



PSYCHOLOGY

The Science of Mind and Behavior

Fourth Edition

Michael W. Passer

Ronald E. Smith

Psychology

The Science of Mind and Behavior

Psychology

The Science of Mind and Behavior

Fourth Edition

Michael W. Passer

University of Washington

Ronald E. Smith

University of Washington



Boston Burr Ridge, IL Dubuque, IA Madison, WI New York
San Francisco St. Louis Bangkok Bogotá Caracas Kuala Lumpur
Lisbon London Madrid Mexico City Milan Montreal New Delhi
Santiago Seoul Singapore Sydney Taipei Toronto



Published by McGraw-Hill, a business unit of The McGraw-Hill Companies, Inc., 1221 Avenue of the Americas, New York, NY, 10020. Copyright © 2009, 2007, 2004, 2001 by The McGraw-Hill Companies, Inc. All rights reserved. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written consent of The McGraw-Hill Companies, Inc., including, but not limited to, in any network or other electronic storage or transmission, or broadcast for distance learning.

Some ancillaries, including electronic and print components, may not be available to customers outside the United States.

This book is printed on acid-free paper.

1 2 3 4 5 6 7 8 9 0 DOW/DOW 0 9 8 7

ISBN-13: 978-0-07-338276-0

MHID-10: 0-07-338276-0

Editor-in-Chief: *Michael Ryan*

Publisher: *Beth A. Mejia*

Executive Editor: *Suzanna Ellison*

Director of Development: *Dawn Groundwater*

Developmental Editor: *Marion B. Castellucci*

Permissions Editor: *Marty Moga*

Executive Marketing Manager: *James Headley*

Managing Editor: *Christina Gimlin*

Senior Production Editor: *Anne Fuzellier*

Supplements Editor: *Emily Pecora*

Senior Design Manager: *Preston Thomas*

Cover Designer: *DiAnna VanEycke*

Interior Designer: *Ellen Pettengel*

Art Editor: *Robin Mouat*

Senior Photo Research Coordinator: *Alexandra Ambrose*

Freelance Photo Researcher: *David A. Tietz*

Media Project Manager: *Alexander Rohrs*

Senior Production Supervisor: *Tandra Jorgensen*

Senior Supplement Producer: *Louis Swaim Service*

Production Service: *Ellen Brownstein, Chapter Two*

Composition: *9.5/12 Palatino, Aptara-York*

Printing: *45 # Pub Thin Bulk, R. R. Donnelley & Sons*

Cover credits: Back cover: © LookatSciences/Phototake—All rights reserved. Front cover (left to right): © Brand X Pictures; © Digital Vision Ltd./SuperStock; © K. Taylor/Veer/Corbis; ©H. Singh/CMS/Science Faction/Getty Images; © Geostock/Getty Images; ©Mel Curtis/Getty Images; © Brand X Pictures/PunchStock; © Nick Rowe/Getty Images; © Lisa Zador/Getty Images.

Credits: The credits section for this book begins on page C-1 and is considered an extension of the copyright page.

Library of Congress Cataloging-in-Publication Data

Passer, Michael W.
 Psychology: the science of mind and behavior/Michael W. Passer,
 Ronald E. Smith.—4th ed.
 p. cm.
 Includes bibliographical references and index.
 ISBN-13: 978-0-07-338276-0 (alk. paper)
 ISBN-10: 0-07-338276-0 (alk. paper)
 1. Psychology—Textbooks. I. Smith, Ronald Edward, 1940– II. Title.
 BF121.P348 2008
 150—dc22

2007032966

The Internet addresses listed in the text were accurate at the time of publication. The inclusion of a Web site does not indicate an endorsement by the authors or McGraw-Hill, and McGraw-Hill does not guarantee the accuracy of the information presented at these sites.

www.mhhe.com

About the Authors

MICHAEL W. PASSER, PH.D.

Michael Passer coordinates the introductory psychology program at the University of Washington, which enrolls about 2,500 students per year, and also is the faculty coordinator of training for new teaching assistants (TAs). He received his bachelor's degree from the University of Rochester and his PhD in Psychology from the University of California, Los Angeles, with a specialization in social psychology. Dr. Passer has been a faculty member at the University of Washington since 1977. A former Danforth Foundation Fellow and University of Washington Distinguished Teaching Award finalist, Dr. Passer has had a career-long love of teaching. Each academic year he teaches introductory psychology twice and a required pre-major course in research methods. Dr. Passer developed and teaches a graduate course on the Teaching of Psychology, which prepares students for careers in the college classroom, and also has taught courses in social psychology and attribution theory. He has published more than 20 scientific articles and chapters, primarily in the areas of attribution, stress, and anxiety, and has taught the introductory psychology course for 20 years.

RONALD E. SMITH, PH.D.

Ronald E. Smith is Professor of Psychology and Director of Clinical Psychology Training at the University of Washington where he also has served as Area Head of the Social Psychology and Personality area. He received his bachelor's degree from Marquette University and his PhD from Southern Illinois University, where he had dual specializations in clinical and physiological psychology. His major research interests are in anxiety, stress and coping, and in performance enhancement research and intervention. Dr. Smith is a Fellow of the American Psychological Association. He received a Distinguished Alumni Award from the UCLA Neuropsychiatric Institute for his contributions to the field of mental health. He has published more than 160 scientific articles and book chapters in his areas of interest and has authored or coauthored 23 books on introductory psychology, human performance enhancement, and personality, including *Introduction to Personality: Toward an Integration*, with Walter Mischel and Yuichi Shoda (Wiley, 2004). An award-winning teacher, he has more than 15 years of experience teaching the introductory psychology course.

To Bev and Kay, for their endless love and support.

Brief Contents

Preface xxvii

CHAPTER 1

The Science of Psychology 1

CHAPTER 2

Studying Behavior Scientifically 27

CHAPTER 3

Genes, Environment, and Behavior 60

CHAPTER 4

The Brain and Behavior 91

CHAPTER 5

Sensation and Perception 125

CHAPTER 6

States of Consciousness 169

CHAPTER 7

Learning: The Role of Experience 210

CHAPTER 8

Memory 250

CHAPTER 9

Language and Thinking 290

CHAPTER 10

Intelligence 328

CHAPTER 11

Motivation and Emotion 362

CHAPTER 12

Development Over the Life Span 408

CHAPTER 13

Personality 452

CHAPTER 14

Adjusting to Life: Stress, Coping,
and Health 497

CHAPTER 15

Psychological Disorders 539

CHAPTER 16

Treatment of Psychological Disorders 582

CHAPTER 17

Social Thinking and Behavior 623

APPENDIX: Statistics in Psychology A-1

Credits C-1

Glossary G-1

References R-1

Name Index NI-1

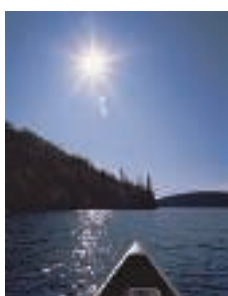
Subject Index SI-1

Contents

Preface xxvii

CHAPTER 1

The Science of Psychology 1



THE NATURE OF PSYCHOLOGY 2

Psychology as a Basic and Applied Science 3

Robber's Cave and the Jigsaw Classroom 3

The Goals of Psychology 4

Psychology's Broad Scope: A Levels-of-Analysis Framework 4

Mind-Body and Nature-Nurture Interactions 5

PERSPECTIVES ON BEHAVIOR 6

Psychology's Intellectual Roots 6

Early Schools: Structuralism and Functionalism 7

The Psychodynamic Perspective: The Forces Within 8

Psychoanalysis: Freud's Great Challenge 8

Modern Psychodynamic Theory 8

The Behavioral Perspective: The Power of the Environment 9

Origins of the Behavioral Perspective 9

Behaviorism 9

Cognitive Behaviorism 10

WHAT DO YOU THINK? Are the Students Lazy? 10

The Humanistic Perspective: Self-Actualization and Positive Psychology 10

The Cognitive Perspective: The Thinking Human 11

Origins of the Cognitive Perspective 11

Renewed Interest in the Mind 12

The Modern Cognitive Perspective 12

The Sociocultural Perspective: The Embedded Human 13

Cultural Learning and Diversity 13

RESEARCH CLOSE-UP Love and Marriage in Eleven Cultures 14

The Biological Perspective: The Brain, Genes, and Evolution 15

Behavioral Neuroscience 15

Behavior Genetics 16

Evolutionary Psychology 16

USING LEVELS OF ANALYSIS TO INTEGRATE THE PERSPECTIVES

An Example: Understanding Depression 18

Summary of Major Themes 19

BENEATH THE SURFACE What Did You Expect? 20

PSYCHOLOGY TODAY 21

A Global Science and Profession 21

Psychology and Public Policy 22

Psychology and Your Life 23

APPLYING PSYCHOLOGICAL SCIENCE How to Enhance Your Academic Performance 23

CHAPTER 2**Studying Behavior Scientifically 27****SCIENTIFIC PRINCIPLES IN PSYCHOLOGY 28**

- Scientific Attitudes 29
- Gathering Evidence: Steps in the Scientific Process 29
 - Step 1: Identify a Question of Interest 29
 - Step 2: Gather Information and Form Hypothesis 29
 - Step 3: Test Hypothesis by Conducting Research 29

Step 4: Analyze Data, Draw Conclusions, and Report Findings 29

Step 5: Build a Body of Knowledge 31

Two Approaches to Understanding Behavior 31

Hindsight (After-the-Fact Understanding) 31

Understanding through Prediction, Control, and Theory Building 32

Defining and Measuring Variables 33

Self-Reports and Reports by Others 33

Measures of Overt Behavior 34

Psychological Tests 35

Physiological Measures 35

ETHICAL PRINCIPLES IN RESEARCH 35

Ethical Standards in Human Research 36

Ethical Standards in Animal Research 37

METHODS OF RESEARCH 37

Descriptive Research: Recording Events 37

Case Studies: The Hmong Sudden Death Syndrome 37

Naturalistic Observation: Bullies in the Schoolyard 39

Survey Research: Adolescents' Exposure to Abuse and Violence 40

WHAT DO YOU THINK? Should You Trust Internet and Pop Media Surveys? 41

Correlational Research: Measuring Associations Between Events 41

RESEARCH CLOSE-UP Very Happy People 42

Correlation Does Not Establish Causation 43

The Correlation Coefficient 43

WHAT DO YOU THINK? Does Eating Ice Cream Cause People to Drown? 43

Correlation as a Basis for Prediction 44

Experiments: Examining Cause and Effect 45

Independent and Dependent Variables 46

Experimental and Control Groups 46

Two Basic Ways to Design an Experiment 46

Manipulating Two Independent Variables: Effects of Cell-Phone Use and Traffic Density on Driving Performance 47

THREATS TO THE VALIDITY OF RESEARCH 50

Confounding of Variables 50

Placebo Effects 50

Experimenter Expectancy Effects 51

Replicating and Generalizing the Findings 51

BENEATH THE SURFACE Science, Psychics, and the Paranormal 52

ANALYZING AND INTERPRETING DATA 53

Being a Smart Consumer of Statistics 53

Using Statistics to Describe Data 54

Measures of Central Tendency 54

Measures of Variability 55

Using Statistics to Make Inferences 55

Meta-Analysis: Combining the Results of Many Studies 56

CRITICAL THINKING IN SCIENCE AND EVERYDAY LIFE 56

APPLYING PSYCHOLOGICAL SCIENCE Evaluating Claims in Research and Everyday Life 57

CHAPTER 3**Genes, Environment, and Behavior 60****GENETIC INFLUENCES ON BEHAVIOR 62**

Chromosomes and Genes 63

Dominant, Recessive, and Polygenic Effects 64

The Human Genome 64

A Genetic Map of the Brain 64

Behavior Genetics 65

Family, Adoption, and Twin Studies 65

Heritability: Estimating Genetic Influence 66

ADAPTING TO THE ENVIRONMENT: THE ROLE OF LEARNING 67

How Do We Learn? The Search for Mechanisms 67

Why Do We Learn? The Search for Functions 68

Learning, Culture, and Evolution 69
Shared and Unshared Environments 69

BEHAVIOR GENETICS, INTELLIGENCE, AND PERSONALITY 70

Genes, Environment, and Intelligence 70
Heritability of Intelligence 70
Environmental Determinants 71
 Shared Family Environment 71
 Environmental Enrichment and Deprivation 71
 Educational Experiences 72
 Personality Development 72
Heritability of Personality 72
Environment and Personality Development 72

GENE-ENVIRONMENT INTERACTIONS 73

How the Environment Can Influence Gene Expression 73
 How Genes Can Influence the Environment 75

GENETIC MANIPULATION AND CONTROL 76

APPLYING PSYCHOLOGICAL SCIENCE Thinking Critically about
 Genetic Screening 77

EVOLUTION AND BEHAVIOR: INFLUENCES FROM THE DISTANT PAST 78

Evolution of Adaptive Mechanisms 79
Natural Selection 79
 Evolutionary Adaptations 79
 Brain Evolution 80
 Evoked Culture 81

WHAT DO YOU THINK? Natural Selection and Genetic
 Diseases 81

Evolution and Human Nature 81
Sexuality and Mate Preferences 82

RESEARCH CLOSE-UP Sex Differences in the Ideal Mate:
 Evolution or Social Roles? 84

Evolutionary Approaches to Personality 86

BENEATH THE SURFACE How *Not* to Think about Evolutionary
 Theory 87

CHAPTER 4

The Brain and Behavior 91



NEURONS 93

The Electrical Activity of Neurons 94
*Nerve Impulses: The Action
 Potential* 94
 It's All or Nothing 95
 The Myelin Sheath 96

HOW NEURONS COMMUNICATE: SYNAPTIC TRANSMISSION 96

Neurotransmitters 96

Specialized Neurotransmitter Systems 97

APPLYING PSYCHOLOGICAL SCIENCE Understanding How Drugs
 Affect Your Brain 99

THE NERVOUS SYSTEM 100

The Peripheral Nervous System 100
The Somatic Nervous System 101
The Autonomic Nervous System 101
 The Central Nervous System 102
The Spinal Cord 102
The Brain 103
Unlocking the Secrets of the Brain 103
 Neuropsychological Tests 103
 Destruction and Stimulation Techniques 103

Electrical Recording 104
 Brain Imaging 104

THE HIERARCHICAL BRAIN: STRUCTURES AND BEHAVIORAL FUNCTIONS 106

The Hindbrain 106
The Brain Stem: Life-Support Systems 106
The Cerebellum: Motor-Coordination Center 107
 The Midbrain 107
The Reticular Formation: The Brain's Gatekeeper 108
 The Forebrain 108
The Thalamus: The Brain's Sensory Switchboard 108
The Hypothalamus: Motivation and Emotion 108
*The Limbic System: Memory, Emotion, and Goal-Directed
 Behavior* 109
The Cerebral Cortex: Crown of the Brain 110
 The Motor Cortex 110
 The Sensory Cortex 111
 Speech Comprehension and Production 112
 Association Cortex 112
 The Frontal Lobes: The Human Difference 113
RESEARCH CLOSE-UP Inside the Brain of a Killer 113

HEMISPHERIC LATERALIZATION: THE LEFT AND RIGHT BRAINS 115

The Split Brain: Dividing the Hemispheres 115

WHAT DO YOU THINK? Two Minds in One Brain? 116**PLASTICITY IN THE BRAIN: THE ROLE OF EXPERIENCE AND THE RECOVERY OF FUNCTION 117**

How Experience Influences Brain Development 118

Healing the Nervous System 119

BENEATH THE SURFACE Do We Really Use Only Ten Percent of Our Brain Capacity? 120**INTERACTIONS WITH THE ENDOCRINE AND IMMUNE SYSTEMS 120**

Interactions with the Endocrine System 120

Interactions Involving the Immune System 121

CHAPTER 5**Sensation and Perception 125****SENSORY PROCESSES 127**

Stimulus Detection: The Absolute Threshold 128

Signal Detection Theory 128

Subliminal Stimuli: Can They Affect Behavior? 129

BENEATH THE SURFACE Are Subliminal Self-Help Products Effective? 129

The Difference Threshold 130

Sensory Adaptation 130

THE SENSORY SYSTEMS 131

Vision 132

The Human Eye 132*Photoreceptors: The Rods and Cones* 132*Visual Transduction: From Light Waves to Nerve Impulses* 134*Brightness Vision and Dark Adaptation* 134*Color Vision* 135

The Trichromatic Theory 135

Opponent-Process Theory 135

Dual Processes in Color Transduction 136

Color-Deficient Vision 137

Analysis and Reconstruction of Visual Scenes 138

Audition 139

Auditory Transduction: From Pressure Waves to Nerve Impulses 141*Coding of Pitch and Loudness* 142*Sound Localization* 142**WHAT DO YOU THINK?** Navigating in Fog: Professor Mayer's Topophone 143*Hearing Loss* 143

Taste and Smell: The Chemical Senses 144

Gustation: The Sense of Taste 144*Olfaction: The Sense of Smell* 144

The Skin and Body Senses 145

The Tactile Senses 145*The Body Senses* 146**APPLYING PSYCHOLOGICAL SCIENCE** Sensory Prosthetics: "Eyes" for the Blind, "Ears" for the Hearing Impaired 147**PERCEPTION: THE CREATION OF EXPERIENCE 150**

Perception Is Selective: The Role of Attention 151

Inattentive Blindness 151*Environmental and Personal Factors in Attention* 151

Perceptions Have Organization and Structure 152

Gestalt Principles of Perceptual Organization 152

Perception Involves Hypothesis Testing 154

Perception Is Influenced by Expectations:
Perceptual Sets 154Stimuli Are Recognizable Under Changing Conditions:
Perceptual Constancies 155**WHAT DO YOU THINK?** Why Does That Rising Moon Look So Big? 156**PERCEPTION OF DEPTH, DISTANCE, AND MOVEMENT 157**

Depth and Distance Perception 157

Monocular Depth Cues 157*Binocular Depth Cues* 158

Perception of Movement 158

ILLUSIONS: FALSE PERCEPTUAL HYPOTHESES 159**WHAT DO YOU THINK?** Explain This Striking Illusion 160**RESEARCH CLOSE-UP** Stalking a Deadly Illusion 161**EXPERIENCE, CRITICAL PERIODS, AND PERCEPTUAL DEVELOPMENT 163**

Cross-Cultural Research on Perception 164

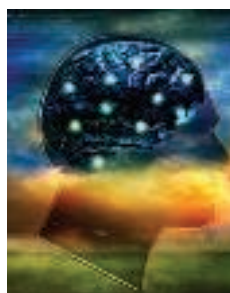
Critical Periods: The Role of Early Experience 165

Restored Sensory Capacity 166

Some Final Reflections 167

CHAPTER 6

States of Consciousness 169

**THE PUZZLE OF CONSCIOUSNESS 171**

- Characteristics of Consciousness 171
- Measuring States of Consciousness 172
- Levels of Consciousness 172
 - The Freudian Viewpoint* 172
 - The Cognitive Viewpoint* 173
- Unconscious Perception and Influence 173
 - Visual Agnosia* 173

Blindsight 174

Priming 174

The Emotional Unconscious 174

Why Do We Have Consciousness? 174

The Neural Basis of Consciousness 175

Windows to the Brain 175

Consciousness as a Global Workspace 176

CIRCADIAN RHYTHMS: OUR DAILY BIOLOGICAL CLOCKS 177

Keeping Time: Brain and Environment 177

Early Birds and Night Owls 177

WHAT DO YOU THINK? Early Birds, Climate, and Culture 178

Environmental Disruptions of Circadian Rhythms 178

APPLYING PSYCHOLOGICAL SCIENCE Outsmarting Jet Lag, Night-Work Disruptions, and Winter Depression 179

SLEEP AND DREAMING 180

Stages of Sleep 180

Stage 1 through Stage 4 181

REM Sleep 181

Getting a Night's Sleep: From Brain to Culture 182

How Much Do We Sleep? 183

Do We Need Eight Hours of Nightly Sleep? 184

Sleep Deprivation 184

Why Do We Sleep? 185

Sleep and Bodily Restoration 185

Sleep as an Evolved Adaptation 185

Sleep and Memory Consolidation 185

Sleep Disorders 186

Insomnia 186

Narcolepsy 187

REM-Sleep Behavior Disorder 187

Sleepwalking 188

Nightmares and Night Terrors 188

Sleep Apnea 188

The Nature of Dreams 188

When Do We Dream? 188

What Do We Dream About? 189

Why Do We Dream? 189

Freud's Psychoanalytic Theory 189

BENEATH THE SURFACE When Dreams Come True 190

Activation-Synthesis Theory 190

Cognitive Theories 191

Toward Integration 191

Daydreams and Waking Fantasies 191

DRUG-INDUCED STATES 193

Drugs and the Brain 193

How Drugs Facilitate Synaptic Transmission 193

How Drugs Inhibit Synaptic Transmission 194

Drug Tolerance and Dependence 194

Learning, Drug Tolerance, and Overdose 195

Drug Addiction and Dependence 195

Misconceptions about Substance Dependence 195

Depressants 196

Alcohol 196

RESEARCH CLOSE-UP Drinking and Driving: Decision Making in Altered States 197

Barbiturates and Tranquilizers 198

Stimulants 198

Amphetamines 198

Cocaine 198

Ecstasy (MDMA) 199

Opiates 200

Hallucinogens 200

Marijuana 200

Misconceptions about Marijuana 200

From Genes to Culture: Determinants of Drug Effects 201

Biological Factors 201

Psychological Factors 201

Environmental Factors 202

HYPNOSIS 203

The Scientific Study of Hypnosis 203

Hypnotic Behaviors and Experiences 203

Involuntary Control and Behaving against One's Will 203

Amazing Feats 204

WHAT DO YOU THINK? Hypnosis and Amazing Feats 204

Pain Tolerance 204

Hypnotic Amnesia 204

Hypnosis, Memory Enhancement, and Eyewitness Testimony 204

Theories of Hypnosis 205

Dissociation Theories 206

Social-Cognitive Theories 206

The Hypnotized Brain 207

CHAPTER 7

Learning: The Role of Experience 210



ADAPTING TO THE ENVIRONMENT 212

- Learning as Personal Adaptation 212
- Habituation 212

CLASSICAL CONDITIONING: ASSOCIATING ONE STIMULUS WITH ANOTHER 213

- Pavlov's Pioneering Research 213
- Basic Principles 214
 - Acquisition 214
 - Extinction and Spontaneous Recovery 215

WHAT DO YOU THINK? Why Did Carol's Car Phobia Persist? 216

- Generalization and Discrimination 216
- Higher-Order Conditioning 217

Applications of Classical Conditioning 217

- Acquiring and Overcoming Fear 217

WHAT DO YOU THINK? Was the "Little Albert" Study Ethical? 218

- Attraction and Aversion 218
- Sickness and Health 218
 - Allergic Reactions 218
 - Anticipatory Nausea and Vomiting 219
 - The Immune System 219

OPERANT CONDITIONING: LEARNING THROUGH CONSEQUENCES 220

- Thorndike's Law of Effect 220
- Skinner's Analysis of Operant Conditioning 220
 - Distinguishing Operant from Classical Conditioning 222
- Antecedent Conditions: Identifying When to Respond 222
- Consequences: Determining How to Respond 223
 - Positive Reinforcement 223
 - Primary and Secondary Reinforcers 223
 - Negative Reinforcement 224
 - Operant Extinction 224
 - Aversive Punishment 225

BENEATH THE SURFACE Spare the Rod, Spoil the Child? 225

- Response Cost 226
- Immediate, Delayed, and Reciprocal Consequences 227

WHAT DO YOU THINK? Can You Explain the "Supermarket Tantrum"? 227

Shaping and Chaining: Taking One Step at a Time 227

Generalization and Discrimination 228

Schedules of Reinforcement 229

Fixed-Ratio Schedule 229

Variable-Ratio Schedule 230

Fixed-Interval Schedule 230

Variable-Interval Schedule 230

Reinforcement Schedules, Learning, and Extinction 230

Escape and Avoidance Conditioning 231

Applications of Operant Conditioning 232

Education and the Workplace 232

Specialized Animal Training 232

Modifying Problem Behaviors 232

APPLYING PSYCHOLOGICAL SCIENCE Using Operant Principles to Modify Your Behavior 234

CROSSROADS OF CONDITIONING 236

Biological Constraints: Evolution and Preparedness 236

Constraints on Classical Conditioning: Learned Taste

Aversions 236

Are We Biologically Prepared to Fear Certain Things? 237

Constraints on Operant Conditioning: Animals That "Won't Shape Up" 238

Cognition and Conditioning 238

Early Challenges to Behaviorism: Insight and Cognitive Maps 238

Cognition in Classical Conditioning 240

Cognition in Operant Conditioning 241

The Role of Awareness 241

Latent Learning 241

Self-Evaluations as Reinforcers and Punishers 242

OBSERVATIONAL LEARNING: WHEN OTHERS SHOW THE WAY 243

Bandura's Social-Cognitive Theory 243

The Modeling Process and Self-Efficacy 243

Imitation of Aggression and Prosocial Behavior 244

Applications of Observational Learning 244

RESEARCH CLOSE-UP Using Social-Cognitive Theory to Prevent AIDS: A National Experiment 245

THE ADAPTIVE BRAIN 246

CHAPTER 8

Memory 250

**MEMORY AS INFORMATION PROCESSING 252**

- A Three-Stage Model 252
- Sensory Memory* 253
- Working/Short-Term Memory* 253
- Memory Codes 254
- Capacity and Duration 254

- Putting Short-Term Memory to Work 255
- Components of Working Memory 255
- Long-Term Memory* 255

ENCODING: ENTERING INFORMATION 257

- Effortful and Automatic Processing 257
- Levels of Processing: When Deeper Is Better 257
- Exposure and Rehearsal 258
- Organization and Imagery 259
 - Hierarchies and Chunking* 259
 - Visual Imagery* 259
 - Other Mnemonic Devices* 260
- How Prior Knowledge Shapes Encoding 260
 - Schemas: Our Mental Organizers* 260
 - Schemas, Encoding, and Expertise* 260
- Encoding and Exceptional Memory 261

WHAT DO YOU THINK? Would Perfect Memory Be a Gift or a Curse? 262

STORAGE: RETAINING INFORMATION 262

- Memory as a Network 262
 - Associative Networks* 262
 - Neural Networks* 263
- Types of Long-Term Memory 264
 - Declarative and Procedural Memory* 264
 - Explicit and Implicit Memory* 265

RETRIEVAL: ACCESSING INFORMATION 265

- The Value of Multiple Cues 266
- The Value of Distinctiveness 266
- Arousal, Emotion, and Memory 266

BENEATH THE SURFACE Do We Really Remember It Like It Was Yesterday? 268

- The Effects of Context, State, and Mood on Memory 269
 - Context-Dependent Memory: Returning to the Scene* 269
 - State-Dependent Memory: Arousal, Drugs, and Mood* 270

FORGETTING 271

- The Course of Forgetting 271
- Why Do We Forget? 272
 - Encoding Failure* 272
 - Decay of the Memory Trace* 273
 - Interference* 273
 - Motivated Forgetting* 274
- Forgetting to Do Things: Prospective Memory 274
- Amnesia 274
 - Retrograde and Anterograde Amnesia* 274
 - Dementia and Alzheimer's Disease* 275
 - Infantile (Childhood) Amnesia* 276

MEMORY AS A CONSTRUCTIVE PROCESS 276

- Memory Distortion and Schemas 277
- RESEARCH CLOSE-UP** Memory Illusions: Remembering Things That Never Occurred 278
- Misinformation Effects and Eyewitness Testimony 279
 - Source Confusion* 280
- The Child as Eyewitness 280
 - Accuracy and Suggestibility* 280
 - Recall of Traumatic Events 281
 - True versus False Reports: Can Professionals Tell Them Apart?* 281
- The Recovered Memory Controversy 281
- Culture and Memory Construction 282

MEMORY AND THE BRAIN 284

- Where Are Memories Formed and Stored? 284
 - Sensory and Working Memory* 284
 - Long-Term Memory* 285
 - Declarative Memory 285
 - Procedural Memory 285
- How Are Memories Formed? 286
 - Synaptic Change and Memory* 286
 - Long-Term Potentiation* 286

APPLYING PSYCHOLOGICAL SCIENCE Improving Memory and Academic Learning 287

CHAPTER 9

Language and Thinking 290



LANGUAGE 291

Adaptive Functions of Language 292

Properties of Language 292

Language Is Symbolic and Structured 292

Language Conveys Meaning 293

Language Is Generative and Permits Displacement 293

The Structure of Language 293

Surface Structure and Deep Structure 293

WHAT DO YOU THINK? Discerning Surface and Deep Structures of Language 294

The Hierarchical Structure of Language 294

Understanding and Producing Language 294

The Role of Bottom-Up Processing 295

The Role of Top-Down Processing 295

Pragmatics: The Social Context of Language 296

WHAT DO YOU THINK? The Sleeping Policeman 297

Language Functions, the Brain, and Sex Differences 297

Acquiring a First Language 298

Biological Foundations 298

Social Learning Processes 298

Developmental Timetable and Sensitive Periods 299

Can Animals Acquire Human Language? 300

Washoe: Early Signs of Success 300

Project Nim: Dissent from Within 301

Kanzi: Chimp versus Child 301

Is It Language? 302

Bilingualism 302

Does Bilingualism Affect Other Cognitive Abilities? 302

BENEATH THE SURFACE Learning a Second Language: Is Earlier Better? 303

The Bilingual Brain 304

Linguistic Influences on Thinking 305

THINKING 307

Thought, Brain, and Mind 307

Concepts and Propositions 308

Reasoning 309

Deductive Reasoning 309

Inductive Reasoning 309

Stumbling Blocks in Reasoning 310

Distraction by Irrelevant Information 310

Belief Bias 310

Emotions and Framing 310

Problem Solving and Decision Making 311

Steps in Problem Solving 311

Understanding, or Framing, the Problem 311

Generating Potential Solutions 311

Testing the Solutions 312

Evaluating Results 312

The Role of Problem-Solving Schemas 312

Algorithms and Heuristics 313

Uncertainty, Heuristics, and Decision Making 313

The Representativeness Heuristic 314

The Availability Heuristic 315

Confirmation Bias and Overconfidence 315

APPLYING PSYCHOLOGICAL SCIENCE Guidelines for Creative Problem Solving 316

Knowledge, Expertise, and Wisdom 317

Acquiring Knowledge: Schemas and Scripts 317

The Nature of Expertise 318

Expert Schemas and Memory 318

What Is Wisdom? 318

Mental Imagery 319

Mental Rotation 319

Are Mental Images Pictures in the Mind? 320

Mental Imagery as Perception 321

Mental Imagery as Language 321

Mental Imagery and the Brain 321

Metacognition: Knowing Your Own Cognitive Abilities 322

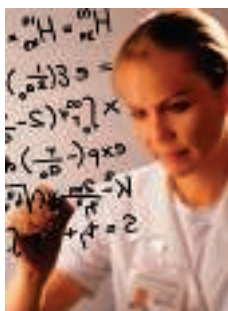
Recognizing What You Do and Don't Know 322

RESEARCH CLOSE-UP "Why Did I Get That Wrong?" Improving College Students' Awareness of Whether They Understand Text Material 322

Further Advice on Improving Metacomprehension 324

CHAPTER 10

Intelligence 328

**INTELLIGENCE IN HISTORICAL PERSPECTIVE 330**

- Sir Francis Galton: Quantifying Mental Ability 330
- Alfred Binet's Mental Tests 331
- Binet's Legacy: An Intelligence-Testing Industry Emerges 332

THE NATURE OF INTELLIGENCE 332

- The Psychometric Approach: The Structure of Intellect 332
- Factor Analysis 333
- The *g* Factor: Intelligence as General Mental Capacity 333
- Intelligence as Specific Mental Abilities 334
- Crystallized and Fluid Intelligence 334
- Carroll's Three-Stratum Model: A Modern Synthesis 335
- Cognitive Process Approaches: The Nature of Intelligent Thinking 336
- Broader Conceptions of Intelligence: Beyond Mental Competencies 336
- Gardner's Multiple Intelligences 337
- Emotional Intelligence 338

THE MEASUREMENT OF INTELLIGENCE 340

- Increasing the Informational Yield from Intelligence Tests 341
- Theory-Based Intelligence Tests 341
- Should We Test for Aptitude or Achievement? 341
- Psychometric Standards for Intelligence Tests 342

Reliability 342

Validity 343

Intelligence and Academic Performance 343

Job Performance, Income, and Longevity 343

Standardization 344

The Flynn Effect: Are We Getting Smarter? 344

Testing Conditions: Static and Dynamic Testing 345

Assessing Intelligence in Non-Western Cultures 346

BENEATH THE SURFACE Brain Size and Intelligence 347

HEREDITY, ENVIRONMENT, AND INTELLIGENCE 348

APPLYING PSYCHOLOGICAL SCIENCE Early-childhood Intervention: A Means of Boosting Intelligence? 350

GROUP DIFFERENCES IN INTELLIGENCE 351

Ethnic Group Differences 352

Are the Tests Biased? 352

What Factors Underlie the Differences? 352

Sex Differences in Cognitive Abilities 353

Beliefs, Expectations, and Cognitive Performance 354

RESEARCH CLOSE-UP Stereotype Threat and Cognitive Performance 355

EXTREMES OF INTELLIGENCE 356

The Intellectually Gifted 356

WHAT DO YOU THINK? Are Gifted Children Maladjusted? 357

Mental Retardation 357

A Concluding Thought 358

CHAPTER 11

Motivation and Emotion 362

**MOTIVATION 363**

- Perspectives on Motivation 364
- Evolution, Instincts, and Genes* 364
- Homeostasis and Drives* 364
- Approach and Avoidance Motivation: The BAS and BIS* 365
- Cognitive Processes: Incentives and Expectancies* 365

Psychodynamic and Humanistic Views 366

Maslow's Need Hierarchy 366

Self-Determination Theory 366

WHAT DO YOU THINK? Is Maslow's Need Hierarchy Valid? 367

Hunger and Weight Regulation 367

The Physiology of Hunger 367

Signals That Start and Terminate a Meal 368

Signals That Regulate General Appetite and Weight 368

Brain Mechanisms 369

Psychological Aspects of Hunger 370

Environmental and Cultural Factors 372

Obesity 372

Genes and Environment 373

Dieting and Weight Loss 373

Eating Disorders: Anorexia and Bulimia 373

Causes of Anorexia and Bulimia 374

- Sexual Motivation 375
Sexual Behavior: Patterns and Changes 375
The Physiology of Sex 376
 The Sexual Response Cycle 376
 Hormonal Influences 377
The Psychology of Sex 377
Cultural and Environmental Influences 378
Sexual Orientation 279
 Prevalence of Different Sexual Orientations 379
 Determinants of Sexual Orientation 379

WHAT DO YOU THINK? Fraternal Birth Order and Male Homosexuality 381

- Social Motivation 381
Why Do We Affiliate? 381
 Achievement Motivation 383
Motive for Success and Fear of Failure 383
Achievement Goal Theory 384
Achievement Goal Orientations 384
 Motivational Climate 385
Family, Culture, and Achievement Needs 386
 Motivational Conflict 387

EMOTION 388

- The Nature of Emotions 388
Eliciting Stimuli 389
The Cognitive Component 389
 Culture and Appraisal 390

- The Physiological Component* 391
 Brain Structures and Neurotransmitters 391
 Hemispheric Activation and Emotion 392
 Autonomic and Hormonal Processes 392

BENEATH THE SURFACE The Lie Detector Controversy 393

- The Behavioral Component* 394
 Evolution and Emotional Expression 394
 Facial Expression of Emotion 394
 Cultural Display Rules 396
 Instrumental Behaviors 397

- Theories of Emotion 398
The James-Lange Somatic Theory 398
The Cannon-Bard Theory 398
The Role of Autonomic Feedback 398
The Role of Expressive Behaviors 399
Cognitive-Affective Theories 400

RESEARCH CLOSE-UP Cognition-Arousal Relations: Two Classic Experiments 400

- Happiness 403
How Happy Are People? 403
What Makes People Happy? 403
 Personal Resources 403
 Psychological Processes 404

APPLYING PSYCHOLOGICAL SCIENCE How to Be Happy: Guidelines from Psychological Research 405

- A Concluding Thought 406

CHAPTER 12

Development Over the Life Span 408



MAJOR ISSUES AND METHODS 409

PRENATAL DEVELOPMENT 411

- Genetics and Sex Determination 411
 Environmental Influences 412

INFANCY AND CHILDHOOD 413

- The Amazing Newborn 413
 Sensory Capabilities and Perceptual Preferences 413
Reflexes and Learning 414

- Physical Development 415
The Young Brain 415
Environmental and Cultural Influences 416
 Cognitive Development 416
Piaget's Stage Model 416
 Sensorimotor Stage 417
 Preoperational Stage 417

- Concrete Operational Stage 419
 Formal Operational Stage 419
Assessing Piaget's Theory: Stages, Ages, and Culture 419
The Social Context of Cognitive Development 419
Information-Processing Approaches 420
 Information-Search Strategies 420
 Processing Speed, Attention, and Response Inhibition 420
 Working Memory and Long-Term Memory 420
 Metacognition 421
Understanding the Physical World 421
Theory of Mind: Understanding Mental States 422
 Social-Emotional and Personality Development 422
Early Emotions and Emotion Regulation 422
Temperament 423

WHAT DO YOU THINK? Shy Child, Shy Adult? 424

- Erikson's Psychosocial Theory 424
- Attachment 425
- The Attachment Process 425
 - Types of Attachment 426
- Attachment Deprivation 427
- The Child-Care Controversy 427
- APPLYING PSYCHOLOGICAL SCIENCE** Understanding How Divorce and Remarriage Affect Children 428
- Styles of Parenting 429
 - Parenting-Heredity Interactions 430
 - Gender Identity and Socialization 430
- Moral Development 431
- Moral Thinking 431
 - Culture, Gender, and Moral Reasoning 432
 - Moral Behavior and Conscience 432
- ADOLESCENCE AND ADULTHOOD 434**
- Physical Development 435
 - Puberty 435
 - The Adolescent Brain 435
 - Physical Development in Adulthood 435
 - The Adult Brain 436

- Cognitive Development 436
- Reasoning and Information Processing in Adolescence 437
 - Information Processing in Adulthood 438
 - Intellectual Changes in Adulthood 438
- BENEATH THE SURFACE** Aging and Mental Ability: Use It or Lose It? 439
- The Growth of Wisdom? 440
 - Cognitive Impairment in Old Age 441
- Social-Emotional Development 441
- Adolescents' Search for Identity 441
 - Relationships with Parents and Peers 442
 - Emotional Changes in Adolescence 443
 - The Transition to Adulthood 444
- RESEARCH CLOSE-UP** What Does It Take to Become an Adult? 445
- Stages versus Critical Events in Adulthood 445
 - Marriage and Family 446
- WHAT DO YOU THINK?** Cohabitation as a "Trial Marriage" 447
- Establishing a Career 447
 - Midlife Crisis: Fact or Fiction? 448
 - Retirement and the "Golden Years" 448
 - Death and Dying 448

CHAPTER 13

Personality 452



WHAT IS PERSONALITY? 454

THE PSYCHODYNAMIC PERSPECTIVE 455

- Freud's Psychoanalytic Theory 455

 - Psychic Energy and Mental Events 456
 - The Structure of Personality 456
 - Conflict, Anxiety, and Defense 457
 - Psychosexual Development 458

- Neoanalytic and Object Relations Approaches 458

Adult Attachment Styles 459

RESEARCH CLOSE-UP Attachment Style and Abusive Romantic Relationships 461

- Evaluating the Psychodynamic Approach 462

 - Understanding Charles Whitman 463

THE PHENOMENOLOGICAL-HUMANISTIC PERSPECTIVE 464

- George Kelly's Personal Construct Theory 464
- Carl Rogers's Theory of the Self 465

 - The Self 465
 - The Need for Positive Regard 467
 - Fully Functioning Persons 467

WHAT DO YOU THINK? Is Self-Actualization a Useful Scientific Construct? 467

Research on the Self 467

- Self-Esteem 467
- Self-Verification and Self-Enhancement Motives 468
- Evaluating the Phenomenological-Humanistic Approach 469

 - Understanding Charles Whitman 469

THE TRAIT PERSPECTIVE: MAPPING THE STRUCTURE OF PERSONALITY 470

- Factor Analytic Approaches 470

 - Cattell's Sixteen Personality Factors 470
 - The Five Factor Model 471
 - Stability of Personality Traits over Time 472

BENEATH THE SURFACE How Consistent Is Our Behavior Across Situations? 473

- Evaluating the Trait Approach 473

 - Understanding Charles Whitman 474

BIOLOGICAL FOUNDATIONS OF PERSONALITY 474

- Genetics and Personality 474
- Personality and the Nervous System 475

 - Eysenck's Extraversion-Stability Model 475
 - Temperament: Building Blocks of Personality 476

- Evaluating the Biological Approach 477

 - Understanding Charles Whitman 478

BEHAVIORAL AND SOCIAL-COGNITIVE THEORIES 478

Julian Rotter: Expectancy, Reinforcement Value, and Locus of Control 479

Locus of Control 479

Albert Bandura: Social Learning and Self-Efficacy 480

Self-Efficacy 480

APPLYING PSYCHOLOGICAL SCIENCE Increasing Self-Efficacy through Systematic Goal Setting 482

Walter Mischel and Yuichi Shoda: The Cognitive-Affective Personality System 483

Encodings and Personal Constructs 483

Expectancies and Beliefs 484

Goals and Values 484

Affects (Emotions) 484

Competencies and Self-Regulatory Processes 484

Reconciling Personality Coherence with Behavioral Inconsistency 485

Evaluating Social-Cognitive Theories 486

Understanding Charles Whitman 487

CULTURE, GENDER, AND PERSONALITY 488

Culture Differences 489

Gender Schemas 490

PERSONALITY ASSESSMENT 490

Interviews 491

Behavioral Assessment 492

Remote Behavior Sampling 492

Personality Scales 493

Projective Tests 494

CHAPTER 14**Adjusting to Life: Stress, Coping, and Health 497****STRESS AND WELL-BEING 499**

Stressors 499

Measuring Stressful Life Events 501

The Stress Response: A Mind-Body Link 501

Cognitive Appraisal 501

Physiological Responses 502

Effects of Stress on Well-Being 502

Stress and Psychological Well-Being 502

WHAT DO YOU THINK? Do Stressful Events

Cause Psychological Distress? 503

Stress and Illness 503

Stress and Aging 504

Stress and the Immune System 504

Factors That Influence Stress-Health Relations 506

Social Support 506

Physiological Reactivity 507

Type A Behavior Pattern 507

Mind as Healer or Slayer 508

Coping Efficacy and Control 508

Optimism and Positive Attitudes 508

Finding Meaning in Stressful Life Events 509

Resilient Children: Superkids or Ordinary Magic? 509

COPING WITH STRESS 511

Effectiveness of Coping Strategies 512

Controllability and Coping Efficacy 512

Trauma Disclosure and Emotional Release 513

Bottling Up Feelings: The Hidden Costs of Emotional Constraint 513

Gender, Culture, and Coping 514

RESEARCH CLOSE-UP Hold My Hand and I'll Be Fine 515

Stress Management Training 517

Cognitive Coping Skills 517

Relaxation Techniques 518

PAIN AND PAIN MANAGEMENT 518

Biological Mechanisms of Pain 519

Spinal and Brain Mechanisms 519

The Endorphins 520

Cultural and Psychological Influences on Pain 521

Cultural Factors 521

Meanings and Beliefs 522

Personality Factors and Social Support 523

APPLYING PSYCHOLOGICAL SCIENCE Psychological Techniques for Controlling Pain and Suffering 523

HEALTH PROMOTION AND ILLNESS PREVENTION 526

How People Change: The Transtheoretical Model 526

Increasing Behaviors That Enhance Health 528

Exercise 529

Weight Control 530

Lifestyle Changes and Medical Recovery 530

Reducing Behaviors That Impair Health 531

Psychology and the AIDS Crisis 531

Combating Substance Abuse 532

- Motivational Interviewing 533
- Multimodal Treatment Approaches 533
- BENEATH THE SURFACE** College-Age Drinking: Harmless Fun or Russian Roulette? 534

- Harm-Reduction Approaches to Prevention* 535
- Relapse Prevention: Maintaining Positive Behavior Change 535
- A Concluding Thought 537

CHAPTER 15

Psychological Disorders 539



HISTORICAL PERSPECTIVES ON DEVIANT BEHAVIOR 541

DEFINING AND CLASSIFYING PSYCHOLOGICAL DISORDERS 543

- What Is “Abnormal”? 543
- Diagnosing Psychological Disorders 544
- Consequences of Diagnostic Labeling 545

Social and Personal Consequences 545

Legal Consequences 545

WHAT DO YOU THINK? “Do I Have That Disorder?” 546

ANXIETY DISORDERS 546

- Phobic Disorder 547
- Generalized Anxiety Disorder 547
- Panic Disorder 548
- Obsessive-Compulsive Disorder 549
- Posttraumatic Stress Disorder 549

WHAT DO YOU THINK? Growth from Trauma? 550

Causal Factors in Anxiety Disorders 550

Biological Factors 550

Psychological Factors 551

Psychodynamic Theories 551

Cognitive Factors 551

The Role of Learning 552

Sociocultural Factors 552

SOMATOFORM AND DISSOCIATIVE DISORDERS: ANXIETY INFERRED 554

- Somatoform Disorders 554
- Dissociative Disorders 555
 - Dissociative Identity (Multiple Personality) Disorder* 555
 - What Causes DID?* 556

MOOD DISORDERS 556

- Depression 556
- Bipolar Disorder 557
- Prevalence and Course of Mood Disorders 558

Causal Factors in Mood Disorders 559

Biological Factors 559

Psychological Factors 560

Personality-Based Vulnerability 560

Cognitive Processes 560

Learning and Environmental Factors 561

Sociocultural Factors 562

APPLYING PSYCHOLOGICAL SCIENCE Understanding and Preventing

Suicide 562

SCHIZOPHRENIA 564

- Characteristics of Schizophrenia 564
- Subtypes of Schizophrenia 565
- Causal Factors in Schizophrenia 566
 - Biological Factors* 566
 - Genetic Predisposition 566
 - Brain Abnormalities 567
 - Biochemical Factors 567
 - Psychological Factors* 567
 - Environmental Factors* 568
 - Sociocultural Factors* 569

PERSONALITY DISORDERS 570

- Antisocial Personality Disorder 570
 - Causal Factors* 572
 - Biological Factors 572
 - Psychological and Environmental Factors 572
- RESEARCH CLOSE-UP** Fear, Avoidance Learning, and Psychopathy 573
- Borderline Personality Disorder 575
 - Causal Factors* 575

BENEATH THE SURFACE How Dangerous Are People with Psychological Disorders? 576

CHILDHOOD DISORDERS 578

- Attention Deficit/Hyperactivity Disorder 578
- Autistic Disorder 578
 - Causal Factors* 579
- A Closing Thought 580

- [read *Doctor Who: The Complete Guide*](#)
 - [read online *Frontiers of Political Economy*](#)
 - [click *Art, History and the Historiography of Judaism in Roman Antiquity* pdf, azw \(kindle\), epub, doc, mobi](#)
 - [read online *Practical Photoshop \(June 2012\)* pdf, azw \(kindle\), epub](#)
 - [***The Multiple States of the Being \(Collected Works of René Guénon\)* pdf**](#)
-
- <http://chelseaprintandpublishing.com/?freebooks/Doctor-Who--The-Complete-Guide.pdf>
 - <http://chelseaprintandpublishing.com/?freebooks/Frontiers-of-Political-Economy.pdf>
 - <http://transtrade.cz/?ebooks/River-of-Destiny.pdf>
 - <http://junkrobots.com/ebooks/Practical-Photoshop--June-2012-.pdf>
 - <http://cambridgebrass.com/?freebooks/The-Multiple-States-of-the-Being--Collected-Works-of-Ren---Gu--non-.pdf>