem has traditionally been viewed as an unqualified asset and something that everyone should strive to achieve. Much of the self-help literature stems from this notion that high self-esteem is essential for success in one's relationships and careers and that one can develop high self-esteem by adhering to prescribed formulas. Many school systems have adopted policies that operate on this premise and offer praise and rewards to children for effort as much as for achievement. The threatened egotism theory of aggression casts serious doubt on this school of thought and instead suggests that artificially inflating self-esteem without accompanying boosts in achievement or other bases for feeling good about one's self can do more harm than good. The theory suggests that it is these people—those with grandiose, unstable self-esteem—who are most likely to respond violently in response to unfavorable feedback or other types of threats to their self-conceptions. It is these people who find criticism particularly threatening and lash out against its source.

## Evidence

Evidence supporting this theory comes from diverse sources, such as studies of violence in laboratory settings, criminological surveys, and historical accounts, and includes a wide range of violence, such as murder, assault, rape, domestic violence, bullies, youth gangs, terrorism, repressive governments, tyranny, warfare, prejudice, oppression, and genocide. The common theme throughout these studies is that those who perceive a threat to their high self-esteem are most likely to perpetrate violence. Threatened egotism has been measured in a variety of ways as well, such as perceived disrespect, wounded pride, insults, verbal abuse,

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# THREATENED EGOTISM THEORY OF AGGRESSION

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## Definition

The threatened egotism theory of aggression states that violence is related to a highly favorable view of the self, combined with an ego threat. This theory does not suggest that high self-esteem necessarily causes violence or that there is any direct relationship between self-esteem and violence. Furthermore,

or unfavorable feedback. In addition, the same pattern was found for nations, medium and small groups, and lone individuals. It is important to note that the theory does not claim that threatened egotism is the only cause of aggression since there are likely numerous other factors, such as biochemical or genetic causes, family environment, and other factors that have yet to be identified. Studies indicate that threatened egotism is a cause of violence in a substantial number of contexts, but there are other possible variables that might play important roles in predicting violence.

Evidence from research examining how violent groups and individuals view themselves provides support for this theory, as does an examination of how egotism predicts violent behavior. Research studies with narcissistic people (those who are likely to have high self-esteem that is not well founded) have shown that they respond to negative interpersonal feedback with aggression toward the source of the feedback. In one laboratory study, participants were instructed to write an essay expressing a particular attitude toward abortion and were then led to believe that another participant was going to evaluate the essay and give feedback. The feedback was construed so that it was positive for half the participants and negative for the rest of the participants. The researchers found that when the essay was evaluated negatively, participants were more likely to blast the other participant with loud noise on a subsequent competitive task that involved punishments for incorrect answers. These aggressive responses were the strongest among the participants who scored high on a narcissism scale, indicating that an inflated view of the self that is challenged is most associated with aggressive behavior.

Some research compares rates of aggression between groups that are known to differ on egotism. Psychopaths, for example, commit a disproportionately high level of violent crimes and exhibit a highly inflated view of their abilities and importance in the world. In addition, the well-documented relationship between alcohol consumption and aggression can be understood in the context of this theory. Evidence indicates that when people drink, they tend to rate themselves more favorably than they would otherwise, creating a temporary state of high self-esteem. An examination of violent offenders also suggests strong tendencies toward egotism. Men who are imprisoned for murder or assaults tend to commit these crimes in response to when they perceive they were insulted, belittled, or simply had their pride wounded.

## Implications

This theory has had a strong influence on how violent behavior has been understood and on the development of appropriate interventions. Although it may, in some ways, seem counterintuitive that high self-esteem would not be protective against ego threats, an important component of this theory is that an unstable, inflated sense of self is the type that is most harmful. This form of self-esteem is particularly vulnerable to threats and proneness to violence. This theory provides compelling evidence that attempting to boost self-esteem to cure underachievement, social exclusion, and aggressive tendencies is counterproductive and potentially harmful.

*Laura Smart Richman*

*See also* Aggression; Ego Shock; Narcissism; Self-Esteem

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## THREE-DIMENSIONAL MODEL OF ATTRIBUTION

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### Definition

The three-dimensional model of attribution posits that the explanations people give for the things that happen to them can vary on three distinct factors, and these variations have consequences for people's mood, self-perception, and well-being. Attributions can be stable (true across time) or unstable (temporary); they can be internal (stemming from the person) or external (stemming from the environment); and they can be global (applying to many domains) or specific (limited to one area).

## Background

According to initial work on learned helplessness, exposure to uncontrollable negative events can lead to depression. Upon further research, however, Martin Seligman and colleagues, who originally developed the theory of learned helplessness, found that this was true for some people but not for others. Their research showed that what separated the depressed from the nondepressed was a tendency to attribute those negative events to factors that were stable, internal, and global, despite their inherent uncontrollability. While the type of attribution people make can vary on all three dimensions, depending on the event being considered as well as many other factors, people often show a general tendency across attributions toward one pattern of explanation or another. Seligman developed a test to measure this individual difference, called the Attributional Style Questionnaire. This questionnaire has people give explanations for a series of hypothetical positive and negative events; the general patterns of responses that they give can be used to make diagnoses or predictions. For example, a person who fails a test and explains his or her poor grade by saying, "I never do anything right," which is a stable, internal, global explanation, is more likely to become depressed than a person who explains away their failure by saying, "That test was especially difficult," an unstable, external, specific explanation.

This latter type of attribution for negative events may in fact be more common. Nondepressed people also make stable, internal, global attributions, but they tend to make them for *positive* events instead. Most people feel that the positive things that happen to them are due to their person and therefore they were the direct cause, and negative events are due to the situation and therefore those events shouldn't reflect poorly on them. They may believe, for example, that when they pass a test, it is because they are smart (which is stable, internal, and global), and when they fail, it is because of the test or some other situational factor (which is unstable, external, and specific). This tendency to take credit for successes and shirk blame for failures is part of what underlies people's tendencies toward positive self-esteem and even self-enhancement.

*Elanor F. Williams*

*See also* Attribution Theory; Learned Helplessness

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## TOKEN EFFECTS

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### Definition

A token is the only person of his or her category, or one of very few persons, in an otherwise homogeneous group. A sole female in a group of males is an example of a token individual, as is the only Latino in a group of Caucasians. Being numerically distinctive produces effects on one's thoughts and capabilities. When an individual is a token (or solo) in a group, he or she generally becomes preoccupied with evaluative or self-presentational concerns, such as "What do they think of me? How am I coming across?" Frequently, the attention diverted to these concerns interferes with the token's ability to concentrate on the central group activity, yielding diminished performance. This phenomenon is called the *token deficit effect*. There are instances, however, when the priming of self-presentation concern is concordant with the group task. In these instances, numerical distinctiveness facilitates performance, resulting in the *token surfeit effect*.

### Research Findings

Past research has shown that individuals' memory for group interaction and their problem-solving skills are impaired when they are the numerical token in the group. In parallel, tokens' memory for their own performance, and for that of others, during a group session is actually enhanced. In short, they are so worried about how they are being evaluated and about how well they are performing relative to others that they fail to perform; instead, they focus on tracking how well they are doing and how well everyone else is doing and are consequently able to report very accurately on this dimension.

Token deficit effects have been demonstrated with different types of tasks (memory, problem solving) and with different types of tokens. Early work showed

that gender tokens evinced deficits; later work demonstrated the same pattern with ethnic/racial tokens. Note that the token deficit effect is not limited to one sex or ethnic/racial minority group—both males and females, and Whites and minorities show similar deficits when they are numerically distinctive. Moreover, members of categories that are not visibly distinctive but socially meaningful show similar results. For example, being the only one from a particular school in a group of persons from a rival school also produces deficits, even when the token looks no different from the other group members.

The latest work in this area indicates that tokens might not always be at a disadvantage. In fact, there is evidence for a *token surfeit effect*, wherein tokens outperform their nontoken counterparts. How can this be the case? In fact, because tokens are compelled to focus on evaluation in the group, they are especially attentive to information that relates to interpersonal evaluation, requires taking the perspective of others, or both. When they are assigned tasks that draw on these inclinations, they show superior performance to nontokens. Group tasks that rely on memory for evaluative words (trait ratings of self and others) and those that depend on being able to take different perspectives (coming up with solutions when two or more parties are at odds) are compatible with the token mindset. Accordingly, when faced with these tasks, tokens do very well.

Numerical distinctiveness as manifested in tokens can yield deficits and surfeits. Being one-of-a-kind can produce benefits as well as disadvantages.

*Delia S. Saenz*

*See also* Decision Making; Group Dynamics; Intergroup Relations; Interpersonal Cognition; Self-Presentation

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## TRAITS

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### Definition

When people describe themselves and others, they tend to use trait descriptors. A trait is marked by the tendency to act, think, and feel in a certain way—over time and across situations. Terms such as *disposition*, *construct*, *dimension*, and *personality variable* have very similar meanings and psychologists often use them interchangeably.

Traits indicate that the probability of certain behavior is high, but they are not to be understood in a deterministic sense. Even the cruelest person will have moments of tenderness. Strictly speaking, traits describe behavior but do not explain it. Socialization or genetic factors can be used to explain how traits develop in a person. Some authors have regarded traits as fictions that do not exist outside the mind of observers; others have searched for their neurophysiological basis.

### Historical and Contemporary Approaches to Traits

Hippocrates (460 B.C.E.) stated that an imbalance of body fluids leads to physical and mental illness. Galen (130–200 C.E.) asserted that four temperaments are based on the dominance of one of those fluids: blood (sanguine, optimistic), yellow bile (choleric, irritable), black bile (melancholic, sad), and phlegm (phlegmatic, calm). These historical assumptions influenced the development of other trait theories. Gordon Allport (1897–1967) supported an idiographic approach and emphasized that there are unique personal dispositions in addition to general dispositions. Raymond B. Cattell (1905–1998) used factor analysis, a statistical tool, to identify the traits that are most relevant in distinguishing people. He proposed 16 Personality Factors (16 PF). Hans Eysenck (1916–1997) identified three supertraits (the Gigantic Three): extraversion (outside or inward orientation), neuroticism (emotional stability or lability), and psychoticism (antisocial behavior or friendliness). In the 1970s, Paul Costa and Robert McCrae suggested that five trait dimensions are optimal for describing personality. Even though there are authors who favor six, four, or three factors, the Big Five (Openness to Experience, Neuroticism, Extraversion, Agreeableness, and Conscientiousness) are currently the most popular approach in studying traits.

## Traits or Situations?

In the late 1960s, Walter Mischel dealt a heavy blow to the trait approach. He pointed out that traits lack cross-situational consistency and predictive validity. In other words, what we do depends a lot on the situation, and what we will do in the future cannot be easily predicted with the help of personality questionnaires. The fact that someone who is outgoing in one situation might be shy in another situation led to the situationist approach: People's behavior was understood as a consequence of situational forces. Later on, Walter Mischel left that radical position and proposed an interactionist approach that considers behavior to be guided by situational cues as well as traits. Recently Yushi Shoda and Walter Mischel have used situation profiles to describe the stable patterns with which individuals react to different situations. Today one will not find a reasonable theorist who will deny the relevance of traits or the relevance of situations.

*Astrid Schütz*

*Aline Vater*

*See also* Big Five Personality Traits; Individual Differences

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## TRANSACTIVE MEMORY

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### Definition

An important function of relationships is information sharing. People often look to their interpersonal and work relationships for needed information: the forgotten name of a common acquaintance, an opinion on possible investment strategies, or help with an unfamiliar task such as setting up a wireless network. People in relationships often share the burden for learning and remembering information by dividing responsibility for different knowledge areas; for example, in a work team, one member may be responsible for all information related to Client X while another member may be responsible for all information related to Client Y. When one person needs information in

another's area, they can simply ask the person responsible rather than taking the time and energy to learn the information themselves. The knowledge sharing system that often develops in relationships and in groups where people assume responsibility for different knowledge areas and rely on one another for information is called *transactive memory*.

Transactive memory refers to the idea that people in continuing relationships often develop a specialized *division of labor*; that is, specific roles with respect to the encoding, storage, and retrieval of information from different knowledge domains. Each member of the relationship becomes a "specialist" in some areas but not others, and members rely on one another for information. For example, among life partners, one partner might be responsible for knowing the couples' social calendar and car maintenance schedule, while the other might be responsible for knowing when the bills need to be paid and what is in the refrigerator. Such specialization reduces the memory load for each individual, yet each individual has access to a larger pool of information collectively. For transactive memory to function effectively, individuals must also have a shared conceptualization of "who knows what" in the group.

Transactive memory is more than knowing who to ask for information in different knowledge areas. It also involves retrieval and communication processes: knowing how to ask for information from others in the system, knowing how to communicate information effectively to those who need it, and knowing how to use retrieved information in collective decisions. What makes transactive memory "transactive" are the "transactions" (i.e., communications) among individuals to encode, store, and retrieve information from their individual memory systems. Transactive memory theory and research borrows heavily from what is known about the memory processes of individuals and applies it to groups.

Evidence of transactive memory systems has been demonstrated in a variety of relationships and groups, including married couples, dating couples, families, friends, coworkers, and project teams in both organizational and laboratory settings.

### Transactive Memory Development

One necessary condition for transactive memory development is cognitive interdependence: Individuals must perceive that their outcomes are dependent on the knowledge of others and that those others' outcomes

are dependent on their knowledge. Cognitive interdependence often develops in close interpersonal relationships, in which people share responsibilities, engage in conversations about many different topics, and make joint decisions. It can also arise as a result of a reward system or the structure of a group task.

Transactive memory develops as individuals learn about one another's expertise and begin to delegate and assume responsibility for different knowledge areas. The delegation process by which members are associated with knowledge areas is often implicit and informal, emerging through interaction. Individuals can become linked to knowledge-based relative expertise (the best cook is likely to become the person in charge of knowing what is in the refrigerator), negotiated agreements (one person agrees to keep track of car maintenance if the other will keep track of when bills are due), or through circumstance (the person who answered the phone when Client X called the first time becomes the "Client X" expert). In newly formed groups, individuals are likely to rely on stereotypes based on personal characteristics (such as age, gender, ethnicity, social class, and organizational role) to infer what others know. In some cases, these initial assumptions can become self-fulfilling prophecies: Individuals are assigned knowledge areas that are consistent with social stereotypes, even though they may not fit with their actual expertise, and eventually become experts as a result of those assignments. For example, a male group member might be assigned to set up a wireless network because the group assumes that he knows more about technology than his female group members when in fact he does not. Through the slow and cumbersome learning process of setting it up, he ultimately becomes an expert on wireless networks.

Informal interactions and shared experiences provide opportunities for members to learn about the relative expertise of other members, to indicate their interests and preferences, to coordinate who does what, to observe members' skills in action, and to evaluate the willingness of others to participate in the transactive memory system. Those systems set up by formal design (such as a listing of job responsibilities of staff in an office procedures handbook) are either validated or modified over time as individuals discover whether individuals assigned to specific knowledge roles are able and willing to perform them.

### Processes in Transactive Memory

A directory-sharing computer network has been used as a metaphor for illustrating key processes of transactive

memory systems. The first process is *directory updating*, whereby individuals develop a working directory or map of "who knows what" and update it as they obtain relevant new information. The second process is *information allocation*, whereby new information that comes into the group is communicated to the person whose expertise will facilitate its storage. The third process is *retrieval coordination*, which involves devising an efficient and effective strategy for retrieving needed information based on the person expected to have it.

Unlike the literal and straightforward ways that computer networks update directories, and locate, store, and retrieve information, transactive memory systems among human agents are often flawed. Transactive memory systems can vary in accuracy (the degree to which group members' perceptions about other members' expertise are accurate), sharedness (the degree to which members have a shared representation of who knows what in the group), and validation (the degree to which members accept responsibility for different knowledge areas and participate in the system). Transactive memory systems will be most effective when knowledge assignments are based on group members' actual abilities, when all group members have similar representations of the system, and when members fulfill expectations.

### Context and Importance

In recent years, a renewed interest in the collective aspects of cognition has emerged. Proponents argue that contrary to current social psychological conceptions of social cognition as individual thought about social objects, social cognition should be thought of as a product of social interchange and is constructed, shared, and distributed among groups of people during the course of interaction. Theory of and research on transactive memory examine the collective aspects of cognition. Transactive memory helps explain how people in collectives learn, store, use, and coordinate their knowledge to accomplish individual, group, and organizational goals.

### Implications

People in close interpersonal and work relationships often perform their tasks and make decisions more effectively than strangers, because they are better able to identify experts and make better use of knowledge through their transactive memory system. Transactive

memory systems can lead to improved group performance on tasks for which groups must process a large amount of information in a short period of time and on tasks that require expertise from many different knowledge domains. However, there may be situations in which too much specialization may impede group performance, for example, when assigned experts are unavailable, unable, or unwilling to contribute their knowledge. Even when specialization leads to better outcomes, some redundancy may be useful. It helps members to communicate more effectively, it can encourage group members to be more accountable to one another, and it can provide a cushion for transitions in relationships when, for example, the designated expert leaves the group. New technologies facilitating the development of transactive memory are emerging to help people locate and retrieve information from experts in their organizations and in their social networks.

*Andrea B. Hollingshead*

*See also* Group Decision Making; Interpersonal Cognition; Memory

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## TRIANGULAR THEORY OF LOVE

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### Definition

The triangular theory of love characterizes love in terms of three underlying components: intimacy, passion, and commitment. People love each other to the extent they show these three components, and different combinations of the components yield different kinds of love.

### The Three Components

The three components of love are each different in nature. Intimacy is characterized by feelings of caring, concern, understanding, trust, and closeness between two partners. Intimate partners are good friends and support each other in times of need. Intimacy is primarily emotional in nature. Passion is characterized by intense desire, feelings of longing, need of the partner, and joy at the thought of seeing the partner (and anxiety or worry at the thought of separation). Passionate partners crave each other's presence, much as do people who experience an addiction. Passion is primarily motivational in nature. Commitment is characterized by cognitions of the long-lasting nature or even permanence of a relationship, the stand that one will stay with the partner, despite any hardships that may evolve, and the confidence that the relationship is the right one to be in. Committed partners view themselves as in the relationship over the long term. Commitment is primarily cognitive in nature.

### Time Courses of the Three Components

The three components show somewhat different time courses. Intimacy usually develops somewhat slowly, over the course of time. In relationships that succeed, intimacy continues to develop; in those that fail, intimacy may go up and then start to go down. However, in many long-term relationships, high levels of intimacy may be difficult to sustain over periods of many years. A good test of intimacy is whether, when there is some disruption in a relationship, the disruption brings the partners closer together or further apart. Passion usually develops quickly but also may fade quickly. It shows a course similar to that of addictions. After a while, the “high” of the relationship is less rewarding than the “low” of the thought of termination of the relationship seems punishing. Commitment typically develops slowly and may continue to increase in successful relationships and fade in unsuccessful ones. Fading of commitment can be caused by problems in the relationship or by the entrance of competition to the relationship.

### Kinds of Love

According to the theory, different combinations of intimacy, passion, and commitment yield different kinds of love.

*None of the components = nonlove.*

*Intimacy alone = friendship.* This is the type of love experienced by good friends. It is a limiting case of love.

*Passion alone = infatuated love.* This is the kind of love one experiences in love at first sight. It is a limiting case of love.

*Commitment alone = empty love.* This is the kind of love one experiences when all that holds a couple together is the cognition that one should stay in the relationship. It is characterized by the beginning of arranged relationships and marriages and the (emotional) end of relationships that have failed over time.

*Intimacy + passion = romantic love.* This is the type of love experienced by those who fall in love with each other but who are not ready to commit for the long term, such as students whose future lives are yet uncertain.

*Intimacy + commitment = companionate love.* This is the kind of love that often develops over the course of many years, when the passion begins to flicker. Many long-term, stable relationships are based on companionate love.

*Passion + commitment = fatuous (foolish) love.* This is the kind of love, sometimes seen in movies, in which partners commit to each other on the basis of passion without even truly getting to know each other. These kinds of relationships do not have a good prognosis.

*Intimacy + passion + commitment = consummate (complete) love.* This is the kind of love to which many people aspire: It is difficult to attain and even more difficult to maintain. People generally have to work at relationships and mutual growth to maintain consummate love.

## Origins of the Components

The origins of the components are in stories one develops about what love should be like. In the United States, there are about two dozen common stories. Examples are a *fairy-tale story*, in which partners view each other as a prince and a princess; a *travel story*, in which partners see themselves traveling through life together over a sometimes rocky road; a *business story*, in which partners view the relationship as a business, much like any other business; the *pornography story*, in which love is viewed as exciting to the extent it is “dirty”; and a *horror story*, in which one partner terrorizes the other.

## Data Regarding the Theory

Empirical tests of the theory have yielded several interesting findings. For example, it has been found that higher levels of intimacy, passion, and commitment all tend to be associated with greater happiness and satisfaction in relationships. The patterns of the three components also play a role in happiness and satisfaction. Partners whose patterns of intimacy, passion, and commitment are more similar (e.g., both needing high levels of intimacy, or neither caring much about commitment) tend to be more satisfied than partners whose patterns differ (e.g., one needing a high level of intimacy and the other caring much more about the level of passion). In addition, different loving relationships, such as with father, mother, lover, sibling, show quite different patterns of intimacy, passion, and commitment. Stories also have been shown to have effects on relationships. For example, partners with more similar stories about relationships tend to be happier than partners with less similar stories (e.g., two partners with a fairy-tale story will be happier, on average, than one with a fairy-tale story and the other with a business story). However, stories do not in and of themselves predict happiness, independent of match to the partner’s story, but certain stories are associated with unhappiness, such as the horror story and the pornography story.

Robert J. Sternberg

*See also* Companionate Love; Decision and Commitment in Love; Love; Romantic Love

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## TRUST

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### Definition

Trust refers to a person’s confident belief that another’s motivations are benevolent toward him or her and that the other person will therefore be responsive to his or

her needs. Trust is typically viewed as a belief about a specific person, though it has also been viewed as a personality trait characterizing people's tendency to trust or distrust others in general.

### Evolutionary Foundations

Evolutionary thinkers have argued that issues of trust were critical to the survival of early humans. Because one's welfare depended on cooperation and exchange with others, for instance in trading berries or other fruit for meat, people needed to anticipate who they could count on to engage in fair exchanges and who, instead, deserved their suspicions as possible cheaters. They also needed to understand who among their significant others could be truly relied on to take care of them in times of serious need and who, instead, were fair-weather friends. Given that issues of trust were so important for early humans' welfare, evolutionary theorists contend that specific mechanisms likely exist in the modern brain that allow people to monitor behaviors relevant to others' motivations and calibrate the level of trust that a person warrants—a suspicion meter, if you will.

### Trust in Close Relationships

Trust, of course, remains very critical in modern life, especially in one's significant relationships with family, friends, and romantic partners. Close attachments such as these oblige people to depend and rely on others' good intentions, that is, to become more heavily interdependent with others to satisfy their own central needs. As the extent of risk and possible costs of rejection and betrayal increase in such relationships, the stakes become much higher and trust becomes all the more critical. It is therefore unsurprising that research on trust has been most prevalent within the contexts of these close relationships.

The development of trust in a relationship is usually a gradual process that requires social interactions and experiences with a person that suggest he or she is predictable and dependable, especially in situations in which costly sacrifices by another may be necessary to be responsive to one's own needs. Such situations are seen as diagnostic because clearer conclusions about others' motives can be drawn when helping is costly to another and not in their short-term interests. However, to achieve a true sense of confidence in

another person, one must eventually go beyond the available evidence and make a leap of faith. Past evidence can never fully predict future behavior, so to genuinely trust and achieve some peace of mind about a significant other, people must set aside their uncertainties and simply act in a trusting way.

The amount of trust that develops in a relationship is crucial because it regulates the extent to which people allow themselves to be committed to and invested in that relationship. That is, people will only take the risk of caring and becoming attached to someone they believe reciprocates their affections. Uncertainty or insecurity about whether a partner has a strong positive regard for them can result in people pulling back or increasing their psychological distance from the partner, a self-protective behavior that reduces the risk of being hurt and let down.

Researchers who study romantic relationships from the perspective of attachment theory, a theory of personality based on early experiences with caregivers, have demonstrated that trust has two components. People who are most able to trust a close partner have a *secure personality style*. They view themselves as worthy of love (they have a positive model of self or low anxiety about being loved), and view their attachment figures as generally capable of being loving and responsive (they possess a positive model of others or low avoidance of closeness). Insecurity about either belief or about whether a partner is both willing and able to be available and responsive to one's self diminishes trust in another and results in a less satisfying relationship.

Trust in another person is determined by one's personality and the qualities of one's relationship and greatly affects how secure one feels in a relationship. However, pressures from social networks, such as social norms within extended families and communities, may also influence feelings of security. This type of assurance is most typical in more traditional societies and also in Asian societies. Asian people who believe that their parents like and accept their partner feel more secure about their relationship, which in turn allows them to risk depending more on their partner even though their trust in that partner may not have increased.

Finally, some scientists have studied people's general beliefs about the motivations of strangers. Interestingly, trusting individuals do not naively believe that everyone is good but instead are selective about

whom they trust and cooperate only when they believe that another has positive motivations. In contrast, competitive people tend to distrust the motives of others, believing that it is a dog-eat-dog world and that they must consider their own interests first.

*John G. Holmes  
Justin V. Cavallo*

*See also* Dependence Regulation; Love

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## TWIN STUDIES

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Twin studies can tell us about how genes and environments affect behavioral and physical development. There are two kinds of twins: identical and fraternal. Identical twins result when one fertilized egg splits during the first two weeks of pregnancy. These twins share all their genes and are always of the same sex. They occur in about one third of natural twin conceptions. Fraternal or nonidentical twins result when two eggs released by the mother are fertilized by two sperm from the father. These twins share half their

genes, on average, just like ordinary siblings. Fraternal twins can be same-sex or opposite-sex.

The classic twin design involves comparing the similarity of identical and fraternal twins. If identical twins are more alike in intelligence, personality, or physical skills this demonstrates that the trait is probably influenced by genetic factors. Some people have objected that identical twins are alike because people treat them alike, not because of their shared genes. However, careful studies have ruled out this criticism after finding that identical twins who are treated alike are not more similar than identical twins who are treated differently.

There are many ways to study twins. A powerful method is studying identical twins reared apart from birth. Reared-apart identical twins resemble one another only because of their shared genes. Interestingly, research shows that identical twins reared apart and together are about equally similar in personality traits such as aggression and traditionalism. The twin-family method includes identical twins, their spouses, and their children. The children of identical twins are cousins, but they are also “half-siblings” because they have a genetically identical parent. These children’s aunts and uncles are like their “mothers” and “fathers” because they are genetically identical to the children’s own parents. It is possible to compare the behavioral similarity of a twin mother and her daughter (who share genes and environments) and a twin aunt and her niece (who share genes but not environments). Research has shown that parent–child and aunt/uncle–niece/nephew similarity is the same on a spatial visualization test. A more recent research design uses a unique twin-like pair called virtual twins. Virtual twins are same-age individuals who are raised together, but are not genetically related. Virtual twins show modest similarity in intelligence, despite their shared environment, a finding that supports genetic influence.

The multiple birth rate (especially the fraternal twinning rate) has increased from 19.3 to 30.7 multiple births per 1,000 births in recent years. This is primarily due to new reproductive technologies but also to the fact that women are having children at older ages. The increased twinning rate is good news for researchers. However, the downside is that twins are more likely than non-twins to suffer from birth difficulties.

It is likely that twins will continue to play significant roles in psychological and medical research.

Identical twins differing in traits, such as novelty-seeking, schizophrenia, or breast cancer may help identify which genes are expressed and which genes are not expressed. Thus, twin studies can help clarify the origins of behavior in everyone else.

*Nancy L. Segal  
Kevin A. Charvarria*

*See also* Genetic Influences on Social Behavior; Research Methods

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## TYPE A PERSONALITY

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*See* PERSONALITIES AND BEHAVIOR PATTERNS, TYPE A AND TYPE B

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## TYPE B PERSONALITY

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*See* PERSONALITIES AND BEHAVIOR PATTERNS, TYPE A AND TYPE B

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## UNIQUENESS

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### Definition

Uniqueness involves a person's distinctiveness in relation to other people. Such uniqueness can reflect actual behaviors or a person's perceptions regarding his or her differences. People can vary in the degree to which they want such distinctiveness, with some being highly desirous of specialness (high need for uniqueness) and others who do not want to stand out from other people (low need for uniqueness).

### History

Uniqueness seeking probably is a modern phenomenon because people centuries ago were concerned about fundamental survival issues and did not have the time to attend to their uniqueness. Toward the 19th, 20th, and 21st centuries, however, people were more assured of meeting their basic survival needs, and accordingly, they turned to issues involving the maintenance of their self-concepts. Thus, in increasingly technological and highly populated societies, people became more focused on matters pertaining to their uniqueness.

Although there were 17th- and 18th-century books and stories about people who were worried about preserving their distinctiveness (known under the German term *doppelgänger*), prior to the mid-1970s, the shared view among social psychologists was that people did not want to be special. This latter anti-uniqueness view stemmed from both conformity research, showing that people often wanted to go along with the crowd, and

interpersonal attraction research, which showed that people wanted to be as similar as possible to others. Likewise, during this pre-1970s period, clinical psychologists and sociologists viewed any differences that people displayed as being abnormal, deviant, or pathological.

Moving into the 1970s and the early 1980s, however, social psychological researchers began to perform robust experimental manipulations that were aimed at studying how people would react when they were given feedback indicating that they were extremely similar to other people. Contrary to the pre-1970s findings, these new research findings showed that people did not like such extremely high similarity and, indeed, wanted to feel some sense of specialness in relation to other people. The terms *individuation*, *need for uniqueness*, and *uniqueness theory* were applied to this latter research. Later, it was called *optimal distinctiveness theory*.

### Evidence

Studies on need for uniqueness basically involved giving self-report tests that asked research participants to describe themselves on a variety of dimensions and thereafter delivering feedback to these people about how similar they were to other people who supposedly had taken the same tests. (In actuality, this similarity feedback was bogus, but the research participants believed it.) Before their purported meetings with these other people, various measures were taken of the research participants' emotional and behavioral reactions. Results showed that when people were given feedback that they were

very highly similar, as compared to moderately similar, to others who had taken the same tests, these former people reported feeling more negative emotions and engaging in behaviors to reestablish their specialness. For example, the behaviors aimed at showing their uniqueness included the endorsing of unusual self-descriptive words, conforming less, expressing less popular ideas, producing more creative uses for objects, and valuing scarce objects. On this last point, need for uniqueness has been used to explain why people are attracted to products that are only available to a few persons (e.g., “Hurry on down while the supply lasts!”), as well as why changing product styles each year makes those products very appealing to people.

Self-report scales also were developed and validated to measure the degree to which a person has a low, moderate, or high need for uniqueness. In other words, some people are especially desirous of displaying distinctive attitudes, beliefs, behaviors, and so forth, whereas other people do not want such distinctiveness. These need-for-uniqueness scales have been used successfully to predict the propensity of people to seek unusual activities and scarce commodities.

The societally acceptable dimensions on which people can manifest their distinctiveness have been called uniqueness attributes, and research shows that people use the following attributes to display their specialness: (a) attitudes, (b) beliefs, (c) personal appearance (including clothing), (d) friends and mates, (e) personality characteristics, (f) group membership, (g) signatures, (h) performances, and (i) consumer products. Furthermore, people display their uniqueness on those dimensions that are important to their self-concepts. For example, a person for whom personal appearance is crucial will dress in a manner that shows him or her to be different from other people.

The research shows that people generally want to establish a sense of specialness when they are given feedback that they are highly similar to others. Moreover, most people use societally acceptable uniqueness attributes to show some sense of specialness relative to other people. Finally, self-report scales also reveal that some individuals are extremely desirous of displaying their uniqueness.

### Importance and Implications

Uniqueness seeking allows people to attain satisfaction about their specialness. Also, uniqueness seeking may increase the diversity in society. This happens because the people with high needs for uniqueness

seek different goals and interests, and in so doing, they open up new arenas in which other people can succeed. In pursuing their uniqueness, people also are likely to produce new skills, knowledge, beliefs, and attitudes that may be helpful in solving problems. The acknowledgment and pursuit of uniqueness foster greater societal toleration and appreciation of differences among people.

C. R. Snyder

*See also* Conformity; Independent Self-Construals; Optimal Distinctiveness Theory; Self-Concept; Self-Presentation

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## UNREQUITED LOVE

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### Definition

Unrequited love refers to instances when one person (the would-be lover) feels romantic, passionate feelings for an individual who does not return the same feelings (the rejector). Research indicates that unrequited love is quite common. Almost everyone in the United States has either loved someone who did not love them in return or been loved by someone they did not love in return by the time they reach college.

### Background and History

For centuries, unrequited love has been a prevalent theme in the cultural arts (e.g., poetry, music, literature), as well as the popular media. If you turn on your

radio, there is a good chance you will hear a melancholy singer lamenting over having his or her love refused by the object of his or her affection. Despite societies' fascination with the topic, psychologists devoted little attention to the topic until more recently. In the early 1990s Roy Baumeister and colleagues collected autobiographical narratives written by college students from the perspective of the rejector and from the perspective of the would-be lover. Comparisons made between the roles of would-be lover and rejector provided insight into the process of unrequited love, forming the basis of what social psychologists know about unrequited love to this day.

### Common Pathways

Unrequited love occurs for multiple reasons; there is no one specific reason why romantic attraction goes unreciprocated. Several common reasons emerged in the collected narratives, however. For instance, people will reject offers of love if they come from people who do not live up to standards they hold for a romantic partner. For example, one important standard people set is physical attractiveness. Research in social psychology indicates that people tend to prefer a romantic partner who is as physically attractive as, if not more physically attractive than, they are. So if Lauren develops a romantic attraction for Joe, she runs the risk of having her love rejected if Joe thinks that he is more physically attractive than Lauren.

Physical attractiveness is not the only mismatch that can lead to a rejection of love. People tend to marry those who are similar on a whole host of domains, such as level of intelligence and socioeconomics. Thus, when people fall in love with targets perceiving themselves to be superior on mate-valued traits, the admirer is liable to having their love rejected. Luckily, as people grow older they learn to better estimate their mate value and level of physical attractiveness. Consequently, they experience fewer instances of unrequited love and more instances of reciprocated love.

Platonic friendships can also lead to unrequited love. Friendships can exist between two people who differ in mate standards. Even though love will often go unreciprocated because of mismatches in mate value, would-be lovers could misread or misinterpret positive gestures and intimacies from a platonic friend as romantic feelings. This can lead would-be lovers to overinterpret the likelihood of gaining the love of their friend and want more from the platonic friendship than is desired by the target of their affection.

Developing relationships can also lead to unrequited love. Sometimes the rejector is initially interested but, after several dates, loses interest in the would-be lover for a variety of reasons. Perhaps the rejector is put off by certain values the would-be lover holds, the would-be lover could resemble the rejector's mom or dad, or maybe the rejector comes to realize that he or she is not sexually attracted to the would-be lover despite finding the would-be lover to be physically attractive. Long-term relationships can even end in unrequited love, with one person wanting to continue the relationship while the other is losing interest. Although one may think all these different pathways will lead to very different experiences of unrequited love, research indicates that they are surprisingly similar.

### Experience of Unrequited Love

Unrequited love is characterized by mutual incomprehension. Would-be lovers characterize the rejector as sending mixed signals and acting in inconsistent ways, whereas rejectors typically do not understand why the would-be lover continues to pursue them past the point of rejection.

Rejectors commonly grapple with feelings of guilt. Despite the portrayal of rejectors in the mass media as uncaring and cold, rejectors typically are quite concerned about whether they are leading the would-be lover on. Rejectors typically do not want to hurt the would-be lover, who is often a friend or colleague, and struggle with guilt that can accompany rejecting a person's offer of love. Guilt, combined with the difficulty in delivering bad news to others, can often cause the rejector to send the message of rejection in a more indirect way to spare the person's feelings and salvage the relationship. This, in turn, can confuse the would-be lover as to the rejector's intentions. Or it can cause the would-be lover to maintain hope, prolonging the experience of unrequited love for both parties.

Would-be lovers, who do not want to hear the bad news of rejection, will often misconstrue, reinterpret, or completely ignore such ambiguous messages of rejection. If the rejector says no to Friday because he or she is busy, what would stop the would-be lover from trying for Saturday? No one wants to be rejected; it is very painful to know that someone does not feel the same way about you that you do for him or her. To ward off the negative experience of realizing the offer of love will not be returned by the object of affection is potentially one reason would-be lovers

typically pursue the rejector long after the rejector feels it is appropriate to do so. Research indicates that once the would-be lover picks up on the message of rejection, he or she experiences a decline in self-esteem, signaling the end of the pursuit and the beginning of recovery.

### Who Is Worse Off?

Despite the pain that often accompanies having love rejected, would-be lovers look back at the experience with a mixture of positive and negative emotions. Would-be lovers describe the experience as a roller coaster of emotions, filled with many euphoric highs but also devastating lows. For example, the state of being in love with someone alone can keep the would-be lover in pursuit of his or her target. Rejectors, however, typically describe the experience as mainly a negative one consisting of few, if any, positives. Targets of affection may gain slight boosts in self-esteem from the flattery of being loved by someone, but this is offset by the moral guilt of rejecting someone and by the annoyance and frustration experienced if the would-be lover does not desist pursuit.

Unrequited love has allowed researchers to examine reasons why people reject love despite humans'

fundamental need for mutually caring relationships. That people should endure personal costs, such as emotional discomfort and personal humiliation, to find such a person highlights just how important the search is for humans.

Nicole L. Mead  
Roy F. Baumeister

*See also* Autobiographical Narratives; Interdependence Theory; Love; Need to Belong; Rejection

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## URBAN MYTH

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*See* RUMOR TRANSMISSION

# V

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## VALIDITY OF PERSONALITY JUDGMENTS

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*See* PERSONALITY JUDGMENTS, ACCURACY OF

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## VALUE PLURALISM MODEL

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### Definition

What happens when two or more values come into conflict? What will determine the level of conflict a person experiences, and how will the person go about resolving it? The value pluralism model (VPM) addresses these questions. The VPM, in its original form, consists of three interrelated sets of propositions:

1. Underlying all belief systems are core or terminal values that specify what the ultimate goals of life should be (e.g., economic efficiency, social equality, individual freedom). Different values may point to different and often contradictory goals.

2. People find value conflicts challenging for at least three reasons. First, people confronted with conflicting values find it cognitively difficult to make apples-and-oranges comparisons between them (e.g., How much of my economic prosperity am I willing to give up to help promote social equality?). Second, value conflict is emotionally painful. Most people faced with a situation in which they must sacrifice one important value for another experience dissonance. The more important the value, the more painful the

dissonance will be. Third, trade-offs between core values can be politically embarrassing: If one chooses one value over the other, one may feel he or she is letting down those who feel they have received the short end of the trade-off stick.

3. Given these formidable obstacles, explicit reasoning about trade-offs between core values is stressful. In the short term, the motivation to reduce cognitive discrepancy stems from the need to reduce negative emotion, but in the long term, the motivation stems from the requirement for effective action. Whenever feasible, people should prefer modes of resolving conflict that are simple and require minimal effort. However, how much mental effort is required to resolve the dissonance will depend on the magnitude of the dissonance. Specifically, when a person is confronted with a situation that requires choosing between two values held with unequal strength, he or she will experience low dissonance. This occurs when a person believes more strongly in the importance of value A over value B. Under these circumstances, the model hypothesizes that people will rely on the simple cognitive solution of denying or downplaying the weaker value and exaggerating or bolstering the stronger value. This process will suffice to resolve the dissonant reaction. In contrast, when dissonance is high, the simple solutions of bolstering and denial no longer offer plausible solutions. This occurs when the person not only perceives the conflicting values as important but also perceives them to be equally important. Under such circumstances, the person must turn to more effort-demanding strategies, such as differentiation (weighing the merits of each value) and integration (developing rules for

trading off values). These are the two components of integrative complexity.

### Extending the Model

It often proves difficult, however, to motivate integratively complex processing even when important values clearly come into conflict. According to the revised VPM, two classes of variables must also be taken into account to determine whether people will indeed respond in integratively complex ways to high-value conflict situations. First, the social content of the colliding values has important implications for which conflicts people are likely to view as legitimate. Specifically, people are likely to accept trade-offs between secular values, such as money, time, and convenience, much more readily than they are willing to accept what are considered taboo trade-offs, such as those between secular values and sacred values (e.g., life, liberty, and justice). For example, although attaching monetary value to the services provided by an employee may be cognitively demanding, it is not normatively unacceptable. In contrast, attaching monetary value to human life is. Confronted with the need to conduct such forbidden trade-offs, decision makers are likely to rely on massive impression-management efforts to conceal, obfuscate, or redefine what they are doing to protect themselves from the harsh judgment of observers.

Second, the social context of decision making is also important. Specifically, the types of accountability pressures people experience can dramatically lower or raise thresholds for complex trade-off reasoning. For example, if individuals, unconstrained by prior commitments, are confronted with a single audience whose views are known, they will tend to adjust their opinions in the direction of the audience and show no awareness of counterarguments or trade-offs. Alternatively, if decision makers believe that they will be blamed for whatever position they take on a trade-off problem, they are likely to resort to the avoidance tactics of buck-passing (shifting responsibility to others) or procrastination (delaying decision making). In contrast, when people are accountable for the long-term consequences of their decisions or when they are confronted with an audience with unknown views or with conflicting views, there is no simple solution available and no opportunity to delay. People have no choice but to respond complexly. Thus, complex reasoning will only be activated when decision makers are accountable to an audience that cannot be easily appeased.

### Evidence and Implications

The model was initially developed to explain individual differences in political reasoning. For example, it was able to resolve a long-standing puzzle in political psychology of why advocates of centrist and moderate left-wing causes tend to discuss issues in more complex trade-off terms than do advocates of conservative or right-wing causes. Indeed, in support of the VPM, evidence suggests that the former are more likely to attach high importance to potentially contradictory values. Numerous archival and laboratory studies have since confirmed the basic predictions of the model and have extended its implications to other social domains, such as tolerance of outgroup members, resource distribution decisions, religious orthodoxy, and media and rhetoric effects on attitude change. Recently it has been used to explain the cognitive changes that occur when individuals are exposed to a second culture. Specifically, it has been suggested that individuals who cope with the social and cultural conflict situations associated with the acculturation process by internalizing the values of both old and new cultural groups (i.e., become bicultural) will become more integratively complex than those who choose to adhere to the values of only one cultural group. This will be due to the greater dissonance bicultural individuals experience during the acculturation process.

Importantly, although integrative complexity was originally viewed as a relatively stable personality trait, recent research inspired by the VPM has highlighted the fact that no stable individual differences should be expected. Rather, the complexity of one's reasoning on an issue is a function of the intensity of value conflict activated by that issue and the accountability pressures the individual faces. Indeed, similar levels of integrative complexity should be expected only to the degree that the issues sampled activate similar levels of value conflict and when the accountability pressures are conducive to complex thought. Moreover, evidence suggests that, contrary to popular belief, complex solutions should not be viewed as either cognitively or morally superior to simple reasoning. Rather, whether integrative complexity should be viewed as beneficial is context dependent.

### Significance

The VPM explains how people deal with value conflicts of varying intensity and types. It suggests that

although individuals may prefer to be cognitive misers and favor simple strategies to minimize cognitive dissonance, under conditions of high value conflict, they can be motivated to evoke more effort-intensive strategies.

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*See also* Accountability; Integrative Complexity; Value Priorities; Values

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## VALUE PRIORITIES

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### Definition

Value priorities are principles that provide people with a way of knowing what they must do and what type of person they must be so that they can live the best way possible, taking into account their environment and personal attributes. Value priorities therefore provide people with a way of knowing what is important and less important to being happy and getting along in their worlds. Because what these principles mean in people's lives develops as a result of experience, they operate like analogies (in an analogy, one thing is compared to another). When people encounter new situations, new people, or new objects, they can use their value principles to see similarity and therefore respond according to those principles. People often are not aware that these principles are operating, but even when they are unaware, these principles provide the basis for judging and responding in everyday life. For example, if people have equality as a very important value priority and they live in an environment in which

equality means treating people fairly, then if they believe another person is being treated unfairly they will feel a real need to repair this situation; they may or may not know why they are responding this way.

Value priorities are central to a person's sense of self. People use their value priorities not only as standards for self-evaluation but also as standards for evaluating other people, things, actions, and activities. Because value priorities provide a structure for knowing what is important and less important to living the best way possible, they assist people in making choices. Perhaps the most important feature of value theory—past and present—is the assumption (which is supported by research) that all people, everywhere, have the same values but differ in terms of the relative importance they place on each value. This means that to be accurate, discussion should be about people's value priorities (and not just, e.g., “values”) or should emphasize the existence of relations among value priorities, their value systems.

### Important Distinctions

When value priorities are discussed, focus is generally on people's personal value priorities. However, not only do people have a *personal value system*, but they also have perceptions of others' value systems (these are sometimes referred to as *social value systems*). Others can be other people, groups, organizations, or institutions, and their value priorities are transmitted implicitly through both overt and covert behavior. It is assumed that perceptions of others' value priorities have the same organization as the personal value system, although there is very little research in this area.

Not only can personal value priorities be distinguished from perceptions of others' value priorities, but they also can be distinguished from what can be referred to as *ideological value systems*. Because such promotions are often explicitly created to provide a particular image (e.g., for an organization's mission statement), they may not have the same implicit structure as personal value systems in which there are predictable relations among value types. Again, there is very little theory-directed research into ideological value systems.

The concept of value priorities can be distinguished from the concepts of attitude (an evaluation of a specific entity), worldview (a collection of conscious beliefs about how the world is or should be), and ideology (a rhetorical—i.e., language-based—association or set of associations between things,

people, actions or activities and value priorities). Nevertheless, in past research these distinctions are not always clear, and the term *value* has been used in referring to each of these concepts.

### Value Theory

Discussion of the huge amount of theory concerning human values typically includes Milton Rokeach's influential work. Shalom Schwartz built on and extended Rokeach's work and developed a values inventory to measure value priorities. A version of this inventory has also been developed for use with younger people. Currently, Schwartz's theory is the most influential and respected in the field.

Schwartz provided evidence in support of the assumption (made by all previous theorists) that important human values can be understood in terms of a relatively small set of value types that would be important to all people throughout the world. Schwartz's theory includes 10 value types: Universalism (understanding, appreciating, tolerating, and protecting people and nature); Benevolence (preserving and enhancing the welfare of those with whom we have frequent contact); Tradition (respecting, being committed to, and accepting traditional customs and ideas); Conformity (also known as Dutifulness; having the self-control required to ensure behavior does not upset or harm others or violate social expectations or norms); Security (maintaining stability to ensure safety and harmony within the self, relationships, and society); Power (having control and dominance over people and resources that results in social status and prestige); Achievement (gaining personal success that results from demonstrating competence according to social standards); Hedonism (indulging one's own pleasure and having sensuous gratification); Stimulation (having excitement, experiencing novelty, and feeling challenged); and Self-Direction (being able to think and behave independently and creatively). For each value type, Schwartz described representative values. For example, creativity and independence are two of the values that represent the Self-Direction value; politeness and self-discipline are two that represent the Conformity value type.

Analysis of the value priorities reported by many, many people from different countries around the world showed that the 10 value types can be arranged in a circular structure. This makes it possible to see how priorities on one value type have implications for

priorities on other value types. Value types that are adjacent to the highest priority value type also will be held with high priority, whereas the value type positioned directly opposite to the highest priority value type will be held with the lowest priority. Underlying the relations among priorities are two motivational dimensions.

One dimension concerns whether focus is on individual outcomes or on social context outcomes (Schwartz referred to this as the Self-Enhancement–Self-Transcendence dimension). A focus on individual outcomes is thinking about the self and others in terms of achievements and successes. People may develop this focus because of a belief that others' assistance is not dependable, and therefore they must develop expertise or dominance to enhance their survival; this type of focus will mean high priorities on Achievement and Power value types. A focus on social context outcomes refers to the acceptance of others and being concerned for others' welfare. People may develop this focus as a result of a belief in a shared fate, and therefore they have the incentive to ensure others' welfare and comfort ("to the extent others are doing well, so will I"); this type of focus will mean high priorities on Universalism and Benevolence value types.

The second dimension (Schwartz referred to this as the Openness to Change–Conservation dimension) concerns whether focus is on opportunity (that highlights independent thought and action as well as change) or on organization (that highlights stability and maintaining the status quo). A focus on opportunity will mean high priorities on Self-Direction and Stimulation value types, whereas a focus on organization will mean high priorities on Tradition, Conformity, and Security value types. High priorities on the Hedonism value type reflect both a focus on opportunity and a focus on individual outcomes.

### Important Issues

People's value priorities are stable and relatively resistant to change, even though researchers have found that reports of value importance can be influenced temporarily. The success of such manipulations arises because human values have been shown to be universal—all humans, everywhere, believe that particular values are important, even though people differ in the relative importance placed on each of those values. For example, a person with highest value priorities on Benevolence values (e.g., honesty,

loyalty, responsibility) will also say that Achievement values (e.g., success, ambition, influence) are important if attention is focused on these, even though in the value system, Benevolence and Achievement values are maximally different in terms of value priorities. Stability of reported value priorities also might not be observed in people who do not have explicit awareness of their value priorities or who confuse personal value priorities with their perceptions of important value priorities of others (so reliable measurement is difficult).

Value priorities transcend situations, and therefore it is difficult to interpret research in which distinctions are made between, for example, personal values, work values, and family values. The confusion that sometimes arises in this and related research may concern the distinction between personal value priorities, perceptions of others' value priorities, and ideological values, as well as the focus on single values rather than on value systems in which priorities on one value has implications for priorities on other values. Confusion may also concern the recognition that different environments provide differing opportunities for satisfaction. In addition, people who differ in their value priorities may choose the same behavior to enable value satisfaction. For example, excellence in a university course for one person satisfies high Power value priorities because he or she gains status and recognition, whereas for another it satisfies high Self-Direction value priorities because he or she gains greater choice in future options for study or career.

The connection between people's personal value priorities and their self-esteem has yet to be investigated fully, but there is growing recognition that people's feelings of self-esteem implicitly signal how well they are getting along in their world. Because value priorities serve to indicate what living the best way possible means, then to the extent a person is satisfying his or her personal value priorities or working toward doing so, he or she is more likely to have optimal self-esteem. Complications arise because people have perceptions of others' value priorities (and exposure to ideological value priorities), and others' value priorities may be more salient to people than their own value priorities. As a result, attitudinal or behavioral decisions may be influenced by these salient perceptions rather than by personal value priorities. Because value systems often operate outside awareness, people also may misperceive their own value priorities and behave according to their misperceptions.

Failing to behave in line with one's own value priorities will induce dissatisfaction—and chronic behavior of this type may lead to dissatisfaction that is reflected in self-esteem.

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*See also* Self; Social Value Orientation; Values

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## VALUES

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### Definition

The term *value* has two related yet distinct meanings. The value of an object or activity is what the object or activity is worth to a person or community; this is the economic or decision-making meaning of value. In its social-psychological meaning, by contrast, a value is an abstract, desirable end state that people strive for or aim to uphold, such as freedom, loyalty, or tradition. Only this second meaning is used in the plural form *values*, and public and political discussions refer to such values in many ways, speaking of the decline of values, a clash of values, or an election being about values. This entry describes the ways in which human values in the second sense select for certain attitudes, goals, and preferences that in turn guide concrete actions. Although there is not yet a consensus on a taxonomy of human values, research is converging on a set of basic dimensions.

### Nature of Values

Many theorists have pointed out that values are distinct from attitudes, norms, beliefs, goals, and needs. Values, such as equality, friendship, or courage, are more abstract and general, and they not only are directed at specific objects (as attitudes are), behaviors

(as norms are), or states of reality (as beliefs are) but also represent very general, and at times vague, end states. The end states described by many values also benefit the community, unlike goals or needs, which typically benefit the individual. Compare such values as honesty, forgiveness, and democracy to the goals of wealth, fame, and healthiness. Finally, most values are never quite reached, such as equality, national security, or world peace. In sum, prototypical values refer to abstract states that typically benefit the community, not just the individual, and that people strive for without ever quite reaching them.

Talking about values can be hard because the idea of value is so abstract. As long as people believe they share the same values, there is no need to define those values. But when people try to ascertain a definition of something like freedom or true friendship, heated debates can ensue. Likewise, the vagueness of many value concepts (consider the term *family values*) subtly removes these concepts from open, shared discourse and can make them subject to arbitrary and rhetorical use in propaganda. For example, politicians can try to win votes by saying they stand for family values, even though they don't have a very clear idea what family values are.

Even though all values are somehow represented in the individual, the more abstract among them are less likely to guide directly an individual's concrete behaviors. How many decisions and actions can you recall from yesterday that were directly guided by your values of freedom, democracy, or salvation? Goals are more apt to influence behavior directly, as people are more aware of their goals, and goals are more imminent and context-specific than are values. Values that resemble goals, however, such as excitement, independence, or respect for tradition, can directly influence behaviors. These considerations are largely supported by empirical research, which shows lower correlations between concrete behavior and abstract values than between behavior and specific or goal-like values. Furthermore, values appear to relate to preferences and attitudes, which themselves predict behavior. So even highly abstract values can have an impact on concrete behavior when that impact is mediated by less abstract psychological forces. For example, the value of freedom might make someone study hard for a driver education test, because getting a driver's license increases one's freedom of movement. The broad, abstract value of freedom leads to the specific, concrete goal of getting a license, which guides behavior.

Values can strongly influence behavior when they are perceived to be threatened and are therefore defended. A threat can "activate" a value, and defending and fighting for it entails a number of concrete behaviors (though rarely of the prosocial variety). For example, many Americans considered the attacks on New York's World Trade Center on September 11, 2001, as a threat to the value of freedom, and numerous actions following those attacks were directly motivated, and claimed to be justified, by the defense of that freedom.

## Taxonomies

A taxonomy is an organized list, especially a thorough list. A taxonomy of values would be a list of all the values that people hold, sorted into several sublists according to different types of values. Considerable effort has gone into trying to put together a taxonomy of values, and in this endeavor, researchers have drawn from varying sources: reviews of value-related constructs in the scholarly literature, interviews and questionnaires that assess ordinary people's conception of values, and systematic analyses of value-related terms in lexicons. These sources show that individuals and groups can hold a wide range of values. However, researchers have tried to identify an underlying structure for this multitude of values. (The structure of the taxonomy would be what determines the different types of values.) They use statistical tools (e.g., factor analysis) to reduce the large number of specific values down to a small set of fundamental value dimensions, not unlike the effort that has led personality psychologists to the Five-Factor Theory of personality.

Different proposals exist regarding the number, specificity, importance, and content of human values. Milton Rokeach distinguished between 18 terminal values, which are desirable end states (e.g., self-respect, freedom), and 18 instrumental values, which refer to modes of conduct (e.g., helpful or forgiving). Contemporary researchers, such as Shalom Schwartz or Walter Renner, have proposed that both instrumental and terminal values fall into a smaller and more fundamental set of value orientations, such as power, achievement, tradition, and profit. Individuals differ reliably in these value orientations, but there is uncertainty over the particular orientations that make up the fundamental set. The inclusion of specific value words (test items) in value measures can change the discovered structures across data sets, and even though the

value orientations from different data sets overlap, their numbers and content also vary. Thus, currently there is no consensus on the fundamental dimensions of values, but research is converging on these dimensions.

One complication is that when people get a chance to judge whether such concepts as power, achievement, or profit are values or goals, most people agree that they are goals. So the question arises whether the fundamental dimensions onto which research is converging depicts only values or actually mixes values with goals. It is currently not established whether goals and values are the same, both operating as motivational forces in the individual, or whether values have unique social functions and consequences that goals do not.

### Function

What are values for? In people's own understanding, values regulate society and interpersonal relations, and they guide moral behavior, the distinction between right and wrong. In this sense, values are not just motives but socially shared concepts that serve a communal function. Evolutionary theorist David Sloan Wilson argues that values bind communities together, and those communities that agree on a value system (and on a system of sanctions in case the values are threatened) may be more successful over the course of human cultural history. Wilson shows through historic analysis that, for example, those religious groups that formed an agreed-upon value system became stronger than their competitors and outlived them. Values create a group bond at an abstract level that unifies individual actions into a group-level mind-set and organization. In this sense, values may be a uniquely human adaptation to the demands of a social reality in which not only individuals but also groups compete with each other. However, while values increase organization and cohesion within a group, they also sharpen boundaries to other groups (those who don't share the same value system), and indeed, intergroup conflict is often motivated, or at least rationalized, by a clash of values.

If there is only a small set of human values, these values should be relatively constant across cultures and history. The reason for this limited and stable set may be the invariable demands on human survival to serve biological needs, succeed in social interaction, and negotiate conflicts between biological needs and

social interaction. But the evidence on historic and cultural variations is only beginning to be available.

### Historic and Cultural Differences

Some values that communities uphold may have changed relatively little over documented history. In contrast to norms and laws, which have changed substantially, standards such as freedom, courage, fairness, and even honesty have remained the same at least since ancient Greece. Some values have been applied selectively to certain groups, such as equality and forgiveness, which are often extended only to members of the dominant group; other values have increased in importance in recent times, such as democracy and diversity.

Recent research by Schwartz, using questionnaires presented to people from different cultures, offers evidence for the universality of fundamental standards. Cultures differ, of course, in the extent to which they regard particular values as more or less important, but the set of fundamental dimensions within which cultures express their values may be universal. This evidence, however, is not without its critics. For one thing, translating words across languages such that their meaning stays truly constant is challenging. Moreover, the presentation of questionnaires, which fix the relevant value dimensions at the outset, does not establish which dimensions people would have picked as fundamental values if given no researcher-devised measure. To illustrate, gender equality is seen as an important value in many cultures. But highly patriarchic cultures not only may consider gender equality as less important but also may not even conceptualize it as a value. Future research will help clarify whether some of these dimensions operate more like goals and others constitute values "proper," with their own unique social functions and consequences.

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*See also* Attitudes; Big Five Personality Traits; Goals; Group Cohesiveness; Value Priorities

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## VISCERAL INFLUENCES

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### Definition

Visceral factors are states such as hunger, thirst, sexual desire, drug cravings, physical pain, and fervent emotion that influence how much goods and actions are valued. When experiencing a visceral state, people focus primarily on goals associated with their current state and downplay the importance of other goals. For example, when a person is thirsty, finding water becomes the most important goal and other goals tend to be overlooked. Although visceral factors can have a powerful influence on behavior, people fail to recognize this influence. That is, they don't anticipate the influence that visceral factors will have on their future behavior, remember the influence that visceral factors have had on past behavior, or recognize the influence that visceral factors have on other people. People may think that they (or others) are acting irrationally because it is difficult for people in a "cold state" (not under the influence of a visceral factor) to predict or remember what it is like to be in a "hot state" (under the influence of a visceral factor). This difficulty in prediction is referred to as the *hot-cold empathy gap*.

### Importance

Researchers who study decision making struggle to understand why people knowingly behave at odds with their long-term goals. Why do dieters who claim that losing weight is important to them and can avoid ordering dessert from a restaurant menu, succumb to temptation when a fresh batch of cookies is pulled from the oven? Why do people who claim that they will never have sexual intercourse without a condom find themselves doing just that when they are in a sexually arousing situation? Many decision-making models have difficulty describing such "irrational" behavior. George Loewenstein, a behavioral economist, proposed that one reason people seem to behave against their long-term interests is that long-term interests are

often generated while in a cold state, and behavior often occurs while in a hot state. Loewenstein has offered several mathematical propositions to specify how visceral factors will influence behavior, the prediction of behavior, and the recollection of behavior.

### Implications for Behavior

Because the experience of a visceral state leads people to focus on the goals associated with the current state at the exclusion of other goals, the more intensely people experience a visceral factor, the more they tend to act against their stated long-term goals. In other words, the more intense the visceral state, the more likely desire is to win over reason. For example, the hungrier dieters are, the more likely they are to cheat on their diets (especially if the cues to cheating are vivid, such as when the cookies can be seen or smelled). And, the more sexually aroused people are, the more likely they are to indulge their sexual desire at the expense of other goals. In a recent study, men who were sexually aroused indicated that they would be willing to go to further lengths to have sex compared to men who answered the questions when they were not aroused. Specifically, the aroused men stated that they would be more willing to tell a woman that they loved her (if they did not), to encourage their date to drink, and to slip a woman a drug in order to have sex with her. It seems that the visceral state of sexual desire crowded out their long-term goals.

### Implications for Predicting and Recollecting Behavior

Despite the powerful influence that visceral states have on behavior, people underestimate this influence when predicting their future behavior. Thus, people say that they will never have sex without a condom because they fail to recognize how their sexual desire will change their feelings about various goals and actions. While predicting behavior from a cold state, the goal of being safe may be paramount. But, in the heat of the moment, the goal of having sex may crowd out the goal of being safe.

Research on pregnant women's decisions regarding anesthesia for delivery illustrates the difficulty of predicting future visceral states. When predicting from a cold state whether or not they would want anesthesia during childbirth, a majority of women said that they would not want it, but once in the hot state of pain,

most women changed their preference and chose the painkillers.

Just as people fail to anticipate the influence of visceral factors on future behavior, as time passes people forget the influence visceral factors had on their past behavior. Although people can remember the circumstances that evoked a visceral state and can remember being in a certain state, they cannot reproduce the sensation the same way they can recall words or visual images. Even pregnant women who had experienced the pain of childbirth before mispredicted their interest in painkillers for an upcoming delivery. This is because they misremembered how much the actual sensation of pain influenced their desire for painkillers.

The tendency for people to underweight the influence of visceral factors when they are not currently experiencing the visceral state also leads to a hot-cold empathy gap between people. Those in a cold state often fail to appreciate how someone in a hot state feels. When someone is in pain, hungry, or depressed, it is difficult to empathize with that person without experiencing the pain, hunger, or depression oneself. Furthermore, when people are in a hot state, research suggests that it is difficult for them to make predictions for others without being influenced by the goals associated with their own current visceral state. For example, compared to nonthirsty participants, thirsty participants were more likely to claim that lost hikers would be more bothered by a lack of water than a lack of food.

It seems, then, that recognizing the power of visceral influences may help people predict and understand their own behavior. By recognizing people's tendency to underweight visceral factors, decision-making researchers may be better able to predict and understand when and why people will act against their stated long-term interests.

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*See also* Arousal; Behavioral Economics; Decision Making; Delay of Gratification

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## VOLUNTEERISM

### Definition

Volunteerism is voluntary, deliberate service to others over time and without compensation. A key element of volunteer behavior is that the person freely chooses to help and has no expectation of pay or other compensation. Mandatory public service required by courts or schools would not meet the definition of volunteerism. The volunteer behavior must include service work, not simply a donation of money or goods. This service is long-term, repeated service, such as giving time weekly to help at a local hospital. The volunteer service is only a service if it benefits others who want help. For example, the Boy Scout who helps the blind person across the street when the blind person wants to move independently (and perhaps in another direction) would not be a volunteer.

### Who Are Volunteers?

People from youth to older adulthood engage in volunteering. The organization Independent Sector estimates that about 44% of adults and 59% of teenagers volunteer, with the largest group of volunteers being from 35 to 55 years old. Wealthier people volunteer more because they have more spare time and more flexibility in their jobs. The wealthy may also have a social obligation, called *noblesse oblige*, to engage in philanthropy and good works. Those who volunteer are likely also to be the most generous givers. Women volunteer slightly more often than men do, but men give more money to charities. Better-educated people also volunteer more than less-educated people, because of the skills and resources they have to offer. Finally, those people with more connections to the community, such as people living in smaller, rural communities and people who have connections to religious and cultural group memberships, volunteer more often.

### What Motivates People to Volunteer?

E. Gil Clary, Leslie Orenstein, Mark Snyder, and others have examined motivations for volunteering. A person is driven by *value expressive* motivation if his or her reasons for volunteering derive from the values he or she holds dear, such as a concern for the poor. When a person's primary goal is to learn about a particular

problem or group of people or to have new experiences, his or her primary motivation is *understanding* or *knowledge*. Those with a *social adjustive* motive volunteer because friends, family, or social demands encourage them to do so. Others are motivated by career aspirations. For example, college students may volunteer to enhance their job skills or increase their probability of educational or career goals. Some people volunteer to relieve their personal problems, such as the guilt of having too much time on their own hands or needing a positive outlet for their insecurities. This is called *ego-defensive* or a *protective* function. On the other hand, those with an *ego-enhancing* motivation volunteer to increase their own self-esteem. In a volunteer job, a person can be valued by the staff and feel competent at a minor job. Finally, some people volunteer out of *community concern*. They demonstrate concern for a particular community as defined by geography (a neighborhood) or by a particular condition or need (concern for those with cancer).

Allen M. Omoto and Mark Snyder have discovered that when motivation type matches recruiting strategy, people are more likely to volunteer. For example, when a student is motivated to seek a job, he or she would be more likely to volunteer in response to advertisements highlighting job skills. When motivation is met in volunteering experience, people are likely to continue to volunteer. For example, a person who wishes to build confidence will be more likely to continue volunteering when a coordinator praises him or her for a job well done. Contrary to expectations, researchers found that “mandatory volunteerism” as a college requirement made some students *less* likely to freely volunteer in the future. This is one reason why volunteerism requires helping to be freely chosen.

### Benefits and Costs of Volunteering

Benefits to an organization that uses volunteers include the money saved from having to hire staff to do the same job. A research report from Independent Sector puts the 2005 value of volunteer time at \$18.04 per hour, including wages and benefits, saved by an organization for each hour a volunteer serves. The organization also benefits indirectly because volunteers become representatives and advocates for the organization, sharing information and positive views with the community. Costs to the organization include the

costs of training the volunteers, the staff time to coordinate volunteers, and the chance that volunteers may offer lower-quality service than paid staff.

Benefits to the recipients of help from well-trained volunteers can be obvious: The homeless mother gets served a meal, the immigrant learns to read and write, and so forth. Costs include not getting expert help or receiving inconsistent help when volunteers are not available. Benefits to the volunteers themselves include increases in their sense of self-esteem and self-confidence, decreased loneliness, the making of friends, and more favorable attitudes toward clients served. In older adults, the increased activity and social stimulation of volunteering has positive health effects and increases life satisfaction. In youth, those who volunteer have a lower likelihood of being arrested. Costs to the volunteer include any costs associated with volunteering itself, such as transportation, and emotional costs of working with those in need, such as sadness when a client dies. Conflicts between volunteer time and time spent with family and friends and the potential stigma of associating with those who have less desirable traits in society are social costs that volunteers incur. Benefits to society include the promotion of the common welfare of the community, the ability to expand services, the defrayal of dollar costs, the increase of the skills base in the community, and the instillation of norms of prosocial behavior.

*Shelley Dean Kilpatrick*

*See also* Altruism; Compassion; Cooperation; Empathy; Empathy–Altruism Hypothesis; Moral Development; Prosocial Behavior; Reciprocal Altruism; Reciprocity Norm; Social Support

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# Z

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## ZEAL

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### Definition

The term *zeal* came into common usage in reference to a sect of 1st-century-C.E. religious fanatics who were uncompromising in their opposition to Roman rule. Some of them carried daggers under their cloaks and killed anyone who did not fully support their views. Such extremism brought reprisals that ultimately crushed their sect. Accordingly, *zeal* refers to extreme ideological conviction that belligerently insists on consensus, without regard for practical consequences.

Zeal is puzzling because it can be unreasonable and self-defeating. Just as the original Zealots' aggressive fervor led to the annihilation of their sect, thousands of naively unprepared crusaders were killed from 1086 C.E. to 1270 C.E. in seemingly foolhardy campaigns to seize Jerusalem for their ideological cause. Their consensual zeal inflated them with a righteous euphoria that was insensitive not only to obstacles and dangers but also to their own atrocities.

Zeal is an important social phenomenon to understand because although it sometimes animates devoted philanthropy, it often fuels militant religious and political conflicts that can have devastating social consequences. The first systematic investigation of zeal was reported a hundred years ago in William James's classic, *The Varieties of Religious Experience*. James concluded, from dozens of interviews with religious converts, that moral and religious zeal helps people forget about their personal problems. At around the same time, Freud observed that his neurotic patients

repressed taboo thoughts by rigidly focusing on other, extremely intense trains of thought. Thus, both classic theorists viewed zeal as a tool for coping with self-threatening thoughts and problems.

### Research on Zeal

The horror of World War II spurred systematic research aimed at understanding zealous bigotry, nationalism, and fascism. Thousands of in-home interviews about respondents' life experiences and zealous tendencies informed the conclusion that zeal arises from feelings of personal vulnerability. Cross-sectional research supports the general conclusion. For example, during wars, political leaders tend toward black and white certainty in their speeches, dogmatic religious denominations flourish, and children's books become more moralistic than usual. These findings are consistent with historians' observations that religious movements tend to sprout during times of social insecurity and that religious fundamentalism and extremism are especially likely to foment under conditions of social turmoil and threat. (Accordingly, enthusiasm for the crusades spiked under conditions of unprecedented social and political insecurity.)

Laboratory research supports the conclusions from interview and cross-sectional research. Hundreds of studies, conducted by dozens of researchers in North America and Europe in the past 20 years, have found that people react with exaggerated zeal to experimental manipulations of experiential self-threats such as mortality salience, personal uncertainty, social rejection, loneliness, isolation, failure, inferiority, confusion, and exposure to people who violate their cherished ideals.

Such threats cause people to exaggerate pride and conviction in favor of their worldviews, countries, groups, causes, values, opinions, romantic relationships, and personal goals. Such threats also increase people's willingness to fight for their more certain causes and to exaggerate social consensus for them.

Importantly, zeal reactions occur even in domains that are not related to the eliciting threats. Thus, zeal can be regarded as a generalized, compensatory response to poignant self-threats. Why do people turn to compensatory zeal when threatened? Just as James and Freud proposed, zeal insulates people from threatening thoughts. Laboratory experiments show that zealous expressions of worldviews, value ideals, personal convictions, or pride cause previously bothersome thoughts to recede from awareness. Moreover, even if repeatedly reminded of distressing thoughts after zeal expression, the distressing thoughts still feel less important, less urgent, and less pressing than they normally do. This means that zeal is not simply a form of distraction. It somehow makes distressing thoughts loom less large even when they are in focal awareness. These experimental findings are consistent with James's early observation that religious zealots seem exceptionally able to cope with challenging circumstances and to joyfully tolerate severe hardship. (One mystic saint reputedly demonstrated piety by cheerfully licking the suppurating wounds of hospital patients.)

### How Does Zeal Work?

Recent research is beginning to reveal how compensatory zeal alleviates distress. Whereas poignant self-threats activate a system in the brain that specializes in avoidance motivation and prevention of unwanted outcomes, zealous and angry thoughts activate a system in the brain that specializes in approach motivation and promotion of desired outcomes. When one system is active, stimuli and experiences relevant to the other system loom less large and seem less vital. Preliminary research indicates this may occur because of reciprocal inhibition of activity between brain areas that are centrally involved in approach processes (left frontal lobe) and those that are centrally involved in avoidance processes (right frontal lobe). Zeal may thus be an appealing response to threat because it effectively turns

down activity in brain areas that process threatening stimuli.

### Zealous Personalities and Cultures

Defensive zeal is most pronounced among individuals who (a) explicitly claim high self-esteem but who show evidence of low implicit self-esteem on assessments that bypass conscious awareness, (b) defensively avoid close personal relationships, or (c) have narcissistically inflated claims of superiority. These three personality tendencies are empirically related and share felt insecurity at the core. Thus, zeal can be seen as a defensive maneuver in which outwardly proud people engage when situational threats resonate with inner insecurities. Defensive zeal is also most prominent in cultures (e.g., Judaic, Christian, and Muslim) influenced by ancient Greek ideas that champion independent pursuit of ideal truth. Zeal is less evident in cultures influenced by Taoist and Confucian norms that promote yielding of confrontational opinions to dialectical perspective taking.

Ian McGregor

*See also* Attitude Strength; Authoritarian Personality; Beliefs; Ideology; Mortality Salience; Motivated Cognition; Regulatory Focus Theory; Religion and Spirituality; Self; Self-Esteem; Social Neuroscience; Terror Management Theory; Values

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