

PSYCHOLOGY

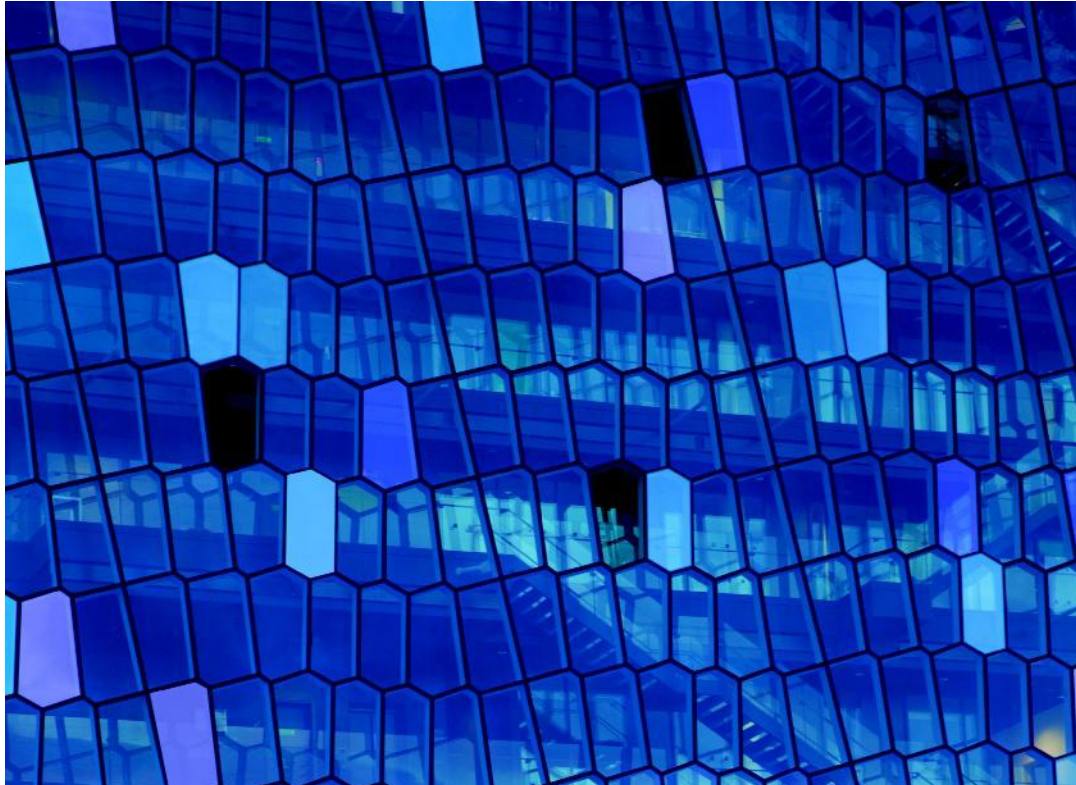
MODULES FOR ACTIVE LEARNING 14E



Coon ♦ Mitterer ♦ Martini

Psychology

Modules for Active Learning 14e



Dennis Coon

John O. Mitterer

Brock University

Tanya Martini

Brock University



Australia • Brazil • Mexico • Singapore • United Kingdom • United States

Psychology: Modules for Active Learning,
Fourteenth Edition
Dennis Coon, John O. Mitterer, & Tanya Martini

Product Director: Marta Lee-Perriard

Product Manager: Timothy Matray

Content Developer: Liz Fraser

Product Assistant: Tim Kappler

Marketing Manager: Andrew Ginsberg

Content Project Manager: Ruth Sakata Corley

Art Director: Vernon Boes

Manufacturing Planner: Karen Hunt

Production and Composition: MPS Limited

Text and Cover Designer: Cheryl Carrington

Cover Image: Gareth McCormack/Lonely
Planet Images/Getty Images

© 2018, 2015, Cengage Learning

ALL RIGHTS RESERVED. No part of this work covered by the copyright herein may be reproduced or distributed in any form or by any means, except as permitted by U.S. copyright law, without the prior written permission of the copyright owner.

Unless otherwise noted, all content is © Cengage Learning.

For product information and technology assistance, contact us at
Cengage Learning Customer & Sales Support, 1-800-354-9706.

For permission to use material from this text or product,
submit all requests online at **www.cengage.com/permissions**.

Further permissions questions can be e-mailed to
permissionrequest@cengage.com.

Library of Congress Control Number: 2016946789

Student Edition:

ISBN: 978-1-305-96411-2

Loose-leaf Edition:

ISBN: 978-1-305-96418-1

Cengage Learning

20 Channel Center Street
Boston, MA 02210
USA

Cengage Learning is a leading provider of customized learning solutions with employees residing in nearly 40 different countries and sales in more than 125 countries around the world. Find your local representative at **www.cengage.com**.

Cengage Learning products are represented in
Canada by Nelson Education, Ltd.

To learn more about Cengage Learning Solutions, visit
www.cengage.com.

Purchase any of our products at your local college store or at our
preferred online store **www.cengagebrain.com**.

For Saskia
—Tanya

About the Authors



Dennis Coon

Dennis Coon

Dennis Coon is the author of *Psychology: A Journey* and *Introduction to Psychology: Gateways to Mind and Behavior*, as well as *Psychology: Modules for Active Learning*. Together, these textbooks have been used by more than 2 million students. Dr. Coon frequently serves as a reviewer and consultant to publishers, and he edited the best-selling trade book *Choices*. He also helped design interactive digital modules for PsychNow!

In his leisure hours, Dr. Coon enjoys hiking, photography, painting, woodworking, and music. He also designs, builds, and plays classical and steel string acoustic guitars. He has published articles on guitar design and occasionally offers lectures on this topic, in addition to his more frequent presentations on psychology.



John Mitterer

John Mitterer

John Mitterer was awarded his PhD in cognitive psychology from McMaster University. He has taught psychology at Brock University to more than 30,000 introductory psychology students. He is the recipient of many teaching awards, including a National 3M Teaching Fellowship, the Canadian Psychological Association Award for Distinguished Contributions to Education and Training in Psychology, and the Brock University Don Ursino Award for Excellence in the Teaching of Large Classes.

He has created textbooks and support materials for both students and instructors, and published and lectured on undergraduate instruction throughout Canada and the United States.

In his spare time, Dr. Mitterer bird-watches in “hot spots” like Papua New Guinea, Uganda, the Galapagos, Brazil, and Australia.



Tanya Martini

Tanya Martini

Tanya Martini obtained her PhD in developmental psychology from the University of Toronto and is a professor in the psychology department at Brock University in St. Catharines, Ontario, Canada. In addition to introductory psychology, she also teaches research methods and a capstone course designed to facilitate graduating students’ understanding of career-related skills. She has been awarded the Brock University Distinguished Teaching Award, and she currently holds the Chancellor’s Chair for Teaching Excellence.

Dr. Martini’s research explores skill-based learning outcomes in postsecondary education, and her most recent work has investigated students’ views concerning skill-based learning across their degree program. She has a particular interest in students’ ability to articulate the competencies that underlie skills such as critical thinking and collaboration, and their ability to recognize how university assignments foster transferable skills that are of interest to employers.

Brief Contents

1	The Psychology of Reflective Studying	1
2	Introducing Psychology: Psychology, Critical Thinking, and Science	14
3	Introducing Psychology: Psychology Then and Now	24
4	Introducing Psychology: The Psychology Experiment	39
5	Introducing Psychology: Nonexperimental Research Methods	46
6	Introducing Psychology Skills in Action: Information Literacy	54
7	Brain and Behavior: The Nervous System	58
8	Brain and Behavior: Brain Research	70
9	Brain and Behavior: Hemispheres and Lobes of the Cerebral Cortex	75
10	Brain and Behavior: The Subcortex and Endocrine System	85
11	Brain and Behavior Skills in Action: Self-Regulation	93
12	Human Development: Heredity and Environment	97
13	Human Development: Emotional and Social Development in Childhood	107
14	Human Development: Language and Cognitive Development in Childhood	116
15	Human Development: Adolescence and Adulthood	126
16	Human Development Skills in Action: Behaving Ethically	137
17	Sensation and Perception: Sensory Processes	141
18	Sensation and Perception: Vision	148
19	Sensation and Perception: The Nonvisual Senses	156
20	Sensation and Perception: Perceptual Processes	168
21	Sensation and Perception: Perception and Objectivity	181
22	Sensation and Perception Skills in Action: Communication	189
23	Consciousness: States of Consciousness	193
24	Consciousness: Sleep and Dreams	202
25	Consciousness: Psychoactive Drugs	215
26	Consciousness Skills in Action: Metacognition	230
27	Conditioning and Learning: Associative and Cognitive Learning	234
28	Conditioning and Learning: Classical Conditioning	244
29	Conditioning and Learning: Operant Conditioning	251
30	Conditioning and Learning: Reinforcement and Punishment in Detail	259
31	Conditioning and Learning Skills in Action: Behavioral Self-Management	269
32	Memory: Memory Systems	273
33	Memory: Measuring Memory	285
34	Memory: Forgetting	290
35	Memory: Exceptional Memory	301
36	Memory Skills in Action: Giving Memorable Presentations	308
37	Cognition and Intelligence: Modes of Thought	312
38	Cognition and Intelligence: Problem Solving	323
39	Cognition and Intelligence: Creative Thinking and Intuition	329
40	Cognition and Intelligence: Intelligence	336
41	Cognition and Intelligence Skills in Action: Creativity and Innovation	350
42	Motivation and Emotion: Overview of Motives and Emotions	355
43	Motivation and Emotion: Motivation in Detail	364
44	Motivation and Emotion: Emotion in Detail	378
45	Motivation and Emotion Skills in Action: Positivity and Optimism	390
46	Human Sexuality: Sex and Gender	394
47	Human Sexuality: The Human Sex Drive, Response, and Attitudes	406
48	Human Sexuality: Sexual Problems	418
49	Human Sexuality Skills in Action: Diversity and Inclusion	430
50	Personality: Overview of Personality	434
51	Personality: Trait Theories	445
52	Personality: Psychodynamic and Humanistic Theories	452
53	Personality: Behavioral and Social Learning Theories	464
54	Personality Skills in Action: Leadership	472
55	Health Psychology: Overview of Health Psychology	476
56	Health Psychology: Stressors	484
57	Health Psychology: Coping with Stress	496
58	Health Psychology: Stress and Health	505
59	Health Psychology Skills in Action: Stress Management	510
60	Psychological Disorders: Defining Psychopathology	515
61	Psychological Disorders: Psychotic Disorders	527
62	Psychological Disorders: Mood Disorders	536
63	Psychological Disorders: Anxiety, Anxiety-Related, and Personality Disorders	542
64	Psychological Disorders Skills in Action: Emotional Intelligence	554
65	Therapies: Treating Psychological Distress	558
66	Therapies: Psychodynamic, Humanistic, and Cognitive Therapies	568
67	Therapies: Behavior Therapies	577
68	Therapies: Medical Therapies	585
69	Therapy Skills in Action: Managing Mental Health Problems	592
70	Social Psychology: Social Behavior and Cognition	599
71	Social Psychology: Social Influence	610
72	Social Psychology: Prosocial Behavior	620
73	Social Psychology: Antisocial Behavior	630
74	Social Psychology Skills in Action: Teamwork	642
75	Applied Psychology: Industrial/Organizational Psychology	645
76	Applied Psychology: Environmental Psychology	655
77	Applied Psychology: The Psychology of Law, Education, and Sports	667
78	Applied Psychology Skills in Action: Career Preparation	676
79	Appendix: Behavioral Statistics	680
	References	R-1
	Name Index	N-1
	Subject Index/Glossary	S-1

Contents

Preface xxvii

Module 1

The Psychology of Reflective Studying 1

What's in It for You?—More Than You Might Think 1

- A Psychologist's Skill Set 2
- How This Book Will Help You with Skill Development 3
- Reflective Learning: The Most Important Ingredient 4

Reflective Reading—How to Tame a Textbook 5

- How to Use *Psychology: Modules for Active Learning* 5
- Going Digital 7

Reflective Note Taking—LISAN Up! 8

- Using and Reviewing Your Notes 8

Reflective Study Strategies—Making a Habit of Success 9

- Strategies for Studying 9
- Strategies for Taking Tests 9
- Procrastination: Don't Be Late! 11
- The Whole Human: Psychology and You 12
- Summary 12
- Knowledge Builder 13

Module 2

Introducing Psychology: Psychology, Critical Thinking, and Science 14

Psychology—Behave! 14

- Answering Questions in Psychology 14

Critical Thinking—Take It with a Grain of Salt 17

- Critical Thinking Principles 18

Scientific Research—How to Think Like a Psychologist 20

- The Six Steps of the Scientific Method 20
- Research Ethics 22
- Summary 22
- Knowledge Builder 23

Module 3

Introducing Psychology: Psychology Then and Now 24

A Brief History of Psychology—Psychology's Family Album 24

- Structuralism 25
- Functionalism 25
- Behaviorism 26
- Gestalt Psychology 27
- Psychoanalytic Psychology 27
- Humanistic Psychology 28
- The Importance of Diversity in Psychology 29

- The Psychological Perspective 32
- The Sociocultural Perspective 32
- A Broader View of Diversity 33

Psychologists—Guaranteed Not to Shrink 33

- Helping People 36
- Other Mental Health Professionals 36
- Summary 37
- Knowledge Builder 38

Psychology Today—Three Complementary Perspectives on Behavior 31

- The Biological Perspective 32

Module 4**Introducing Psychology: The Psychology Experiment 39****The Experimental Method—Where Cause Meets Effect 39**

Variables and Groups 40

Researcher Bias 43

Summary 44

Knowledge Builder 45

Double-Blind—On Placebos and Self-Fulfilling Prophecies 42

Research Participant Bias 42

Module 5**Introducing Psychology: Nonexperimental Research Methods 46****Naturalistic Observation 46**

Limitations 47

Case Studies 49**Survey Method 50**

Summary 52

Knowledge Builder 53

Correlational Method 47

Correlation Coefficients 48

Module 6**Introducing Psychology Skills in Action: Information Literacy 54****Psychology in the Media—Who Can You Trust? 54**

Summary 56

Summary 57

Knowledge Builder 57

Module 7**Brain and Behavior: The Nervous System 58****The Nervous System—Wired for Action 58**

The Peripheral Nervous System 60

Neural Networks 65

Neurons—Biocomputer Building Blocks 60

Parts of a Neuron 60

Neural Function 61

Neuroplasticity and Neurogenesis—The Dynamic Nervous System 67

Neurogenesis 67

Summary 68

Knowledge Builder 69

Synaptic Transmission and Neural Networks—Wiring the Biocomputer 63

Neurotransmitters 64

Module 8**Brain and Behavior: Brain Research 70****Mapping Brain Structure—Pieces of the Puzzle 70**

CT Scans 70

MRI 71

PET Scan 73

fMRI 73

Summary 74

Knowledge Builder 74

Exploring Brain Function—What Do the Parts Do? 71

EEG 72

Module 9**Brain and Behavior: Hemispheres and Lobes of the Cerebral Cortex 75****The Cerebral Cortex—Bigger Is Not Better 75**

The Cerebral Hemispheres 76

Lobes of the Cerebral Cortex—Hey, You, Four Lobes! 80

The Frontal Lobes 80

The Parietal Lobes 82

The Temporal Lobes 82

The Occipital Lobes 83

Summary 83

Knowledge Builder 84

Module 10**Brain and Behavior: The Subcortex and Endocrine System 85****The Subcortex—At the Core of the (Brain) Matter 85**

The Hindbrain 86

The Cerebellum 86

Locked-In Syndrome 87

The Forebrain 87

The Whole Human 88

The Endocrine System—My Hormones Made Me Do It 89

Glands of the Endocrine System 90

Summary 91

Knowledge Builder 92

Module 11**Brain and Behavior Skills in Action: Self-Regulation 93****Mind Control: Control Yourself! 93****From Marshmallows to Retirement Funds 94**

Summary 96

Knowledge Builder 96

Module 12**Human Development: Heredity and Environment 97****Nature and Nurture—It Takes Two to Tango 97**

Heredity and Maturation 98

Environment and Maturation 99

Maturation in Infancy 101

Summary 105

Knowledge Builder 106

Module 13**Human Development: Emotional and Social Development in Childhood 107****Emotional Development in Infancy—Curious, Baby? 107****Social Development—Baby, I'm Stuck on You 108**

Day Care 110

Parental Influences—Life with Mom and Dad 110

Parenting Styles 110

Maternal and Paternal Influences 112

Ethnic Differences: Five Flavors of Parenting 113

Summary 114

Knowledge Builder 115

Module 14**Human Development: Language and Cognitive Development in Childhood 116****Language Development—Who Talks Baby Talk? 116**

Language and the Terrible Twos 117
The Roots of Language 117

Piaget Today 122
Vygotsky's Sociocultural Theory 123
Summary 124
Knowledge Builder 125

Cognitive Development—Think Like a Child 118

Piaget's Theory of Cognitive Development 119

Module 15**Human Development: Adolescence and Adulthood 126****The Story of a Lifetime—Rocky Road or Garden Path? 126**

Erikson's Psychosocial Theory 127

Adulthood—You're an Adult Now! 132

Challenges of Adulthood 132
Successful Aging 133

Adolescence—The Best of Times, the Worst of Times 129

Puberty 129
The Search for Identity 129

Death and Dying—The Final Challenge 134

Reactions to Impending Death 134
Summary 135
Knowledge Builder 136

Moral Development—Growing a Conscience 130

Moral Emotions 131
Moral Thinking 131

Module 16**Human Development Skills in Action: Behaving Ethically 137****Thinking About Ethics—Valuing Values 137**

Summary 140
Knowledge Builder 140

Ethical Behavior—Truth or Consequences 138

Preparing to Behave Ethically 138

Module 17**Sensation and Perception: Sensory Processes 141****Sensory Systems—The First Step 141**

Psychophysics 142

Summary 146
Knowledge Builder 147

Selective Attention—Tuning In and Tuning Out 145**Module 18****Sensation and Perception: Vision 148****Vision—Catching Some Rays 148**

Structure of the Eye 149
Rods and Cones 150
Color Vision 151

Seeing in the Dark 153
Summary 154
Knowledge Builder 155

Module 19**Sensation and Perception: The Nonvisual Senses 156****Hearing—Good Vibrations 156**

How We Hear Sounds 157

Smell and Taste—The Nose Knows When the Tongue Can't Tell 160

The Sense of Smell 160

Taste and Flavors 161

The Somesthetic Senses—Flying by the Seat of Your Pants 162

The Skin Senses 162

The Vestibular System 165

Summary 166

Knowledge Builder 167

Module 20**Sensation and Perception: Perceptual Processes 168****Perception—The Second Step 168**

Illusions 169

Bottom-Up and Top-Down Processing 170

Gestalt Organizing Principles 171

Perceptual Constancies 173

Depth Perception—What If the World Were Flat? 174

Binocular Depth Cues 176

Monocular Depth Cues 176

Summary 179

Knowledge Builder 180

Module 21**Sensation and Perception: Perception and Objectivity 181****Perception and Experience—Believing Is Seeing 181**

Motives, Emotions, and Perception 181

Perceptual Expectancies 182

Perceptual Learning: Do They See What We See? 182

Becoming a Better Eyewitness to Life—Pay Attention! 185

Implications 186

The Whole Human: Perceptual Accuracy 186

The Value of Paying Attention 187

How to Become a Better

“Eyewitness” to Life 187

Summary 188

Knowledge Builder 188

Module 22**Sensation and Perception Skills in Action: Communication 189****Tell Me! 189****Say What You Mean 190**

Receiving Information: Reading and Listening 190

Providing Information: Writing and Speaking 190

What's the Best Communication Style? 191

Summary 192

Knowledge Builder 192

Module 23**Consciousness: States of Consciousness 193****States of Consciousness—The Many Faces of Awareness 193**

- Disorders of Consciousness 194
- Altered States of Consciousness 194

Hypnosis—Look into My Eyes 195

- Theories of Hypnosis 196
- The Reality of Hypnosis 197

Meditation and Mindfulness—Chilling, the Healthy Way 198

- Meditation 198
- The Whole Human: Mindfulness and Well-Being 200
- Summary 200
- Knowledge Builder 201

Module 24**Consciousness: Sleep and Dreams 202****Sleep Patterns and Stages—The Nightly Roller Coaster 202**

- Sleep Patterns 202
- Sleep Stages 203

Functions of Sleep—Catching a Few ZZZs 205

- The Need for Sleep 205
- Sleep and Memory 206

Dreams—A Separate Reality? 207

- Dream Theories 207
- Dream Worlds 208

Sleep Troubles—The Sleepy Time Blues 209

- Insomnia Disorder 209
- Sleepwalking, Sleepwalking, and Sleepsex 211
- Nightmare Disorder and Night Terrors 211
- Sleep Apneas 211
- Narcolepsy 212
- Hypnopompic Hallucinations 212
- Summary 213
- Knowledge Builder 214

Module 25**Consciousness: Psychoactive Drugs 215****Drug-Altered Consciousness—The High and Low of It 215**

- Patterns of Psychoactive Drug Use 216
- Psychoactive Drugs and the Brain 217
- Drug Dependence 217

Uppers—Amphetamines, Cocaine, MDMA, Caffeine, Nicotine 220

- Amphetamines 220
- Cocaine 220
- MDMA (“Ecstasy”) 221
- Caffeine 221
- Nicotine 222

Downers—Narcotics, Sedatives, Tranquilizers, and Alcohol 223

- Narcotics 223
- Barbiturates 224
- GHB 224
- Tranquilizers 224
- Alcohol 224

Hallucinogens—Tripping the Light Fantastic 226

- LSD and PCP 227
- Marijuana 227
- Summary 228
- Knowledge Builder 229

Module 26**Consciousness Skills in Action: Metacognition 230****Thinking About Thinking—The Examined Life 230**

- Do You Know What You Don’t Know? 231

The Examined Life—Worth Living? 232

- Summary 233
- Knowledge Builder 233

Module 27**Conditioning and Learning: Associative and Cognitive Learning 234****Learning—One Way or Another 234****Associative Learning—About Dogs, Rats, and Humans 235**

Types of Associative Learning 235

Latent Learning 236

Cognitive Learning—Beyond Conditioning 237

Feedback 237

Discovery Learning 238

Observational Learning—Do as I Do, Not as I Say 239

Modeling 239

Modeling and the Media 240

Summary 242

Knowledge Builder 243

Module 28**Conditioning and Learning: Classical Conditioning 244****Classical Conditioning—Does the Name Pavlov Ring a Bell? 244**

Pavlov's Experiment 244

Principles of Classical Conditioning 246

Classical Conditioning in Humans—An Emotional Topic 248

Conditioned Emotional Responses 248

Vicarious, or Secondhand, Conditioning 249

Summary 250

Knowledge Builder 250

Module 29**Conditioning and Learning: Operant Conditioning 251****Operant Conditioning—Ping-Pong Playing Pigeons? 251**

Positive Reinforcement 252

Acquiring an Operant Response 252

The Timing of Reinforcement 253

Shaping 254

Operant Extinction 255

Negative Reinforcement 255

Punishment 255

Stimulus Control—Red Light, Green Light 256

Generalization 257

Discrimination 257

Summary 258

Knowledge Builder 258

Module 30**Conditioning and Learning: Reinforcement and Punishment in Detail 259****Reinforcement—What's Your Pleasure? 259**

Primary Reinforcers 259

Secondary Reinforcers 260

Partial Reinforcement—Las Vegas, a Human Skinner Box? 261

Schedules of Partial Reinforcement 262

Consequences of Punishment—Putting the Brakes on Behavior 264

Variables Affecting Punishment 264

The Downside of Punishment 265

Using Punishment Wisely 265

Summary 267

Knowledge Builder 268

Module 31**Conditioning and Learning Skills in Action: Behavioral Self-Management 269****Just Say No! 269****Behavioral Self-Management—A Rewarding Project 270**

Create a Management Plan 270

Extra Techniques to Break Bad Habits 271

Summary 272

Knowledge Builder 272

Module 32**Memory: Memory Systems 273****Stages of Memory—Do You Have a Mind Like a Steel Trap? Or a Sieve? 273**

Sensory Memory 274

Short-Term Memory 274

Long-Term Memory 274

The Relationship Between STM and LTM 274

Short-Term (Working) Memory—Do You Know the Magic Number? 275

Storage and Rehearsal in Short-Term (Working) Memory 276

Memory 276

The Capacity of Short-Term (Working) Memory 276

Long-Term Memory—A Blast from the Past 277

Encoding and Culture 278

Storage in Long-Term Memory 278

False Memories 279

Organizing Memories 280

Redintegration 281

Types of Long-Term Memory 282

Summary 284

Knowledge Builder 284

Module 33**Memory: Measuring Memory 285****Measuring Memory—The Answer Is on the Tip of My Tongue 285**

Recalling Information 286

Recognizing Information 286

Relearning Information 287

Explicit and Implicit Memories 287

Summary 288

Knowledge Builder 289

Module 34**Memory: Forgetting 290****Forgetting—Why We, Uh, Let's See. . . Why We, Uh . . . Forget! 290**

When Memory Encoding Fails 291

When Memory Storage Fails 292

When Memory Retrieval Fails 293

Interference 294

Repression and Suppression of Memories 295

Memory and the Brain—Some “Shocking” Findings 296

Consolidation 296

Long-Term Memory and the Brain 298

Summary 299

Knowledge Builder 300

Module 35**Memory: Exceptional Memory 301****Exceptional Memory—Wizards of Recall 301****Improving Memory—Some Keys to (Memory) Success 302**

Encoding Strategies 302

Retrieval Strategies 304

Mnemonic Devices—Tricks of the (Memory) Trade 305

Create Acrostics 305

Create Mental Images 305

Create Stories or Chains 306

Summary 306

Knowledge Builder 307

Module 36**Memory Skills in Action: Giving Memorable Presentations 308****From Pictures to PowerPoint 308****Start Talking! 309**

Help the Audience Select Important Information 309

Help the Audience Organize Information 310

Help the Audience Integrate Information 310

Practice 310

Summary 310

Knowledge Builder 311

Module 37**Cognition and Intelligence: Modes of Thought 312****What Is Thinking?—Brains over Brawn 312**

Some Basic Units of Thought 313

Mental Imagery—Does a Frog Have Lips? 314

The Nature of Mental Images 314

Concepts—I'm Positive, It's a Whatchamacallit 316

Forming Concepts 316

Types of Concepts 316

Language—Say What? 316

Linguistic Relativity: What's North of My Fork? 317

Semantics 317

The Structure of Language 318

Gestural Languages 319

Animal Language 320

Summary 321

Knowledge Builder 322

Module 38**Cognition and Intelligence: Problem Solving 323****Problem Solving—Go Figure 323**

Algorithmic Solutions 323

Solutions by Understanding 324

Heuristics 324

Insightful Solutions 324

Common Barriers to Problem Solving 326

Summary 328

Knowledge Builder 328

Module 39**Cognition and Intelligence: Creative Thinking and Intuition 329****Creative Thinking—Down Roads Less Traveled 329**

Tests of Creativity 330

Stages of Creative Thought 331

The Whole Human: The Creative Personality 332

Intuitive Thought—Mental Shortcut? or Dangerous Detour? 332

Errors in Intuitive Thought 333

Summary 335

Knowledge Builder 335

Module 40**Cognition and Intelligence: Intelligence 336****Human Intelligence—The IQ and You 336**

- Defining Intelligence 337
- The Stanford-Binet 337
- The Wechsler Tests 338
- Group Tests 338
- Intelligence Quotients 338

Variations in Intelligence—Curved Like a Bell 340

- The Mentally Gifted 340
- Intellectual Disability 341

Questioning Intelligence—More Questions Than Answers? 343

- Artificial Intelligence 343
- Culture and Intelligence 344
- Multiple Intelligences 345
- IQ and Heredity 345
- IQ and Environment 346
- The Whole Human: Wisdom 348
- Summary 348
- Knowledge Builder 349

Module 41**Cognition and Intelligence Skills in Action: Creativity and Innovation 350****Making Creative Juices 350****The DNA of Innovation 351**

- Make Associations 351
- Ask Questions 351

Seek Varied Input Through Networking 352**Observe and Experiment 353****Summary 354****Knowledge Builder 354****Module 42****Motivation and Emotion: Overview of Motives and Emotions 355****Motivation—Forces That Push and Pull 355**

- A Model of Motivation 355
- Biological Motives and Homeostasis 357
- Circadian Rhythms 357

Motives in Perspective—A View from the Pyramid 358

- Intrinsic and Extrinsic Motivation 359
- Turning Play into Work 359

Inside an Emotion—Caught in That Feeling? 360**Basic Emotions 361****Summary 362****Knowledge Builder 363****Module 43****Motivation and Emotion: Motivation in Detail 364****Hunger—Pardon Me, My Hypothalamus Is Growling 364**

- Internal Factors in Hunger 364
- External Factors in Hunger and Obesity 367
- Dieting 368
- Eating Disorders 369

Biological Motives Revisited—Thirst, Pain, and Sex 371

- Thirst 371
- Pain 371
- The Sex Drive 372

Stimulus Motives—Monkey Business 372

- Arousal Theory 373
- Peak Performance 373
- Coping with Test Anxiety 374

Learned Motives—The Pursuit of Excellence 375

- The Need for Achievement 375
- The Need for Power 376
- Summary 376
- Knowledge Builder 377

Module 44**Motivation and Emotion: Emotion in Detail 378****Physiology and Emotion—Arousal and Lying 378**

- Fight or Flight 379
- Lie Detectors 380
- Emotion and the Brain 381

Expressing Emotions—Making Faces and Talking Bodies 382

- Facial Expressions 382
- Cultural Differences in Expressing Emotion 382
- Gender Differences in Expressing Emotion 383
- Body Language 383

Theories of Emotion—Several Ways to Fear a Bear 384

- The James-Lange Theory 384
- The Cannon-Bard Theory 384
- Schachter's Cognitive Theory of Emotion 384
- Emotional Appraisal 385
- The Facial Feedback Hypothesis 386
- A Contemporary Model of Emotion 387
- Summary 388
- Knowledge Builder 389

Module 45**Motivation and Emotion Skills in Action: Positivity and Optimism 390****Don't Give Up Hope! 390****Facing Adversity 391**

- Becoming More Optimistic 391

- Summary 393
- Knowledge Builder 393

Module 46**Human Sexuality: Sex and Gender 394****Sexual Development—Circle One: XX or XY? 394**

- Dimensions of Sex 395

Sexual Orientation—Who Do You Love? 396

- The Stability of Sexual Orientation 396
- Sexual Orientation Today 398

Gender Identity—It Begins Early 399

- Gender Roles 399

- Acquiring Gender Identity 400

Androgyny—A Bit of Both 402

- Psychological Androgyny 402

When Sex and Gender Do Not Match—The Binary Busters 403

- Summary 404
- Knowledge Builder 405

Module 47**Human Sexuality: The Human Sex Drive, Response, and Attitudes 406****The Human Sex Drive and Sexual Response—Gotta Have It 406**

- Human Sexual Response 408

Contemporary Sexual Attitudes and Behavior—Anything Goes? 411

- Contemporary Sexual Behavior 411
- Sex Among the Young 412

Satisfying Relationships—Keeping It Hot 414

- Bridges to Sexual Satisfaction 415
- Intimacy and Communication 415
- Summary 416
- Knowledge Builder 417

Module 48**Human Sexuality: Sexual Problems 418****The Crime of Rape—No Means No 418**

- Forcible Rape 418
- Acquaintance Rape 419
- Gender Role Stereotypes and Rape Myths 419

Sexual Dysfunctions—When Intimacy Fails 420

- Desire Disorders 420
- Arousal Disorders 420
- Orgasm Disorders 422
- Sexual Pain Disorders 423

Atypical Sexual Behavior—Fifty Shades of Unusual 423

- Paraphilic Disorders 423

STDs and Safer Sex—Choice, Risk, and Responsibility 425

- HIV/AIDS 427
- Behavioral Risk Factors for STDs 427
- Safer Sex 428
- Summary 428
- Knowledge Builder 429

Module 49**Human Sexuality Skills in Action: Diversity and Inclusion 430****Living with Diversity 430****Tolerance and Acceptance 431**

- Being Open to Openness 431

- Summary 433
- Knowledge Builder 433

Module 50**Personality: Overview of Personality 434****The Psychology of Personality—Do You Have Personality? 434**

- Traits 434
- Types 435
- Self-Concept 436
- The Whole Human: Personality Theories 437

- Interviews 438
- Direct Observation and Rating Scales 439
- Personality Questionnaires 440
- Projective Tests of Personality 442
- Summary 443
- Knowledge Builder 444

Personality Assessment—Psychological Yardsticks 438**Module 51****Personality: Trait Theories 445****The Trait Approach—Describe Yourself in 18,000 Words or Less 445**

- Predicting Behavior 446
- Classifying Traits 447

- The Big Five 449
- Summary 451
- Knowledge Builder 451

Module 52**Personality: Psychodynamic and Humanistic Theories 452****Psychoanalytic Theory—Id Came to Me in a Dream 452**

- The Structure of Personality 453
- The Dynamics of Personality 454
- Personality Development 454
- The Neo-Freudians 456

Humanistic Theory—Peak Experiences and Personal Growth 457

- Maslow and Self-Actualization 458
- The Whole Human: Thriving 459
- Carl Rogers's Self Theory 459
- Humanistic View of Development 461
- Summary 462
- Knowledge Builder 463

Module 53**Personality: Behavioral and Social Learning Theories 464****Learning Theories of Personality—Habit I Seen You Before? 464**

- How Situations Affect Behavior 465
- Personality = Habitual Behavior 466
- Social Learning Theory 466
- Behaviorist View of Development 467

Traits and Situations—The Great Debate 468

- Do We Inherit Personality? 468
- Personality and Environment 469
- Summary 471
- Knowledge Builder 471

Module 54**Personality Skills in Action: Leadership 472****Follow the Leader—Made, Not Born 472****Becoming a Good Leader—Learning to Lead 473**

- Be Inspiring and Commit to a Shared Vision 473

- Be Innovative and Challenge the Process 474
- Promote Strong Relationships and Individual Talent 474
- Summary 475
- Knowledge Builder 475

Module 55**Health Psychology: Overview of Health Psychology 476****Health Psychology—Here's to Your Good Health 476**

- Behaviors and Illness 477
- Health-Promoting Behaviors 478
- Early Prevention 480

- Community Health 481
- Stress 481
- The Whole Human: Subjective Well-Being 482
- Summary 483
- Knowledge Builder 483

Module 56**Health Psychology: Stressors 484****Stress—Threat or Thrill? 484**

Appraising Stressors 485

Poverty and Health 486

Types of Stressors—The Good, the Bad, and the Ugly 487

Life Events and Stress 487

The Hazards of Hassles 489

Acculturative Stress—Stranger in a Strange Land 489

Frustration 490

Conflict 492

Managing Conflicts 494

Summary 494

Knowledge Builder 495

Module 57**Health Psychology: Coping with Stress 496****Coping Styles—Making the Best of It 496**

Coping With Traumatic Stress 497

Psychological Defense—Mental Karate? 498**Learned Helplessness and Depression—Is There Hope? 500**

Learned Helplessness 500

Depression 501

The College Blues 502

Summary 503

Knowledge Builder 504

Module 58**Health Psychology: Stress and Health 505****Stress and Health—Unmasking a Hidden Killer 505**

Psychosomatic Disorders 506

Personality and Health 506

Summary 508

Knowledge Builder 509

Module 59**Health Psychology Skills in Action: Stress Management 510****Here's to Your Good Health! 510****De-Stress! 511**

Managing Bodily Effects 511

Modifying Ineffective Behavior 512

Counteracting Upsetting Thoughts 513

Summary 514

Knowledge Builder 514

Module 60**Psychological Disorders: Defining Psychopathology 515****Normality—What's Normal? 515**

Mental Disorders Are Maladaptive 517

Abnormal Behavior and the Law 518

Classifying Mental Disorders—Problems by the Book 518

Comorbidity 518

Mental Illness in Other Cultures 519

The Fluidity of Psychiatric Categories 519

The Impact of Psychiatric Labels 519

Diagnosing Mental Illness—Attaching a Label to the Person 523

Types of Symptoms 523

Causes of Mental Illness—What Went Wrong? 523

Biological Factors 523

Psychosocial Factors 525

Summary 525

Knowledge Builder 526

Module 61**Psychological Disorders: Psychotic Disorders 527****Psychotic Disorders—Loss of Contact 527****Delusional Disorders—An Enemy Behind Every Tree 528**

Paranoid Psychosis 529

Schizophrenia—Shattered Reality 529

Symptoms of Schizophrenia 529

Causes of Schizophrenia 531

The Stress-Vulnerability Hypothesis 533

Summary 534

Knowledge Builder 535

Module 62**Psychological Disorders: Mood Disorders 536****Mood Disorders—Peaks and Valleys 536**

Depressive Disorders 536

Bipolar and Related Disorders 537

Causes of Mood Disorders 537

Suicide—Too Permanent a Solution? 539

Summary 540

Knowledge Builder 541

Module 63**Psychological Disorders: Anxiety, Anxiety-Related, and Personality Disorders 542****Anxiety Disorders—When Anxiety Rules 542**

Anxiety Disorders 543

Anxiety Disorders—Four Pathways to Trouble 544

Anxiety-Related Disorders—Also Anxious? 546

Obsessive-Compulsive and Related Disorders 546

Trauma- and Stressor-Related Disorders 547

Dissociative Disorders 548

Somatic Symptom and Related Disorders 548

Personality Disorders—Blueprints for Maladjustment 550

Maladaptive Personality Patterns 550

Antisocial Personality 550

Summary 552

Knowledge Builder 553

Module 64**Psychological Disorders Skills in Action: Emotional Intelligence 554****Emotional Intelligence—The Fine Art of Self-Control 554**

Summary 556

Knowledge Builder 557

Reading Emotions 555**Module 65****Therapies: Treating Psychological Distress 558****Origins of Therapy—Bored Out of Your Skull 558**

Psychotherapy Since Freud 559

Dimensions of Therapy—The Many Paths to Health 560

Insight versus Action Therapy 560

Directive versus Nondirective Therapy 561

Open-Ended versus Time-Limited Therapy 561

Individual versus Group Therapy 561

Face-to-Face versus Distance Therapy 562

Therapies—An Overview 564

Core Features of Psychotherapy 564

Effectiveness of Psychotherapy 565

Summary 566

Knowledge Builder 566

Module 66**Therapies: Psychodynamic, Humanistic, and Cognitive Therapies 568****Psychodynamic Therapies—The Talking Cure 568**

- Psychoanalysis 568
- Psychoanalysis Today 569

Humanistic Therapies—Liberating Human Potential 569

- Client-Centered Therapy 570
- Existential Therapy 570

Gestalt Therapy 571

Cognitive Therapies—Think Positive! 572

- Cognitive Therapy for Depression 572
- Rational-Emotive Behavior Therapy 572
- Cognitive Behavior Therapy 574
- Summary 575
- Knowledge Builder 576

Module 67**Therapies: Behavior Therapies 577****Therapies Based on Classical Conditioning—Healing by Learning 577**

- Aversion Therapy 578
- Exposure Therapy 579

Operant Therapies—All the World Is a Skinner Box? 581

- Nonreinforcement and Operant Extinction 582
- Reinforcement and Token Economies 582
- Summary 583
- Knowledge Builder 584

Module 68**Therapies: Medical Therapies 585****Medical Therapies—Psychiatric Care 585**

- Drug Therapies 585
- Brain Stimulation Therapy 587
- Psychosurgery 588

- Hospitalization 588
- Community Mental Health Programs 589
- Summary 590
- Knowledge Builder 591

Module 69**Therapy Skills in Action: Managing Mental Health Problems 592****Studying Therapies—Treatments that Work 592****Admitting Weakness—Can't Complain 593**

- Talking About Problems: Basic Counseling Skills 593

- Getting Counseling 594
- Summary 597
- Knowledge Builder 598

Module 70**Social Psychology: Social Behavior and Cognition 599****Humans in a Social Context—Mind Your Manners 599**

- Social Roles 600
- Group Structure, Cohesion, and Norms 600

Social Comparisons and Attributions—Behind Our Masks 602

- Social Comparison 602
- Attribution Theory 603

Attitudes—Got Attitude? 604

- Forming Attitudes 604
- Attitudes and Behavior 605

Attitude Change—When the Seekers Went Public 605

- Persuasion 606
- Cognitive Dissonance Theory 606
- Summary 608
- Knowledge Builder 609

Module 71**Social Psychology: Social Influence 610****Social Influence—Follow the Leader 610**

- Mere Presence—Just Because You Are There 611
- Conformity—Don't Stand Out 611
- Compliance—A Foot in the Door 612
- Obedience—Would You Electrocute a Stranger? 614

- Coercion—Brainwashing and Cults 616

Assertiveness—Stand Up for Your Rights 617

- Summary 618
- Knowledge Builder 619

Module 72**Social Psychology: Prosocial Behavior 620****Affiliation and Attraction—Come Together 620**

- Interpersonal Attraction 620
- Self-Disclosure 622

Interpersonal Attraction and Love—The Love Triangle 622

- Interpersonal Attraction, Love, and Attachment 623
- Evolution and Mate Selection 624

Helping Others—The Ultimate Kindness 625

- Bystander Intervention 626
- Who Will Help Whom? 627
- Summary 628
- Knowledge Builder 629

Module 73**Social Psychology: Antisocial Behavior 630****Aggression—The World's Most Dangerous Animal 630**

- Biology 631
- Frustration 631
- Social Learning 632
- Preventing Aggression 633

Prejudice—Attitudes That Injure 633

- Sources and Forms of Prejudice 633
- Becoming Prejudiced 634

- The Prejudiced Personality 634

Intergroup Conflict—The Roots of Prejudice 635

- Experiments in Prejudice 637
- Combating Prejudice 638
- Summary 640
- Knowledge Builder 641

Module 74**Social Psychology Skills in Action: Teamwork 642****Teamwork—The Dream Team 642**

Summary 644

Benefiting from Teamwork—Team Up! 643

Knowledge Builder 644

Becoming a Team Player 643

Module 75**Applied Psychology: Industrial/Organizational Psychology 645****Industrial/Organizational Psychology—
Psychology at Work 645**

Theory X Leadership 646

Theory Y Leadership 646

Leadership Strategies 648

Job Satisfaction 648

Organizational Culture 650

Personnel Psychology 651

Summary 653

Knowledge Builder 654

Module 76**Applied Psychology: Environmental Psychology 655****Environmental Influences on Behavior—
No Talking! 655**

Personal Space 656

Environmental Influences on Behavior 657

Environmental Problem Solving 659

Conservation 662

Social Dilemmas 664

A Look Ahead 665

Summary 665

Knowledge Builder 666

**Human Influences on the Natural
Environment—Sustaining Our Earth 661****Module 77****Applied Psychology: The Psychology of Law, Education, and Sports 667****Psychology and Law—Judging Juries 667**

Jury Behavior 667

Jury Selection 668

Sports Psychology—Psyched! 671

The Whole Human: Peak Performance 673

A Look Ahead 674

Summary 674

Knowledge Builder 675

**Educational Psychology—An
Instructive Topic 669**

Elements of a Teaching Strategy 670

Universal Design for Instruction 671

Module 78**Applied Psychology Skills in Action: Career Preparation 676****Where Are You Going—More School or Work? 676**

- Investigate Potential Career Paths Now 676
- Find Out About Necessary Skills 677
- Assess Your Current Skill Set and Your Characteristics 678

- Work to Develop Necessary Skills 678
- Document Key Learning Experiences 678
- Examine Your Digital Footprint 678
- Summary 679
- Knowledge Builder 679

Module 79**Appendix: Behavioral Statistics 680****Descriptive Statistics—Psychology by the Numbers 680**

- Graphical Statistics 681

Measures of Central Tendency 682**Measures of Variability 682**

- Standard Scores 683
- The Normal Curve 684

Correlation—Rating Relationships 686

- Relationships 686

- The Correlation Coefficient 686

Inferential Statistics—Significant Numbers 688

- Samples and Populations 689
- Significant Differences 689
- Summary 689
- Knowledge Builder 691

References R-1

Name Index N-1

Subject Index/Glossary S-1

Preface

To You, the Student—An Invitation to Learn Psychology

Greetings from your authors! We look forward to being your guides as you explore the exciting field of psychology and our ever-evolving understanding of human behavior. In a very real sense, we wrote this book about you, for you, and to you. We sincerely hope that you will find, as we do, that what you learn is at once familiar, exotic, surprising, and challenging.

Reading *Psychology*

In *Psychology: Modules for Active Learning*, we have done all we could imagine to make it enjoyable for you to read this book. We trust that you will find your first journey through psychology to be quite interesting and useful to you in your everyday life. Each module takes you into a different realm of psychology, such as personality, abnormal behavior, memory, consciousness, and human development. Each realm is complex and fascinating in its own right, with many pathways, landmarks, and interesting detours to discover. Like any journey of discovery, your exploration of psychology will help you better understand yourself, others, and the world around you. It's definitely a trip worth taking.

Studying *Psychology*

Psychology is about each of us. It asks us to adopt a reflective attitude as we inquire, “How can we step outside ourselves to look objectively at how we live, think, feel, and act?” Psychologists believe that the answer is through careful thought, observation, and inquiry. As simple as that may seem, thoughtful reflection takes practice to develop. It is the guiding light for all that follows.

Psychology: Modules for Active Learning is your passport to an adventure in active learning, not just passive reading. To help you get off to a good start, the opening module of this book is our short “manual,” *Module 1: The Psychology of Reflective Studying*. In it, we describe what you can learn by taking this course, including the skills you'll develop that can be helpful in both your personal and professional life. In Module 1, you'll also read about a variety of study skills, including the *reflective SQ4R* method, which you can use to get the most out of this book, your psychology course, and your other courses as well.

To You, the Instructor—An Invitation to Teach Psychology

Thank you for choosing *Psychology: Modules for Active Learning* for your students and for your course. Marcel Proust wrote, “The real voyage of discovery consists not in seeing new landscapes, but in having new eyes.” It is in this spirit that we have written this book to promote not just an interest in human behavior but an appreciation for the perspective of the psychologist as well.

As we point out to your students in *Module 1: The Psychology of Reflective Studying*, there is a big difference between experiencing and reflecting on experience (Norman, 1994). For John Dewey (1910), reflective thinking is the “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusion to which it tends.” The psychologist's perspective, of course, involves reflecting on human behavior in a variety of ways. When it comes to studying psychology, reflective cognition requires actively thinking *about* what you have just read, which results in deeper understanding and memory. Please consider looking at *Module 1* because it explains to your students in some detail how to become a more reflective student and outlines how they can get the most out of this book and your course. By the way, we encourage you to assign your students to read it as well, if at all possible.

Throughout this book, we have tried to select only the “best” material from the many topics that could be presented. Nevertheless, *Psychology* covers not only the heart of psychology, but also many topics at the cutting edge of current knowledge, including a focus on the practical applications of psychology, the growing importance of neuroscience, and the richness of human diversity. New information, anecdotes, perspectives, and narratives appear throughout the 14th edition. The result is a concise book that is readable, manageable, informative, and motivating. At the same time, we have structured this book to help students consolidate the skills to learn efficiently and to become better critical thinkers. Without such skills, students cannot easily go, as Jerome Bruner (1973) put it, “beyond the information given.”

The Teaching Challenge

Wouldn't it be nice if all of our students came to our courses highly motivated to explore psychology and well prepared to cope with the learning challenges we create for them? As the authors of this textbook, we have together accumulated over 70 years of classroom experience teaching tens of thousands of college and university students. Although we have found most students to be generally well intentioned, our modern world certainly does immerse them in their work, careers, families, intimate relationships, popular culture, and life in general. As we compete for ever-more-limited student attention, we must do more than just lecture in psychology. We also must motivate our students to read and learn as well as educate them about how to learn effectively (Matthew & Sternberg, 2009; Paternoster & Pogarsky, 2009).

We have explicitly designed and written the 14th edition of *Psychology: Modules for Active Learning* to foster deeper student engagement with the field of psychology, better memory for what has been read and studied, and a deeper understanding of how to become more reflective learners and thinkers. To help you and your students reach these goals, we have organized our design philosophy around four core principles:

1: Flexible Modular Organization

Over the years, many instructors have asked us for a textbook that can be used more flexibly. In response, we created *Psychology: Modules for Active Learning*. First and foremost, *Psychology* is a complete first course in psychology. Whether you prefer shorter, more concise self-contained modules, or are comfortable with a traditional chapter-by-chapter organization, *Psychology* can work for you. It is organized into 16 major module clusters (think of them as chapters), to allow you flexibility in assigning topics for your course. Because each module is written to be more self-contained than an equivalent chapter section, you will find it easier to omit modules and reorder the sequencing of modules (and hence module clusters). Of course, if you intend to have your students read all of a module cluster in order, the modules making up each cluster nevertheless flow just as well as a more traditional chapter's section-by-section format.

Each module in *Psychology* concludes with a summary and a feature called a *Knowledge Builder*. These “mini-study guides” challenge students to quiz themselves, relate concepts to their own experiences, and to think critically about the principles they are learning. If students would like more feedback and practice, an integrated MindTap®

Psychology for this title is available at www.cengagebrain.com. To learn more about MindTap, please see the section of this preface entitled “A Complete Course—Teaching and Learning Supplements.”

2: Readability and Narrative Emphasis

Many introductory psychology students are reluctant readers. Selecting a textbook is half the battle in teaching a successful course. A good textbook does much of the work of imparting information to your students. This frees class time for your discussion, extra topics, or media presentations. It also leaves students asking for more. When a book overwhelms students or cools their interest, teaching and learning suffer. If students won't read the textbook, they can't very well be reflective about what they have read.

That's why we've worked hard to make this a clear, readable, and engaging text. *Psychology: Modules for Active Learning* is designed to give students a clear grasp of major concepts without burying them in details. At the same time, it offers a broad overview that reflects psychology's rich heritage of ideas. We think that students will find this book informative and intellectually stimulating.

Because we want students to read this book with genuine interest and enthusiasm, not merely as an obligation, we have made a special effort to weave narrative threads through the book. Everyone loves a good story, and the story of psychology is compelling. Throughout *Psychology*, we have used intriguing anecdotes and examples to propel reading and sustain interest.

Practical Applications To make psychology even more inviting to students, we have emphasized the many ways that psychology relates to practical problems in daily life. For example, a major new feature of this book is the *Skills in Action* modules, located periodically throughout the book. These high-interest discussions bridge the gap between theory and practical applications by exploring how psychology has contributed to our understanding of the skills that are valuable at work and in our relationships. We believe that it is fair for students to ask, “Does this mean anything to me? Can I use it? Why should I learn it if I can't?” The *Skills in Action* modules allow them to see the benefits of adopting new ideas, and they breathe life into psychology's concepts. The skills in question also happen to help you and your students meet the American Psychological Association's (2013) Guidelines for the Undergraduate Major (see Table I.1).

TABLE 1.1 | APA Guidelines 2.0 Met by *Psychology: Modules for Active Learning*

Modules	Topic of Module Cluster	Skills in Action Topic	Chapter Addresses Material from APA Guidelines 2.0:
1	How to Study	N/A	4.1, 5.2, 5.3, 5.5
2–6	Research Methods	Information Literacy	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1
7–11	Brain	Self-Regulation	1.1, 1.2, 5.2
12–16	Development	Behaving Ethically	1.1, 1.2, 2.5, 3.2, 5.1
17–22	Sensation and Perception	Communication	1.1, 1.2, 4.1, 4.2, 4.3, 5.4
23–26	Consciousness	Metacognition	1.1, 1.2, 5.2, 5.3
27–31	Learning	Behavioral Self-Management	1.1, 1.2, 5.2
32–36	Memory	Giving Memorable Presentations	1.1, 1.2, 4.2, 5.3
37–41	Cognition and Intelligence	Creativity and Innovation	1.1, 1.2, 1.3, 2.3, 2.5
42–45	Emotion and Motivation	Positivity and Optimism	1.1, 1.2, 1.3, 2.5, 4.3, 5.4
46–49	Sexuality	Diversity and Inclusion	1.1, 1.2, 1.3, 2.5, 3.2, 3.3, 4.3, 5.1, 5.4
50–54	Personality	Leadership	1.1, 1.2, 2.1, 3.3, 5.1, 5.2, 5.4
55–59	Health	Stress Management	1.1, 1.2, 1.3, 3.3, 5.1
60–64	Psychopathology	Emotional Intelligence	1.1, 1.2, 3.2, 3.3, 4.3, 5.1, 5.4
65–69	Therapies	Managing Mental Health Problems	1.1, 1.2, 1.3, 3.3
70–74	Social	Teamwork	1.1, 1.2, 3.2, 3.3, 4.3, 5.1, 5.4
75–78	Applied Psychology	Career Preparation	1.1, 1.2, 1.3, 2.3, 5.1, 5.5

3: Integrated Support for Active Learning

Studying, rather than reading, a textbook requires the active cognitive engagement that psychologist Donald Norman (1994) calls *reflective*. In his book, *Thinking, Fast and Slow*, Daniel Kahneman describes it as *System 2* thinking (Kahneman, 2011). Being reflective when you read a textbook involves asking yourself if you understand what you are reading, how it might relate to things you already know, what new questions your reading might trigger, and so on. The resulting elaboration of the just-read new information is, perhaps, the best way to foster understanding and form lasting memories (Gadzella, 1995; Goldstein, 2015; Sternberg, 2017).

It is in this spirit that we have again improved the design of this edition of *Psychology* to encourage students to become more reflective, active learners. To achieve this important pedagogical goal, the traditional SQ4R method has again been updated to *reflective SQ4R*, an active-learning format, to make studying psychology an even more rewarding

experience. As students explore concepts, they are encouraged to think critically about ideas and relate them to their own experiences. Notice how the steps of the reflective SQ4R method—*survey, question, read, recite, reflect, and review*—are incorporated into the modular design:

Survey Features at the beginning of each module help students build cognitive maps of upcoming topics, thus serving as advance organizers (Ausubel, 1978; Gurlitt et al., 2012). A photograph and short preview arouse interest, give an overview of the module, and focus attention on the task at hand. A list of *Survey Questions* also is given as a guide to active reading. These questions are now numbered, making it easier for students and instructors to relate the *Survey Questions* to a matched set of learning objectives that appear throughout the materials that accompany this textbook.

The answers to *Survey Questions* open intellectual pathways and summarize psychology’s “big ideas.” Ultimately,

those answers provide a good summary of what students have learned. With these module-opening features, we invite students to read with a purpose and actively process information.

Question *How can questioning be built into a textbook?* Italicized *Dialogue Questions*, such as the previous sentence, are the sorts of questions that students might find themselves thinking as they begin reading a section of text. As such, they model a dialogue in which the questions and the reactions of students are anticipated—that is, *Dialogue Questions* prompt students to look for important ideas as they read, thus promoting active learning while serving as advance organizers. They also clarify difficult points in a lively give-and-take between questions and responses.

Further, as noted earlier, each major module section begins with one or more *Survey Questions*. As students read a module, they can try to discover the answers to these questions. They can then compare their answers with the ones listed in the module summary.

Read We've made every effort to make this a clear, readable text. To further aid comprehension, we've used a full array of traditional learning aids. These include boldface terms, bulleted and numbered summaries, robust illustrations, summary tables, a name index, and an integrated subject index and glossary. As an additional aid, figure and table references in the text are set apart by different colored text and small geometric shapes. These “placeholders” make it easier for students to return to the section that they were reading after they have paused to view a table or figure.

We have made the glossary function in this edition as powerful as possible. The *Main Glossary*, at the end of the book, is integrated with the *Subject Index*, making it easy to link important definitions to where they are discussed in the text. As in earlier editions, all glossary items are bold and defined in-text when the term is first encountered. This aids reading comprehension because students get clear definitions when and where they need them—in the general text itself. In addition, the parallel *Running Glossary* defines key terms in the margins of the relevant pages, making it easy for students to find, study, and review important terms.

Recite A *Knowledge Builder* at the end of each module gives students a chance to test their recall and further develop their understanding of preceding topics. Each *Knowledge Builder* includes a *Recite* section, a short, noncomprehensive quiz, to help students actively process information and assess their progress. *Recite* questions, which are not as difficult as in-class tests, are meant to offer a sample of what students could

be asked about various topics. Students who miss any items are encouraged to backtrack and clarify their understanding before reading more. In other words, completing *Recite* questions serves as a form of recitation to enhance learning.

Reflect Simple recitation is usually not enough to foster deeper understanding, so in each module, we invite students to engage in two distinct types of reflection: self-reflection and critical thinking:

- ▶ **Self-Reflection** Self-reflection (or self-reference) makes new information more meaningful by relating it to what is already known (Klein and Kihlstrom, 1986). We provide many opportunities for self-reflection throughout *Psychology*. The text is written with many contemporary references, examples, and stories to make it easier for students to relate what they are reading to their own life experience. Similarly, to help students further elaborate their new understanding, each *Knowledge Builder* includes a series of *Self-Reflect* questions that encourage students to connect new concepts with personal experiences and prior knowledge. Finally, as we mentioned previously, *Skills in Action* modules invite students to relate psychology to the development of many skills helpful in their daily lives.
- ▶ **Critical Thinking** Being reflective about psychology involves more than self-reflectively asking “What does this have to do with me and what I already know?” It also involves reflecting more deeply about the field. Our book also invites students to think critically about psychology.

The active, questioning nature of the reflective SQ4R method is, in itself, an inducement to critical thinking. In addition, every *Knowledge Builder* includes *Think Critically* questions. These stimulating questions challenge students to think critically and analytically about psychology. Each is followed by a brief answer with which students can compare their own thoughts. Many of these answers are based on research and are informative in their own right. Many of the *Survey Questions* that introduce topics in the text also act as models of critical thinking.

Further, Module 2 explicitly discusses critical thinking skills and offers a rational appraisal of pseudopsychologies. In addition, the discussion of research methods in Modules 4 and 5 is actually a short course on how to think clearly about behavior. These methodology modules are augmented by

Module 6, a *Skills in Action* module, which offers suggestions about how to critically evaluate claims in the popular media. Modules 37–41, which cover cognition, language, creativity, and intelligence, include many topics related to critical thinking. Taken together, these features will help students think more reflectively about your course and the field of psychology while they also gain thinking skills of lasting value.

Review As we noted previously, all important terms appear in a *Running Glossary* throughout the book, which aids review. In addition, the *Main Glossary* is integrated with the *Subject Index*. When reviewing, students can easily link definitions of concepts with the appropriate section of the book where those concepts are introduced and discussed.

As also noted, periodic *Skills in Action* modules show students how psychological concepts relate to their daily lives. The information found in *Skills in Action* modules helps reinforce learning by enlisting self-reference while illustrating psychology's practicality.

To help students further consolidate their learning, each module ends with a *Summary* restating all of the major ideas presented earlier in the module and organized around the same *Survey Questions* found at the beginning of, and throughout, the module. In this way, we bring the reflective SQ4R process full circle and reinforce the learning objectives for the module.

4: Integrative Themes: *The Whole Person*

No one linear module organization can fully capture the interconnectedness of our field. We have, of course, included the usual in-text cross-references. But to better convey this richness, we also explore the natural complexity of psychology by weaving several more-detailed themes throughout the modules of *Psychology*.

Starting in Module 3, we expand on the notion that human behavior is better understood when examined from three complementary perspectives: the biological, the psychological, and the sociocultural, again often in *The Whole Person* summaries. You may choose to explicitly present these perspectives to your students. Alternatively, you might leave these for your students to explore and unconsciously absorb.

The Biological Perspective: The Growing Importance of Neuroscience Our students, partly because of the popular media, are increasingly aware that the brain and the nervous system play a role in shaping human behavior. While

the *Brain and Behavior* modules (Modules 7–11) deal with the usual topics such as methods of studying the brain, neural functioning, synaptic transmission, the structure of the nervous system and brain, and the endocrine system, we deliberately include a discussion of the biological perspective in many of the other modules comprising this book.

The Psychological Perspective: The Centrality of Self-Knowledge

We have threaded the psychological perspective throughout this book in many ways. It is, of course, central to psychology. In this edition of *Psychology*, we continue to place special thematic emphasis on the self. In doing so, we respond to Timothy Wilson's (2009) criticism that introductory psychology courses do not spend enough time exploring the issue of self-knowledge, despite the fact that students are terribly interested in learning more about themselves. Many of the new *Skills in Action* modules encourage the development of self-knowledge, including modules on self-regulation (Module 11), metacognition (Module 26), and emotional intelligence (Module 64). Besides, as you may have already noted, our focus on active, reflective learning also is designed to improve our students' self-awareness. Throughout the book, we follow the development of the self from the beginnings of self-recognition in infancy to the development of wisdom in old age.

The Sociocultural Perspective: Human Diversity, Culture, and Gender

Of course, no introductory psychology textbook would be complete without a discussion of human diversity and the multicultural, multifaceted nature of contemporary society. In *Psychology*, students will find numerous discussions of human diversity, including differences in race, ethnicity, culture, gender, abilities, sexual orientation, and age. Too often, such differences needlessly divide people into opposing groups. Our aim throughout this book is to discourage stereotyping, prejudice, discrimination, and intolerance. We've tried to make the book gender neutral and sensitive to diversity issues. All pronouns and examples involving females and males are equally divided by gender. In artwork, photographs, and examples, we have tried to portray the rich diversity of humanity. In addition, a new *Skills in Action* module (Module 49) tackles the importance of diversity and provides suggestions about how students can work toward building effective relationships with a wide variety of people. In short, many topics and examples in this book encourage students to appreciate social, physical, and cultural differences and to accept them as a natural part of being human.

Psychology: Modules for Active Learning—What's New in the 14th Edition?

Thanks to psychology's ongoing vitality and suggestions from thoughtful professors, we have again been able to improve this book in many ways.

Perhaps most important, we have a new author joining the writing team. Dr. Tanya Martini has contributed our new *Skills in Action* modules, which introduce students to the idea that learning psychology is about more than learning content. They also help your students meet the American Psychological Association's (2013) Guidelines for the Undergraduate Major (see Table 1.1 earlier in this preface).

The other major change in this edition has been the absorption of the special features, such as the *Brainwaves* boxes. While boxed features dangle high-interest content in front of students, they do so at a cost to the overall organization of the text that surrounds them. By absorbing this material, we are better able to contextualize it, improving the overall readability of the book.

On the organizational side, we have responded to reviewer comments about both the degree of modularity of *Psychology: Modules for Active Learning* and its suitability for use in the more traditional chapter format. On the one hand, we have extensively reorganized this edition to enhance the modularity of individual modules and make it even easier to assign individual modules without compromising student understanding. Reflecting this major update, the table of contents is now organized into 78 modules (rather than 16 chapters). Professors can now more easily assign reading for a complete, albeit brief, introductory course with as few as 20 modules. On the other hand, for professors who prefer traditional chapter organizations, the 78 modules comprising this edition are grouped by title into 16 easily identifiable module clusters, preserving the chapter-by-chapter sequence of previous editions.

On the pedagogy side, we have again enhanced our focus on active processing, reflection, and critical thinking. The learning system embedded in this book, reflective SQ4R, cues students more than ever to the role of thoughtfulness while reading and studying. From a revised explanation of the power of elaborative encoding in the modules on memory and an expanded discussion of the distinction between experiential and reflective cognition in the modules on cognition, to repeated invitations (in context throughout the book) to process more deeply, we have done everything possible to invite your students to become even more mindful.

On the content side, the 14th edition of *Psychology: Modules for Active Learning* has been extensively updated and features some of the most recent and interesting information in psychology, plus fully updated statistics and extensively expanded and updated references. The following text gives some highlights of the new topics and features that appear in this edition.

Module 1: The Psychology of Reflective Studying

- Module 1 has been reorganized and now also incorporates material previously included in *Module 80: Life After School*.
- It now provides readers with a clear statement about the twin goals of most psychology courses—furthering students' knowledge of the discipline while developing relevant skills.
- This module also offers updated information on how to read effectively, use digital media, study more efficiently, take good notes, prepare for tests, perform well on various types of tests, create study schedules, and avoid procrastination.

Modules 2–6: Introducing Psychology

- Module 2, *Psychology, Critical Thinking, and Science*, now includes a description of research by Wilson and Nisbett (1978) that famously illustrates the importance of objective methodologies while highlighting the failure of subjective introspection as a trustworthy method in psychology.
- We now expand on the contrast between the falsifiability of scientific theories as opposed to the confirmation bias and uncritical acceptance of pseudopsychologies such as astrology.
- Module 3, *Psychology Then and Now*, continues the critique of introspectionism through a discussion of the “imageless thought” controversy.
- The rise of cognitive psychology is now included in the coverage of the history of psychology.
- The section on diversity in early psychology has been expanded into an explanation of why it is important to avoid overly narrow approaches—namely, because they tend to produce biased research.
- Module 4, *The Psychology Experiment*, clarifies the concept of statistical significance and adds a section explaining meta-analysis.

- Module 6, *Information Literacy*, is an updated *Skills in Action* module that provides a discussion of information literacy, including how to be a wiser consumer of web-based information.

Modules 7–11: Brain and Behavior

- Module 7, *The Nervous System*, now opens with a clearer and more integrated exposition of the overall functioning of the nervous system.
- The incremental nature of postsynaptic potentials is now more clearly described, better foreshadowing a subsequent discussion of neural networks.
- Module 9, *Hemispheres and Lobes of the Cerebral Cortex*, now integrates a discussion of hemispheric specialization with a discussion of hemispheric dominance and handedness
- Prefrontal cortex is now explicitly linked with the concept of executive functions such as self-regulation and metacognition.
- Module 10, *The Subcortex and Endocrine System*, now clarifies the relationship between the brainstem and the hindbrain and simplifies the discussion of the reticular formation.
- Module 11, *Self-Regulation*, is a new *Skills in Action* module that introduces students to the concept of self-regulation, pointing out its connection to the frontal lobes and its relevance to managing behavior in a variety of contexts.

Modules 12–16: Human Development

- Module 12, *Heredity and Environment*, now draws clear distinctions between genome and phenome and introduces the concept of epigenetic processes.
- Material on infant and early childhood sensory and motor development has been reorganized and streamlined.
- Module 13, *Emotional and Social Development in Childhood*, now more clearly foreshadows the distinction drawn between basic and nonbasic emotions in a later module on emotions, Module 42, *Overview of Motives and Emotions*.
- A new section on American Indian parents has been added to the material on ethnic differences in parenting.
- Module 15, *Adolescence and Adulthood*, offers an updated discussion of moral development.

- The discussion of adulthood has reorganized around the concept of subjective well-being.
- The section on middle adulthood has been expanded to include coverage of health, family, and career issues.
- Module 16, *Behaving Ethically*, is a new *Skills in Action* module that extends ideas about moral development to examine how personal ethics can vary according to context. The implications of behaving in ways that are not consistent with one's core beliefs are discussed, as are ways to create conditions that will allow people to align their actions with their values.

Modules 17–22: Sensation and Perception

- Module 17, *Sensory Processes*, has been reorganized and simplified.
- The unconscious side of sensory processing is better highlighted, as is psychophysics.
- Module 19, *The Nonvisual Senses*, now treats umami as one of the five basic taste sensations.
- Module 21, *Perception and Objectivity*, has been reorganized and streamlined to better distinguish between perceptual sets and perceptual learning.
- Module 22, *Communication*, is a new *Skills in Action* module that underscores the link between perception and both oral and written communication.

Modules 23–26: Consciousness

- Module 23, *States of Consciousness*, now distinguishes between disorders of consciousness and altered states of consciousness.
- Module 24, *Sleep and Dreams*, has been rewritten and streamlined to integrate all material on sleep and dreaming into a single module.
- Module 25, *Psychoactive Drugs*, now includes a more comprehensive discussion of patterns of drug use.
- The endocannabinoid system is discussed in the section on marijuana.
- A new section on medical marijuana has been added.
- Module 26, *Metacognition*, is a new *Skills in Action* module aimed at raising students' awareness about some of the issues that they should consider as they evaluate their own understanding and abilities in a variety of contexts, including school.

Modules 27–31: Conditioning and Learning

- Module 27, *Associative and Cognitive Learning*, has been streamlined and now more clearly links associative learning to experiential processing and cognitive forms of learning to reflective cognition.
- The section on modeling in the media has again been revised, reflecting a growing awareness that viewing violent media may not be as harmful as previously thought.
- Module 29, *Operant Conditioning*, has been streamlined and rewritten for greater clarity.
- Module 30, *Reinforcement and Punishment in Detail*, has also been streamlined and rewritten for greater clarity.
- Module 31, *Behavioral Self-Management*, is an updated *Skills in Action* module that streamlines and brings together in one module behavioral self-management techniques previously presented in two different modules.

Modules 32–36: Memory

- Module 32, *Memory Systems*, now treats the terms *short-term memory* and *working memory* as equivalent and offers an extended discussion.
- The finding that processing images does not interfere so much with processing verbal information is discussed as the *multimedia principle*.
- The role of culture in directing memory encoding is now explored.
- Module 34, *Forgetting*, has been streamlined for greater clarity.
- Module 35, *Exceptional Memory*, now integrates material on “natural” memory strategies along with artificial (mnemonic) strategies into a single module on how to improve your memory.
- Superior episodic memory is now distinguished from superior semantic memory.
- Module 36, *Giving Memorable Presentations*, is a new *Skills in Action* module that uses memory concepts to demonstrate how to use visual media such as Microsoft PowerPoint or Keynote in such a way that the central message of the presentation is more likely to be remembered.

Modules 37–41: Cognition and Intelligence

- Module 37, *Modes of Thought*, opens with the distinction between experiential (Type 1) and reflective (Type 2) processing and includes a discussion about automaticity and the Stroop effect.
- The distinction between connotation and denotation is now presented in the section on language, which has been reorganized for greater clarity.
- Module 37, *Problem Solving*, has been streamlined for greater clarity. Definitions of inductive and deductive thought are now included in this module.
- Module 38, *Creative Thinking and Intuition*, has also been streamlined and reorganized for greater clarity.
- Module 40, *Intelligence*, includes a reworked section on the Flynn effect.
- Module 41, *Creativity and Innovation*, is a new *Skills in Action* module that includes new material related to creativity and its relation to innovation.

Modules 42–45: Motivation and Emotion

- Module 42, *Overview of Motives and Emotions*, has been streamlined for greater clarity.
- The role of melatonin in regulating sleep is explored in greater detail.
- Module 43, *Motivation in Detail*, more directly differentiates biological factors in short-term hunger control and long-term weight control.
- The section on behavioral dieting has been reorganized.
- Module 45, *Positivity and Optimism*, is a new *Skills in Action* module that explores the distinction between dispositional optimism and an optimistic explanatory style.

Modules 46–49: Human Sexuality

- The modules covering human sexuality have been extensively reworked and reorganized for greater clarity.
- Module 46, *Sex and Gender*, now integrates material on biological sex and psychosocial gender.
- The concept of sexually antagonistic selection is used to explain how homosexuality might be genetically transmitted.

- ▶ Module 47, *The Human Sex Drive, Response, and Attitudes*, is a reorganization/integration of material previously organized differently.
- ▶ Module 48, *Sexual Problems*, is a reorganization/integration of material previously organized differently: rape, sexual dysfunctions, and paraphilic disorders.
- ▶ Module 49, *Diversity and Inclusion*, is an updated *Skills in Action* module that discusses diversity and inclusion and offers students tips about how they can foster positive relationships with a wide range of people.

Modules 50–54: Personality

- ▶ Module 50, *Overview of Personality*, integrates an overview of personality theories with material on assessing personality, yielding an introduction to the concept of personality.
- ▶ Module 51, *Trait Theories*, now discusses the *dark triad*, a subclinical personality type combining Machiavellianism, psychopathy, and narcissism.
- ▶ Module 52, *Psychodynamic and Humanistic Theories*, now includes coverage of the neo-Freudians Alfred Adler and Carl Jung.
- ▶ Module 53, *Behavioral and Social Learning Theories*, has been streamlined.
- ▶ The discussion of the evolution of trait theory has been simplified.
- ▶ Humanism is now clearly identified as a “third force” in psychology.
- ▶ Module 54, *Leadership*, is a new *Skills in Action* module that connects personality to leadership and provides students with several important skills that they can work on if they are interested in fostering their ability to lead others.

Modules 55–59: Health Psychology

- ▶ Module 55, *Overview of Health Psychology*, has been streamlined.
- ▶ Module 56, *Stressors*, has also been streamlined.
- ▶ Module 58, *Stress and Health*, still covers the Type A personality but now expresses skepticism about the concept, in line with the recent research literature.
- ▶ Module 59, *Stress Management*, is an updated *Skills in Action* module that offers a revised set of suggestions for managing stress.

Modules 60–64: Psychological Disorders

- ▶ Module 60, *Defining Psychopathology*, has been extensively rewritten and reorganized and now features new sections on diagnosis and types of symptoms of these illnesses, as well as causes.
- ▶ Material on psychology and the law has been expanded and now includes a discussion of the diminished responsibility defense.
- ▶ Module 61, *Psychotic Disorders*, has been reorganized and streamlined for greater conceptual cohesion.
- ▶ Module 62, *Mood Disorders*, now includes material on suicide.
- ▶ Module 63, *Anxiety, Anxiety-Related, and Personality Disorders*, has been streamlined and now includes discussion of a new theory of obsessive-compulsive disorder (OCD).
- ▶ Module 64, *Emotional Intelligence*, is an updated *Skills in Action* module that offers a revised set of suggestions for becoming more emotionally intelligent.

Modules 65–69: Therapies

- ▶ Module 67, *Behavior Therapies*, has been streamlined.
- ▶ Module 68, *Medical Therapies*, now includes an extended discussion of pharmacotherapies.
- ▶ Module 69, *Managing Mental Health Problems*, is an updated *Skills in Action* module that now includes material on empirically supported therapies, basic counseling skills and considering therapy.

Modules 70–74: Social Psychology

- ▶ Module 70, *Social Behavior and Cognition*, no longer includes a discussion of Zimbardo’s infamous prison experiment, in light of recent critiques that it is seriously compromised by demand characteristics.
- ▶ Social status and social power are now distinguished.
- ▶ *Buyer’s regret* is now discussed in the context of cognitive dissonance theory.
- ▶ Module 71, *Social Influence*, now offers a streamlined discussion of cults.
- ▶ Module 72, *Prosocial Behavior*, now includes a critical discussion of the Kitty Genovese murder and its role in inspiring research on the bystander effect.

- Material on adult attachment styles, previously included in Module 13, now appears in Module 72.
- Module 73, *Antisocial Behavior*, has been rewritten and reorganized and now offers a streamlined discussion of cults and a rewritten discussion of prejudice.
- Module 74, *Teamwork*, is a new *Skills in Action* module that discusses research related to teamwork, including the distinction between groups and teams. It provides students with evidence-based suggestions about the skills that can be developed to improve their ability to work effectively with others.

Modules 75–78: Applied Psychology

- Module 75, *Industrial/Organizational Psychology*, has been reorganized and rewritten.
- Module 76, *Environmental Psychology*, has been reorganized and rewritten.
- The persuasive potential of social norms based approaches is explored in the context of environmentalism.
- Module 78, *Career Preparation*, is a new *Skills in Action* module that outlines suggestions for students who are interested in ensuring that they develop an appropriate skill set for their career of choice. It includes information about learning experiences that can help promote career-related skills, as well as methods for documenting their abilities.

Appendix: Behavioral Statistics

- A new module-opening vignette and photo invite students to read more about statistics.

A Complete Course—Teaching and Learning Supplements

A rich array of supplements accompanies *Psychology: Modules for Active Learning*, including several that use the latest technologies. These supplements are designed to make teaching and learning more effective. Many are available free to professors or students. Others can be packaged with this book at a discount. Contact your local sales representative for more information on any of the listed resources.

Summary

We sincerely hope that teachers and students will consider this book and its supporting materials a refreshing change

Student Support Materials

Introductory students must learn a multitude of abstract concepts, which can make a first course in psychology difficult. The materials listed here will greatly improve students' chances for success.

MindTap® Psychology: Modules for Active Learning is a personalized, fully online digital learning platform of authoritative content, assignments, and services that engages your students in a singular interactive learning path. By incorporating the SQ4R method in a uniquely modular format, MindTap students improve their reading and study skills while they are learning psychology. MindApps such as Kaltura (which allows you to insert inline media into your curriculum) and View Progress (which allows you to track student engagement and class progress) offer you choice in the configuration of coursework and enhancement of the curriculum. Students will love Mastery Training, a tool that uses distributed practice to help students retain key terms and concepts. MindTap is well beyond an eBook, a homework solution or digital supplement, a resource center website, a course delivery platform, or a Learning Management System. It is the first in a new category—the Personal Learning Experience. MindTap for *Psychology: Modules for Active Learning* allows complete flexibility in how a course is built, making it easier to take advantage of the modular and SQ4R format.

Instructor Resources

Teaching an introductory psychology course is a tremendous amount of work, and the supplements listed here should help make it possible for you to concentrate on the more creative and rewarding facets of teaching. All of these supplements are available online for download. Go to login.cengage.com to create an account and log in.

The Instructor Companion Site for this title will include an *Instructor's Resource Manual*, which provides a wealth of teaching tips and classroom resources; *Cengage Learning Testing Powered by Cognero*, multiple-choice questions correlated to learning objectives, Bloom's taxonomy level, and difficulty; and PowerPoint slides providing concept coverage with dynamic animations, photographs, and video.

from the ordinary. Creating it has been quite an adventure. In the pages that follow, we think students will find an at-

tractive blend of the theoretical and the practical, plus many of the most exciting ideas in psychology. Most of all, we hope that students using this book will discover that reading a college textbook can be informative while also being entertaining and enjoyable.

Acknowledgments

Psychology is a cooperative effort requiring the talents and energies of a large community of scholars, teachers, researchers, and students. Like most endeavors in psychology, this book reflects the efforts of many people. We deeply appreciate the contributions of the following professors, whose sage advice helped improve the 14th edition of *Psychology: Modules for Active Learning*:

We wish to thank Dr. Carol Baldwin, Psychology Department Head at the Salish Kootenai College, for suggesting a way to modify a section of one of our memory modules to become more respectful of our Native American readers.

We also wish to thank Dr. Robin Akawi, of Sierra Community College, for her always thoughtful questions, which have lead to a number of improvements in this edition, most notably in the discussion of the hindbrain/brain stem distinction.

Dr. Christopher Ferguson, of the Psychology Department at Stetson University, prompted revisions in our treatment of the Zimbardo prison study, the Kitty Genovese murder, and especially the topic of violence and the media. Thank you, Chris.

We offer a special thank-you to the students at the Nebraska Indian Community College taking Introduction to Psychology in 2015, for triggering a deep conversation about the portrayal of American Indians in introductory psychology textbooks. In further discussions with NICC faculty Darla Korol, MSW, Human Services Division Head, and Wynema Morris, Native American Studies Division Head, several sections of this new edition, and in particular, a new section on Native American parenting, reflect their profound insights and wisdom.

The following professors offered invaluable comments on the 13th edition of *Psychology: Modules for Active Learning*:

Charlie Aaron, Northwest Mississippi Community College

Jarrold Calloway, Northwest Mississippi Community College

Amanda Dunn, Lincoln Memorial University

Paul Helton, Freed Hardeman University

Scott Keiller, Kent State University at Tuscarawas

Katherine McNellis, Lakeshore Technical College

Sam Olive, Henry Ford Community College

Robert Strausser, Northwest Mississippi Community College

Victoria Wiese, Lakeshore Technical College

Producing *Psychology: Modules for Active Learning* and its supplements was a formidable task. We are especially indebted to Marta Lee-Perriard for supporting this book. We also wish to thank the individuals at Cengage who so generously shared their knowledge and talents over the past year. These are the people who made it happen: Charles Behensky, Charlene M. Carpentier, Kimiya Hojjat, Karen Hunt, Adrienne McCrory, Don Schlotman, Juliet Stamperdahl, Jasmin Tokatlian, and Jennifer Wahi.

It has been a pleasure to work with such a gifted group of professionals and many others at Cengage. We especially want to thank Tim Matray and Andrew Ginsberg for their patient advocacy, and Liz Fraser for riding herd on us all. Thanks also go to Jill Traut and Susan McClung, of MPS Limited, for shepherding us through the copyediting and text layout processes.

Up in St. Catharines, Riley Roth, Kendall Nicoll, Barbara Kushmier, Kayleigh Hagerman, and Heather Mitterer pitched in to lend a hand.

Last of all, we would like to thank our spouses, Sevren, Heather, and David, for making the journey worthwhile.

The Psychology of Reflective Studying

Well, Hello There!

As your authors, we are delighted to welcome you to the “manual” for this textbook. No! Don’t skip this, please. Read on.

Few of us prefer to start a new adventure by reading a manual. We just want to step off the airplane and begin our vacation, get right into that new computer game, or start using our new camera or smartphone. Please be patient. Successfully learning psychology depends on how *reflective* you are as you read your textbook, listen during your classes, study for exams, and then write them.

Students who get good grades tend to work more reflectively, not just longer or harder. They also tend to understand and remember more of what they’ve learned long after their exams are over. Psychology is for their lives, not just for their exams. In this module, we explore a variety of ways to become more reflective learners.



© Tyler Olson/Shutterstock.com

~SURVEY QUESTIONS~

- | | |
|--|---|
| <p>1.1 How can studying psychology help me in my personal and professional life?</p> <p>1.2 How can I get the most out of this textbook?</p> | <p>1.3 How can I get the most out of class time?</p> <p>1.4 How can I best prepare for tests?</p> |
|--|---|

What’s in It for You?—More Than You Might Think

Survey Question 1.1 How can studying psychology help me in my personal and professional life?

As you begin exploring the field of psychology, you may well be asking yourself what you’ll get out of it. In general, most of your courses will offer you opportunities to learn in two important ways. The first has to do with course *content*—in this introductory psychology course, the content is what you’ll learn about the field of psychology. This includes what psychological research tells us about memory, social relationships, brain functioning, children’s development, and

psychopathology (to name just few topics). But taking a psychology course will also promote your learning in a second way—specifically, it will teach you about the *skills* that you’ll need to be successful in your personal and professional life.

What do you mean by “skills”? When we talk about skills, we’re often talking about things that you can do, such as communicate clearly or work well with others. But in some cases, the term *skills* can also refer to personal characteristics; for example, independence, tolerance, and adaptability are often considered to be important skills.

TABLE 1.1 | APA Guidelines for the Undergraduate Psychology Major

Goal 1: Knowledge Base of Psychology
Goal 2: Scientific Inquiry and Critical Thinking
Goal 3: Ethical and Social Responsibility in a Diverse World
Goal 4: Communication
Goal 5: Professional Development

(Adapted from American Psychological Association, 2013. For complete details, go to: www.apa.org/ed/precollege/about/learning-goals.pdf.)

These two broad categories of learning—content and skills—are outlined in the American Psychological Association's (APA) *Guidelines for the Undergraduate Psychology Major (version 2.0)* (American Psychological Association, 2013). It is well worth having a look at the full document (which is available online), but you can start by having a look at ■ **Table 1.1**.

Some students assume that their only goal is to learn “the facts” about psychology, or the course content. In other words, they think their degree is all about Goal 1. A student with this mindset will usually complain when given an assignment that involves working with a small group of students to evaluate some research articles in the PsycINFO database. “Why do I have to do this with these other people?” he or she might grouse. “And why don’t you just explain to me what the experts say about these articles so that I can get on with learning it for the exam?” Students who understand that their education is also about acquiring skills—like being able to communicate clearly (Goal 4), work as part of a team (Goal 5), and think critically (Goal 2)—will appreciate that professors set up assignments to build skills, as well as furthering what you know about psychology.

One of the things that you might notice as you look through Table 1.1 is that many of the skills listed aren’t really specific to psychology—they’re likely to be just as relevant to someone majoring in history or business or biology. After all, people in all disciplines need to understand how to communicate well, work well with others, and behave ethically.

Some of the most important advice we can give you, then, is to remember to focus on the skills that you are learning throughout your studies at university, whether in psychology or other subjects. They may not always seem obvious when you’re reading a textbook or when you’re completing your assignments, but when it comes



Work on developing your skills may seem like a waste of your time compared with putting that time into learning course content. But don’t sell it short; your skill set will be just as important as your content expertise whether you go on to post-graduate education or a career.

time for you to hit the job market, you’ll be happy that you did.

A Psychologist’s Skill Set

To understand why your skill set is important, have a look at ■ **Table 1.2**, which lists a few of the career opportunities open to psychology majors.

TABLE 1.2 | A Skills-Based List of Some Potential Careers for Psychology Majors

Addictions counselor	Manager
Administration	Market research analyst
Advertising	Marketing
Career/employment counselor	Mental health worker
Case worker	Motivational researcher
Child care worker	Personnel
Child welfare worker	Population studies researcher
Community worker	Probation or parole officer
Correctional officer	Professional consultant
Counselor	Program coordinator
Cultural diversity consultant	Psychiatric assistant or aide
Customs or immigration agent	Public health statistician

TABLE 1.2 | (Continued)

Day care worker, supervisor	Public opinion interviewer
Educational counselor	Public relations
Entrepreneur	Recreation specialist
Fundraiser or development officer	Research assistant
Gerontology	Sales representative
Government researcher	Social services
Health services	Social worker
Hospice coordinator	Teaching
Human resources	Technical writer
Immigration officer	Travel agent
Labor relations specialist	Youth worker

Adapted from Canadian Psychological Association (2016)

Travel agent? Think about it for a moment. A travel agent may not need content expertise, such as being able to list Freud's stages of psychosexual development or explain what psychological functions are controlled by the different parts of the brain. But it *would* help to be able to work independently, do your own research, be able to make presentations to individuals or groups, have some sensitivity to cross-cultural issues, write well, and, in general, work well with people. While these sorts of skills also can be learned in other ways, studying psychology provides a "golden opportunity" for you to develop an impressive set of skills that are sought by many employers.

How This Book Will Help You with Skill Development

You probably won't be surprised to learn that *Psychology: Modules for Active Learning* has been written with the APA Guidelines in mind, in an effort to help you further develop your career-related skill set. Here are some skill highlights:

- Skills in Action modules:** Every few modules, you will encounter a *Skills in Action* module. Each of these modules connects the field of psychology to a skill that is likely to be useful across a broad range of career paths. These modules, combined with the digital resources for this book, will allow you to measure your skill level

and give you practical ideas you can use to improve your skill set.

- Study skills:** In this module, we discuss a full set of study skills, from how to read and listen for understanding to how to take tests and overcome procrastination. We also introduce the importance of reflective processing, and we carry this idea throughout the book. All of those skills are very helpful in many different jobs.
- Research skills:** We will introduce you to science and psychological research, from the research methods in Modules 2–6 to the Statistics Appendix. This will help you be a more educated and literate consumer of research in your chosen career, especially if it involves applying psychological research in any way.
- Critical thinking skills:** From the discussion of critical thinking in Modules 2 and 6 to the *Think Critically* questions at the end of the modules, we stress critical thinking skills. The term *critical thinking* actually encompasses a wide array of related skills, including defining problems, searching for and evaluating information to address those problems, and synthesizing and applying information that you gather. You can see why such skills are in high demand among employers.
- Cultural awareness skills:** OK, so we couldn't take you on a field trip to Japan, but throughout the book, we will invite you to reflect on the differences among people of different ethnicities, sexual orientations, ages, and genders. This kind of information will be particularly important when you find yourself having to work with others whose background or belief system is not the same as your own.

Not to put too fine a point on it, but that's a lot of career-relevant skills, no? Of course, we understand that the classroom isn't the only place to learn skills that can help you in your personal life and career. Many college and university students will also have part-time jobs, or will participate in other learning experiences such as study abroad, community-based volunteering, or campus activities such as student government or clubs. Often, the skills that you develop through these extra-curricular experiences will support or complement the skills that you can learn through the assignments that you'll complete for your courses.

For example, common part-time student jobs involving interaction with the public (e.g., waiting tables, customer service, or retail jobs) often help to build *verbal* communication skills such as the ability to speak to others, and to listen effectively to what others are saying.

In contrast, class assignments often build *writing* skills and the ability to *read and understand* complex material. When you are attempting to persuade an employer that you have a broad range of communication skills, then you should make sure that you discuss what you have learned from a variety of experiences both inside and outside of the classroom to demonstrate the full range of your abilities.

Reflective Learning: The Most Important Ingredient

Simply deciding that you want to learn content or skills isn't going to actually make it happen. To understand why, think about the last time you spent the evening vegging out in front of the television. It probably was fun, but you may have noticed that you didn't think too much about what you were watching and that your subsequent memories are not detailed. You were engaging in **experiential processing**, more or less passively soaking up the experience (Kahneman, 2011; Norman, 1994).

Now contrast that with your experience in a recent job interview. It is highly unlikely that you got through the interview by relying on experiential processing alone (and even less likely that you landed the job if you did). Instead, you actively and carefully listened to the questions and put some serious effort into thinking through the implications of answering in different ways before responding. No drifting off here; you were focused and controlled until you left the interview, when you likely breathed

a much-deserved sigh of relief. By reacting mindfully (Siegel, 2007), you engaged in **reflective processing** (Kahneman, 2011; Norman, 1994). Rather than just having an experience, you *actively thought* about it. Similarly, **reflective learning** occurs when you engage in deliberately reflective and active self-regulated study (Anthony, Clayton, & Zusho, 2013; Mega, Ronconi, & De Beni, 2014). Here, in general, is how you can promote reflective learning of both content and skills:

1. **Set specific, objective learning goals.** Begin each learning session with specific goals in mind. What knowledge or skills are you trying to master? What do you hope to accomplish (Pychyl, 2013)?
2. **Plan a learning strategy.** How will you accomplish your goals? Make daily, weekly, and monthly plans for learning. Then put them into action.
3. **Be your own teacher.** Effective learners silently give themselves guidance and ask themselves questions. For example, as you are learning, you might ask yourself, "What are the important ideas here? What do I remember? What don't I understand? What do I need to review? What should I do next?"
4. **Monitor your progress and correct when necessary.** Reflective learning depends on self-monitoring. Exceptional learners keep records of their progress toward learning goals (pages read, hours of studying, assignments completed, and so forth). They quiz themselves, use study guides, and find other ways to check their understanding while learning. Consider asking yourself these questions regularly as you work toward mastering both course content and skills: Do any specific areas of your work need improvement? If you are not making good progress toward long-range goals, do you need to revise your short-term targets? If you fall short of your goals, you may need to adjust how you budget your time. You may also need to change your learning environment to deal with distractions such as browsing the web, daydreaming, talking to friends, or testing the limits of your hearing with your iPod.
5. **Reward yourself.** When you meet your daily, weekly, or monthly goals, reward your efforts in some way, such as going to a movie or downloading some new music. Be aware that self-praise also rewards learning. Being able to say "Hey, I did it!" can be rewarding. In the long run, success, self-improvement, and personal satisfaction are the real payoffs for learning.



"I'm too busy going to college to study."

Reflective Reading—How to Tame a Textbook

Survey Question: 1.2 How can I get the most out of this textbook?

How can I be more reflective while reading? One powerful way to be more reflective is through **self-reference**. As you read, relate new facts, terms, and concepts to your own experiences and information that you already know well. Doing this will make new ideas more personally meaningful and easier to remember. **Critical thinking** is another powerful way to be more reflective. Critical thinkers pause to evaluate, compare, analyze, critique, and synthesize what they are reading (Chaffee, 2015). You should, too. In Module 2, we will learn how to think critically about psychology.

These ways to improve learning can be combined into the **reflective SQ4R method**. SQ4R stands for *survey, question, read, recite, reflect*, and *review*, which are six steps that can help you get more out of your reading:

- S** = *Survey*. Skim through the text before you begin reading it. Start by looking at topic headings, figure captions, and summaries. Try to get an overall picture of what lies ahead. Because this book is organized into short modules, you can survey just one module at a time if you prefer.
- Q** = *Question*. As you read, reword each major topic heading into one or more questions. For example, when you read the heading “Sleep Stages,” you might ask: “Is there more than one stage of sleep?” “What are the stages of sleep?” “How do they differ?” Asking questions prepares you to read with a purpose.
- R1** = *Read*. The first R in SQ4R stands for *read*. As you read, look for answers to the questions you asked. Read in short bites, from one main topic heading to the next, and then stop. For difficult material, you may want to read only a paragraph or two at a time.
- R2** = *Recite*. After reading a small amount, you should pause and recite or rehearse. Try to mentally answer your questions. Also, make brief notes to summarize what you just read. Making notes will reveal what you do and don’t know, so you can fill in gaps in your knowledge (Peverly et al., 2003).

If you can’t summarize the main ideas, skim over each section again. Until you can understand and remember what you just read, there’s little point to reading more. After you’ve studied a short “bite” of text, turn the next topic heading into questions. Then read to the following heading.

Remember to look for answers as you read and to recite or take notes before moving on. Ask yourself repeatedly, “What is the main idea here?” Repeat the question–read–recite cycle until you’ve finished an entire module (or just a part of a module if you want to read shorter units).

R3 = *Reflect*. As you read, reflect on what you are reading. As stated earlier, two powerful ways to do this are self-reference and critical thinking. This is the most important step in the reflective SQ4R method. The more mindfulness and genuine interest that you can bring to your reading, the more you will learn (Hartlep & Forsyth, 2000; Wong, 2015).

R4 = *Review*. When you’re done reading, skim back over a module or read your notes. Then check your memory by reciting and quizzing yourself again. Try to make frequent, active review a standard part of your study habits (see ► **Figure 1.1**).

Does this really work? You bet! Using a reflective reading strategy improves learning and course grades (Taraban, Rynearson, & Kerr, 2000). It also results in enhanced long-term understanding. Simply reading straight through a textbook can give you intellectual indigestion. That’s why it’s better to stop often to survey, question, recite, reflect, review, and digest information as you read.

How to Use Psychology: Modules for Active Learning

You can apply the reflective SQ4R method to any course of study. However, we have specifically designed this textbook to help you *reflectively* learn psychology. Please consider

Experiential processing Thought that is passive, effortless, and automatic.

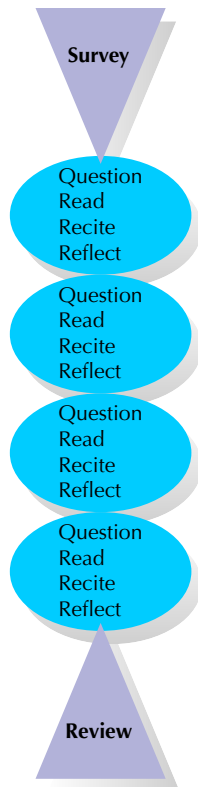
Reflective processing Thought that is active, effortful, and controlled.

Reflective learning Deliberately reflective and active self-guided study.

Self-reference The practice of relating new information to prior life experience.

Critical thinking An ability to evaluate, compare, analyze, critique, and synthesize information.

Reflective SQ4R method An active study-reading technique based on these steps: survey, question, read, recite, reflect, and review.



► **Figure 1.1**

The reflective SQ4R method. Active learning and information processing are promoted by the reflective SQ4R method. You begin with a survey of the module, or module section, depending on how much you plan to read. You then proceed through cycles of questioning, reading, reciting, and reflecting and conclude with a review of the section or the entire module.

trying out the following suggestions as you work through this module:

Survey Each module opens with a survey that includes a short introduction to what will be covered, as well as a list of *Survey Questions*. You can use these features to identify important ideas as you begin reading. The introduction should help interest you in the topics that you will be reading about, and the Survey Questions are a good guide to the kinds of information that you should look for as you read. In fact, answers to the Survey Questions are a good summary of the core concepts in each module. If, years from now, you still remember those core concepts, your authors will be happy indeed.

After you've studied these features, take a few minutes to do your own survey of the module, including the figure captions and module-ending material. You should also notice that each major module heading is accompanied by a Survey Question. Doing so will help you build a mental map of upcoming topics.

Question How can I use the reflective SQ4R method to make reading more interesting and effective? Try to actively interact with your textbooks as you read. Perhaps the most effective way to do this is to ask yourself a lot of questions as you read. For example, as noted earlier, modules and major module sections begin with headings; try turning them into questions. One Module 2 heading is “Critical Thinking—Take It with a Grain of Salt.” Turn this into a question that occurs to you, such as “Why should I be skeptical of what I read?” If you read with an aim toward answering your questions, you will be much more likely to get the key points in what you are reading. *Dialogue Questions* like the one that began this paragraph will also help you focus on seeking information as you read. These questions are much like those running through the minds of students like you as they read this book. Similarly, the Survey Questions are repeated throughout each module to help you recognize key topics. Try to anticipate these questions. Even better, be sure to ask your own questions.

Read As an aid to reading, important terms are printed in **boldface type** and defined when they first appear. (Some are followed by pronunciations—capital letters show which syllables are accented.) You'll also find a *running glossary* in the lower right-hand corner of pages that you are reading, so you never have to guess about the meaning of technical terms. If you want to look up a term from a lecture or another module, check the main *Subject Index/Glossary*. This mini-dictionary is located near the end of the book. In addition, figures and tables will help you quickly grasp important concepts.

Recite To help you study in smaller “bites,” each module in this textbook ends with a brief study guide called a *Knowledge Builder*. After reaching a Knowledge Builder, it is worthwhile to stop reading to recite or rehearse what you just read. Make summary notes and try mentally answer your questions. Recitation will tell you what you do and don't understand. Answering the “Recite” questions in the Knowledge Builders gives you another way to check on how well you understand and remember what you just read.

Reflect Every Knowledge Builder also includes opportunities to reflect on what you have just read. *Think Critically* questions invite you to reflect more deeply about the how and why of what you have just read, and *Self-Reflect* questions help you connect new ideas to your own life. (Don't forget to take notes and recite and reflect on your own.)

Review Each module concludes with a point-by-point *Summary* to help you identify psychology's big ideas and enduring principles. These summaries are organized around

the same Survey Questions you read at the beginning of the module. Ultimately, they will provide a good high-level summary of what you learned in this course. By making these ideas your own, you will gain something of lasting value: you will learn to see human behavior as psychologists do. For further review, you can use the running glossary in the margin, as well as boldface terms, figures, and tables.

■ **Table 1.3** summarizes how this text helps you apply the reflective SQ4R method. Even with all this help, there is still much more that you can do on your own.

Going Digital

Digital media can also offer several ways to learn more reflectively from this textbook. Dedicated reflective support for studying this textbook can be found by using MindTap.

MindTap *What is MindTap?* MindTap is a highly personalized, fully online learning platform that integrates in one site all of the authoritative content, assignments, and services that accompany your textbook, *Psychology: Modules for Active Learning*.

TABLE 1.3 | Using the Reflective SQ4R Method

Survey	▶ Module-Opening Introduction
	▶ Survey Questions
	▶ Figure Captions
	▶ Module Summaries
Question	▶ Topic Headings
	▶ Survey Questions
	▶ In-Text Dialogue Questions
Read	▶ Boldface Terms
	▶ Running Glossary (in margin)
	▶ Figures and Tables
Recite	▶ Recite Questions (in Knowledge Builders)
	▶ Practice Quizzes (online)
	▶ Notes (make them while reading)
Reflect	▶ Reflect Questions, including Think Critically and Self-Reflect questions (in Knowledge Builders)
	▶ Skills in Action Modules (throughout the text)
Review	▶ Module Summaries
	▶ Boldface Terms
	▶ Running Glossary (in margin)
	▶ Figures and Tables
	▶ Practice Quizzes (online)

What can I expect to get out of MindTap? Many of the more active elements of reflective learning are better presented digitally. There is room, for example, to include only a few practice quizzes in a print textbook (and the reader has to self-score them). In contrast, digital media make it feasible to present more extensive practice materials, as well as to provide immediate feedback.

MindTap has been designed to make it easier for you to engage in reflective learning by presenting the entire course (yup, the textbook, too) through the reflective SQ4R learning path, which includes video and other interactive activities. You will be able to complete reading assignments, annotate your readings, complete homework, get detailed instant feedback on Guided Practice Activities, and interact with quizzes and assessments. MindTap includes a variety of apps known as “MindApps,” allowing functionality such as having the text read aloud to you, as well as synchronizing your notes with your personal Evernote account. MindApps are woven into the MindTap platform and enhance your learning experience with this textbook.

Psychology Websites As you read (reflectively, of course) through this textbook, you may, from time to time, find yourself wanting to read more about a particular topic. Consider following up by looking up some of the references included in this text. Suppose that you were just reading about procrastination and wanted to learn more about the reference *Pychyl (2013)*. You can look up all in-module references in the “References” section at the back of this text. There, you will find that Pychyl (2013) is a book (it happens to be an excellent recent paperback how-to about overcoming procrastination).

Sometimes, though, the reference that you are interested in will be a psychology journal article. To locate journal articles, you can use *PsycINFO*, a specialized online database offered by the American Psychological Association (APA). **PsycINFO** provides summaries of the scientific and scholarly literature in psychology. Each record in PsycINFO consists of an abstract (short summary), plus notes about the author, title, source, and other details. Entering the author’s name(s) and article title will bring you to the article in question. Also, all PsycINFO entries are indexed using key terms. Thus, you can search for various topics by entering words such as *procrastination*, *postpartum depression*, or *creativity* and find research papers on any topic in psychology that might interest you.

PsycINFO A searchable, online database that provides brief summaries of the scientific and scholarly literature in psychology.

Almost every college and university subscribes to PsycINFO. You can usually search PsycINFO from a terminal in your college library or computer center—for free. PsycINFO can also be directly accessed (for a fee) through the Internet via APA's PsycINFO Direct service. For more information on how to gain access to PsycINFO, check out www.apa.org/pubs/databases/psycinfo/index.aspx. Beware, though: many of the primary research papers available through PsycINFO are highly technical. Don't be put off by this; read and digest what you can. You'll pick up some interesting information and become a better psychology student in the process.

Aside from PsycINFO, there are a number of good websites that you can consult for reliable information about

psychology. For example, the American Psychological Association (APA) and the Association for Psychological Science (APS) maintain online libraries of general-interest articles on many topics. They are well worth consulting when you have questions about psychological issues. You'll find them at www.apa.org and www.psychologicalscience.org. For links to recent articles in newspapers and magazines, check the APA's PsycPORT page at www.apa.org/news/psycport/index.aspx. Other high-quality websites include those maintained by other professional organizations, such as the Alzheimer's Association (www.alz.org), and government agencies, such as the National Institute of Mental Health (www.nimh.nih.gov). (See Module 6 for more on the important skill of information literacy.)

Reflective Note Taking—LISAN Up!

Survey Question 1.3 How can I get the most out of class time?

Just as studying a textbook is best done reflectively, so, too, is learning in class (Norman, 1994). Like effective reading, good notes come from actively seeking information. A **reflective listener** avoids distractions and skillfully gathers ideas. Here's a listening/note-taking plan that works for many students. The letters LISAN, pronounced like the word *listen*, will help you remember the steps:

- L** = *Lead. Don't follow.* Read assigned materials before coming to class. Try to anticipate what your teacher will say by asking yourself questions. If your teacher provides course notes or Microsoft PowerPoint® overheads before lectures, survey them before coming to class. Reflective questions can come from those materials or from study guides, reading assignments, or your own curiosity.
- I** = *Ideas.* Every lecture is based on a core of ideas. Usually, an idea is followed by examples or explanations. Ask yourself often, "What is the main idea now? What ideas support it?"
- S** = *Signal words.* Listen for words that tell you what direction the instructor is taking. For instance, here are some signal words:

<i>There are three reasons . . .</i>	Here come ideas
<i>Most important is . . .</i>	Main idea
<i>On the contrary . . .</i>	Opposite idea
<i>As an example . . .</i>	Support for main idea
<i>Therefore . . .</i>	Conclusion

- A** = *Actively listen.* Sit where you can get involved and ask questions. Bring questions that you want answered from the last lecture or from your text. Raise your hand at the beginning of class or approach your professor before the lecture. Do anything that helps you stay active, alert, and engaged.
- N** = *Note taking.* Students who take accurate lecture notes tend to do well on tests (Williams & Eggert, 2002). However, don't try to be a tape recorder. Listen to everything, but be selective and write down only key points. If you are too busy writing, you may not grasp what your professor is saying. When you're taking notes, it might help to think of yourself as a reporter who is trying to get a good story (Ryan, 2001; Wong, 2015).

Most students take reasonably good notes—and then don't use them! Many students wait until just before exams to review. By then, their notes have lost much of their meaning. If you don't want your notes to seem like chicken scratches, it pays to review them periodically (Ellis, 2016).

Using and Reviewing Your Notes

When you review, you will learn more if you take these extra steps (Ellis, 2016; Pynchyl, 2013; Santrock & Halonen, 2013):

- ▶ As soon as you can, reflect on your notes to fill in gaps, complete thoughts, and look for connections among ideas.

- Remember to link new ideas to what you already know.
- Summarize your notes. Boil them down and organize them.
- After each class session, write down several major ideas, definitions, or details that are likely to become test questions. Then, make up questions from your notes and be sure that you can answer them.

Summary The letters LISAN are a guide to active listening, but listening and good note taking are not enough. You must also review, organize, reflect, extend, and think about new ideas. Use active listening to get involved in your classes and you will undoubtedly learn more (Van Blerkom, 2012).

Reflective Study Strategies—Making a Habit of Success

Survey Question 1.4 How can I best prepare for tests?

Grades depend as much on effort as they do on intelligence. But good students work more efficiently, not just harder, and that's true when they study as well as when they write exams. In this section, we provide some tips for improving your studying and test-taking skills.

Strategies for Studying

Recently, researchers reviewed more than 700 articles on 10 of the most commonly used learning strategies to determine which ones were the most effective (Dunlosky et al., 2013). One of the study strategies most commonly used by students—highlighting or underlining material in the text or lecture notes—was found to be a particularly *ineffective* way to master the material, largely because it doesn't usually promote active or reflective learning. If you cannot imagine your textbook without the pretty neon colors, make sure that you combine your highlighting with one (or more!) of the effective strategies that we discuss below.

Test Yourself A great way to improve grades is to take practice tests before the real one (Karpicke & Blunt, 2011), and this strategy came out as a clear winner in the review of learning strategies. In other words, reflective studying should include **self-testing**, in which you pose questions to yourself. You can use flashcards; Knowledge Builder Recite, Think Critically, and Self-Reflect questions; online quizzes; a study guide; or other means. As you study, ask yourself several questions and be sure you can answer them. Studying without self-testing is like practicing for a basketball game without shooting any baskets.

Use Spaced Study Sessions Another clear winner in the review of learning strategies was the use of spaced study sessions. It is reasonable to review intensely before an exam. However, you're taking a big risk if you are only cramming (learning new information at the last minute). Spaced practice is much more efficient (Anderson, J. R., 2014;

Dunlosky, et al, 2013). **Spaced practice** consists of a large number of relatively short study sessions. Long, uninterrupted study sessions are called **massed practice**. (If you “massed up” your studying, you probably messed it up, too.) Cramming places a big burden on memory. Usually, you shouldn't try to learn anything new about a subject during the last day before a test. It is far better to learn small amounts every day and review frequently.

Other Suggestions for Studying Ideally, you should study in a quiet, well-lit area free of distractions. If possible, you should also have one place only for studying. Do nothing else there: keep magazines, MP3 players, friends, cell phones, pets, Twitter®, video games, puzzles, food, lovers, sports cars, elephants, pianos, televisions, Facebook®, and other distractions out of the area. In this way, the habit of studying will become strongly linked with one specific place.

Also, many students *underprepare* for exams, and most *overestimate* how well they will do. A solution to both problems is **overlearning**, in which you continue studying beyond your initial mastery of a topic. In other words, plan to do extra study and review *after* you think you are prepared for a test. One way to overlearn is to approach all tests as if they will be essays. That way, you will learn more completely, so you really “know your stuff.”

Strategies for Taking Tests

OK, but what about actually taking the tests? Are there any strategies for that? You bet! You'll do better on all types of

Reflective listener A person who knows how to maintain attention, avoid distractions, and actively gather information from lectures.

Self-testing Evaluating learning by posing questions to yourself.

Spaced practice Practice spread over many relatively short study sessions.

Massed practice Practice done in a long, uninterrupted study session.

Overlearning Continuing to study and learn after you think that you've mastered a topic.

tests if you observe the following guidelines (Van Blerkom, 2012; Wong, 2015):

1. Read all directions and questions carefully. They may give you good advice or clues about what to include in your answer and how to format it.
2. Survey the test quickly before you begin.
3. Answer easy questions before spending time on more difficult ones.
4. Be sure to answer all questions.
5. Use your time wisely.
6. Ask for clarification when necessary.

Objective Tests Several additional strategies can help you do better on objective tests. Such tests (multiple-choice and true-false items) require you to recognize a correct answer among wrong ones or a true statement versus a false one. Here are some strategies for taking objective tests:

1. Relate the question to what you know about the topic. Then, read the alternatives. Does one match the answer that you expected to find? If none match, reexamine the choices and look for a partial match.
2. Read all the choices for each question before you make a decision. Here's why: if you immediately think that *a* is correct and stop reading, you might miss seeing a better answer like both *a* and *d*.
3. Read rapidly and skip items that you are unsure about. You may find free information in later questions that will help you answer difficult items.
4. Eliminate certain alternatives. With a four-choice multiple-choice test, you have one chance in four of guessing right. If you can eliminate two alternatives, your guessing odds improve to 50-50.
5. Be sure to answer any skipped items, unless there is a penalty for guessing. Even if you are not sure of the answer, you may be right. If you leave a question blank, it is automatically wrong. When you are forced to guess, don't choose the longest answer or the letter that you've used the least. Both strategies lower scores more than random guessing does.
6. Following this bit of folk wisdom is a mistake: "Don't change your answers on a multiple-choice test. Your first choice is usually right." This is wrong. If you change answers, you are more likely to *gain* points than to lose them. This is especially true if you are uncertain of your first choice, or it was a hunch and your second choice is more reflective (Higham & Gerrard, 2005).

7. Search for the one best answer to each question. Some answers may be partly true, yet flawed in some way. If you are uncertain, try rating each multiple-choice alternative on a 1 to 10 scale. The answer with the highest rating is the one you are looking for.
8. Remember that few circumstances are always or never present. Answers that include superlatives such as *most*, *least*, *best*, *worst*, *largest*, or *smallest* are often false.

Essay Tests Essay questions are a weak spot for students who lack organization, don't support their ideas, or don't directly answer the question (Van Blerkom, 2012). When you take an essay exam, try the following:

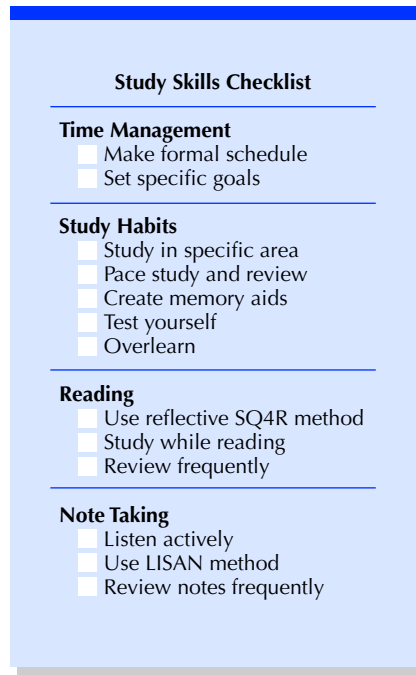
1. Read the question carefully. Be sure to note key words, such as *compare*, *contrast*, *discuss*, *evaluate*, *analyze*, and *describe*. These words all demand a certain emphasis in your answer.
2. Answer the question. If the question asks for a definition and an example, make sure that you provide both. Providing just a definition or just an example will get you half marks.
3. Reflect on your answer for a few minutes and list the main points that you want to make. Just write them as they come to mind. Then rearrange the ideas in a logical order and begin writing. Elaborate plans or outlines are not necessary.
4. Don't beat around the bush or pad your answer. Be direct. Make a point and support it. Get your list of ideas into words.
5. Look over your essay for errors in spelling and grammar. Save this for last. Your ideas are more important. You can work on spelling and grammar separately if they affect your grade.

Short-Answer Tests Tests that ask you to fill in a blank, define a term, or list specific items can be difficult. Usually, the questions themselves contain little information. If you don't know the answer, you won't get much help from the questions.

The best way to prepare for short-answer tests is to overlearn the details of the course. As you study, pay special attention to lists of related terms.

Again, it is best to start with the questions whose answers you're sure you know. Follow that by completing the questions whose answers you think you probably know. Questions whose answers you have no idea about can be left blank.

See ► **Figure 1.2** for a summary of study skills.



Study Skills Checklist

Time Management

- ☐ Make formal schedule
- ☐ Set specific goals

Study Habits

- ☐ Study in specific area
- ☐ Pace study and review
- ☐ Create memory aids
- ☐ Test yourself
- ☐ Overlearn

Reading

- ☐ Use reflective SQ4R method
- ☐ Study while reading
- ☐ Review frequently

Note Taking

- ☐ Listen actively
- ☐ Use LISAN method
- ☐ Review notes frequently

► **Figure 1.2**
Study skills checklist.

Procrastination: Don't Be Late!

All these techniques are fine. But what can I do about procrastination? **Procrastination**, the tendency to put off working on unpleasant tasks, is almost universal. (When campus workshops on procrastination are offered, many students never get around to signing up!) Even when procrastination doesn't lead to failure, it can cause much suffering (Sirois & Tosti, 2012; Wohl, Pychyl, & Bennett, 2010). Procrastinators work only under pressure, skip classes, give false reasons for late work, and feel ashamed of their last-minute efforts. They also tend to feel frustrated, bored, and guilty more often (Pychyl, 2013).

Why do so many students procrastinate? Many students equate grades with their personal worth—that is, they act as if grades tell whether they are good, smart people who will succeed in life. By procrastinating, they can blame their poor work on a late start rather than a lack of ability (Hagbin, McCaffrey, & Pychyl, 2012). After all, it wasn't their best effort, was it? Perfectionism is a related problem. If you expect the impossible, it's hard to start an assignment. Students with high standards often end up with all-or-nothing work habits (Rice, Richardson, & Clark, 2012).

While procrastination can be a real problem for students, most can improve by learning to manage time effectively, setting realistic goals, and considering their attitude toward learning. We have already discussed

general study skills, so let's consider these other strategies in a little more detail.

Time Management A **weekly time schedule** is a written plan that allocates time for study, work, and leisure activities. To prepare your schedule, make a chart showing all the hours in each day of the week. Then fill in times that are already committed: sleep, meals, classes, work, team practices, lessons, appointments, and so forth. Next, fill in times when you will study for various classes. Finally, label the remaining hours as open or free times. Each day, you can use your schedule as a checklist. That way, you'll know at a glance which tasks are done and which still need attention (Pychyl, 2013).

You may also find it valuable to make a **term schedule** that lists the dates of all quizzes, tests, reports, papers, and other major assignments for each class. The beauty of sticking to a schedule is that you know you are making an honest effort. It will also help you avoid feeling bored while you are working or guilty when you play.

Be sure to treat your study times as serious commitments, but respect your free time, too. And remember, students who study hard and practice time management *do* get better grades (Nandagopal & Ericsson, 2011).

Goal Setting As mentioned earlier, students who are reflective, active learners set **specific goals** for studying. Such goals should be clear-cut and measurable (Pychyl, 2013). If you find it hard to stay motivated, try setting goals for the semester, the week, the day, and even for single study sessions. Also, be aware that more effort early in a course can greatly reduce the stress that you might experience later. If your professors don't give frequent assignments, set your own day-by-day goals. That way, you can turn big assignments into a series of smaller tasks that you can complete. An example would be reading, studying, and reviewing eight pages a day to complete a 40-page chapter in five days. For this textbook, reading one module every day or two might be a good pace. Remember, many small steps can add up to an impressive journey.

Developing a Positive Attitude A final point to remember is that you are most likely to procrastinate if you

Procrastination The tendency to put off working on unpleasant tasks.

Weekly time schedule A written plan that allocates time for study, work, and leisure activities during a one-week period.

Term schedule A written plan that lists the dates of all major assignments for each of your classes for an entire term.

Specific goals Goals with clearly defined and measurable outcomes.

think that a task will be unpleasant. Learning can be hard work. Nevertheless, reflective students find ways to make schoolwork interesting and enjoyable (Mega, Ronconi, & De Beni, 2014). Try to approach your schoolwork as if it were a game, a sport, an adventure, or simply a way to become a better person. The best educational experiences are challenging, yet fun (Santrock & Halonen, 2013).

Virtually every topic is interesting to someone, somewhere. You may not be particularly interested in the sex life of South American tree frogs. However, a biologist might be fascinated. (Another tree frog might be, too.) If you wait for teachers to make their courses interesting, you are missing the point. Interest is a matter of *your attitude* (Sirois & Tosti, 2012).

The Whole Human: Psychology and You

There is a distinction in Zen between *live* words and *dead* words. Live words come from personal experience; dead words are about a subject. This book will be only a collection of dead words unless you accept the challenge of taking an intellectual journey. You will find many helpful, useful, and exciting ideas in the pages that follow. To make them

yours, you must set out to actively and reflectively learn as much as you can. The ideas presented here should get you off to a good start. Good luck!

For more information, consult any of the following books:

Chaffee, J. (2015). *Thinking critically* (11th ed.). Belmont, CA: Cengage Learning/Wadsworth.

Ellis, D. (2016). *The essential guide to becoming a master student* (4th ed.). Boston, MA: Cengage Learning.

Pychyl, T. A. (2013). *Solving the procrastination puzzle: A concise guide to strategies for change*. New York: Tarcher/Penguin.

Santrock, J. W., & Halonen, J. S. (2013). *Your guide to college success: Strategies for achieving your goals* (7th ed.). Belmont, CA: Cengage Learning/Wadsworth.

Van Blerkom, D. L. (2012). *College study skills: Becoming a strategic learner* (7th ed.). Belmont, CA: Cengage Learning/Wadsworth.

Wong, W. (2015). *Essential study skills* (8th ed.). Belmont, CA: Cengage Learning/Wadsworth.

MODULE

1

Summary

1.1 How can studying psychology help me in my personal and professional life?

- 1.1.1 Two broad categories of learning are learning content and learning skills.
- 1.1.2 Psychology students learn a variety of study skills, research skills, critical thinking skills, cultural awareness skills, and personal skills during their studies.
- 1.1.3 The study of psychology will prepare you for many potentially rewarding careers. Some of those exist within the field of psychology, but the skills learned in a psychology degree can also be applied to a wide range of other career paths.
- 1.1.4 Reflective learning is deliberately reflective and active self-guided study.

1.2 How can I get the most out of this textbook?

- 1.2.1 Reflective reading, which involves actively thinking about what is being read, is better than passive reading.
- 1.2.2 One way to be a more active reader is to follow the six steps of the reflective SQ4R method: survey, question, read, recite, reflect, and review.

- 1.2.3 Digital media offer another way to be more reflective.

1.3 How can I get the most out of class time?

- 1.3.1 Reflective learning in class involves active listening.
- 1.3.2 One way to be a more active listener in class is to follow the five steps of the LISAN method: lead, don't follow; ideas; signal words; actively listen; note taking.

1.4 How can I best prepare for tests?

- 1.4.1 More reflective studying involves studying in a specific place, using spaced study sessions, trying mnemonics, testing yourself, and overlearning.
- 1.4.2 A variety of guidelines are available for improving general test taking skills.
- 1.4.3 More specialized strategies are available for objective tests, essay tests, and short-answer tests.
- 1.4.4 Procrastination can be overcome through time management, setting goals, and making learning an adventure.

Knowledge Builder**The Psychology of Reflective Studying****Recite**

1. The facts you pick up during your academic studies are the most important aspect of your education. T or F?
2. Setting learning goals and monitoring your progress are important parts of _____ learning.
3. The four Rs in reflective SQ4R stand for read, recite, reflect, and review. T or F?
4. When using the LISAN method, students try to write down as much of a lecture as possible so that their notes are complete. T or F?
5. Spaced study sessions are usually superior to massed practice. T or F?
6. According to research, you should almost always stick with your first answer on multiple-choice tests. T or F?
7. To use the technique known as overlearning, you should continue to study after you feel you have mastered a topic. T or F?
8. Procrastination is related to seeking perfection and equating self-worth with grades. T or F?

Reflect**Think Critically**

9. How are the reflective SQ4R and the LISAN methods related?

Self-Reflect

Do you already use any of the reflective learning techniques discussed in the module?

What career paths are you considering? What skills do you think would be valuable in a job like that? Do you already possess these skills? If so, how might you strengthen them? If not, what kinds of experiences can you undertake during your degree to develop these skills? One of the best ways to begin answering these questions is to sit down and undertake an inventory of the skills you have learned from your psychology studies and elsewhere.

ANSWERS

1. F. 2. reflective. 3. T. 4. F. 5. T. 6. F. 7. T. 8. T. 9. Both encourage people to be reflective and to actively seek information as a way of learning more effectively.

Introducing Psychology

Psychology, Critical Thinking, and Science

The Triple Seven Quest

Only poor weather could have prevented Fiona Oakes from completing her own Triple Seven Quest: seven marathons on seven continents within seven days. Although the storm wouldn't have stopped her from running, it did prevent her from flying from Chile to Antarctica in time to complete her seventh run.

What could Fiona possibly have been thinking, you might wonder. But you might equally wonder why people get married, go skydiving, grow roses, become suicide bombers, go to college, or live out their lives in monasteries. You might even wonder why *you* do some of the things you do. In other words, the odds are that you are curious about human behavior (just like your authors). That may even be a part of the reason that you are taking a course in psychology and reading this book.

How, in general, do psychologists set out answer questions about human behavior, such as, "Why, Fiona, why?" Let's find out.



PIERRE VERDY/AFP/Getty Images

~SURVEY QUESTIONS~

2.1 What is psychology?

2.2 What is critical thinking?

2.3 How is the scientific method applied in psychological research?

Psychology—Behave!

Survey Question 2.1 What is psychology?

We humans have always been curious about humankind. Even the word *psychology* is thousands of years old, coming from the ancient Greek roots *psyche*, meaning mind, and *logos*, meaning knowledge or study. Today, psychology is both a science and a profession. As scientists, some psychologists do research to discover new knowledge. Others apply psychology to solve problems in fields such as mental health, business, education, sports, law, medicine, and the design of machines (Davey, 2011). Still others are teachers who share their knowledge with students. Later, we will

return to the profession of psychology. For now, let's focus on how psychologists answer questions in psychology.

Answering Questions in Psychology

If psychology is the study of the mind, then how can a psychologist tell me anything about my mind that I don't already know? The earliest psychologists would have agreed. After all, you are the only person who can directly observe the inner workings of your own mind, right? To answer questions about you, they would have relied upon **introspection**, the personal observation of your own thoughts, feelings,



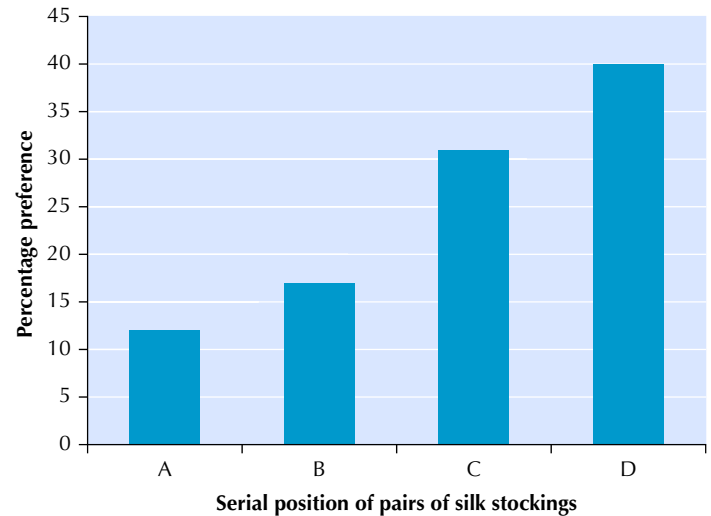
Psychologists are highly trained professionals who have specialized skills in counseling and therapy, measurement and testing, research and experimentation, statistics, diagnosis, treatment, and many other areas. Here, a psychologist tests the sensitivity of a worker's hands as part of a series of tests to determine if he has recovered from a hand injury enough to return to work.

and behavior. Stop reading, close your eyes, and carefully describe aloud your inner thoughts, feelings, and sensations. You are *introspecting*. (Introspect, Fiona, introspect!)

The Failings of Introspection: Position D, Stockings, and Murder You may be surprised to learn that introspection was abandoned years ago when psychologists realized that it was too flawed to serve as a truly scientific method (see Module 3). To begin to understand the problem, imagine that you are one of the shoppers psychologists Timothy Wilson and Richard Nisbett invited to examine four pairs of silk stockings hanging on a rack. The shoppers were asked a deceptively simple question: "Which pair is the highest quality, and why?" (Wilson & Nisbett, 1978). The results can be found in ► **Figure 2.1**. As you can see, the order in which the stockings were displayed strongly influenced which pair was chosen.

The shoppers were not told that all the stockings were objectively identical. Also, each pair appeared equally often in each of the four serial positions. This was achieved by changing the order of the four pairs before each shopper made a choice. This made it virtually impossible that the pair in position D was actually consistently of better quality.

If the shoppers were introspectively aware of the actual psychological processes that resulted in their choices, they surely would have identified serial position as a relevant factor. Amazingly, while serial position *objectively* influenced the shopper's choice, no shopper gave serial position as a



► **Figure 2.1**

The effects of serial position on preference. The four pairs of silk stockings in this experiment were labeled A, B, C, and D, from left to right. The results clearly show that the serial position of the individual pairs of stockings (that is, where each pair appeared in the "lineup") influenced shoppers' preferences. (Adapted from Wilson and Nisbett, 1978.)

subjective reason for his or her choice. Apparently, you are not always the best judge of why you behave the way you do (Wilson, 2004). That is, introspection does not always yield accurate information.

What reasons did the shoppers give? If you think about it, it *would* be odd to hear someone say, "The pair in position D are the best because they are on the far right." Apparently, not knowing exactly why they made their choice, the shoppers gave the sorts of reasons that you (and they) might expect a thoughtful shopper to give: smoothness, visual appearance, color, weave, and so on. They gave plausible but incorrect answers such as, "I chose the pair in position D because they were the sheerest and most elastic."

Wilson and Nisbett's finding is only one of hundreds of similar reports. Taken together, they indicate that much of our thinking actually takes place in the **cognitive unconscious**, the part of the mind of which we are subjectively unaware and is not open to introspection (see, e.g., Bar-Anan, Wilson, & Hassin, 2010; Nisbett & Wilson, 1977). Oddly enough, then, objective scientific methods often yield more accurate answers than subjective introspection.

Introspection Personal observation of your own thoughts, feelings, and behavior.

Cognitive unconscious The part of the mind of which we are subjectively unaware and that is not open to introspection.

We will encounter the cognitive unconscious many times during our exploration of psychology. For example, in Module 33, we explore the accuracy of police lineups. Given what you now know, just imagine being arrested on suspicion of committing a murder . . . and being assigned to position D in a four-person lineup.

Objectivity in Psychology Because introspection is not the best way to answer many psychological questions, psychologists accept that the mind can't be fully understood from a subjective viewpoint. Accordingly, **psychology** is now defined as the scientific study of behavior and mental processes (i.e., covert behavior). It is this reliance on objective scientific observation to systematically answer questions about all sorts of behaviors that distinguish psychology from many other fields, such as history, law, art, and business (Stanovich, 2013).

To what does behavior refer in the definition of psychology? Any directly observable action or response—eating, hanging out, sleeping, talking, or sneezing—is an *overt behavior*. So are studying, gambling, watching television, tying your shoes, giving someone a gift, reading this book, and, yes, extreme marathoning. But psychologists haven't left out the mind; they also objectively study *covert behaviors*. These are mental events, such as dreaming, thinking, remembering, understanding what you read, choosing stockings (or murder suspects), and other mental processes (Jackson, 2016).

But how can you study covert behaviors without relying on introspection? Progress in psychology often depends on

developing suitable objective **research methods**—systematic scientific approaches to answering particular questions. For example, at one time we had no choice but to rely upon the introspective reports of people who say they never dream. Then the electroencephalograph (EEG) was invented to measure brainwaves. Certain brainwave patterns, as well as the presence of eye movements, can objectively reveal whether a person is dreaming. People who report never dreaming, it turns out, dream frequently. Rather, they forget their dreams upon awakening. If they are awakened when the EEG and eye movement patterns indicate they are dreaming, they vividly remember the dream. Thus, the EEG helped make the study of dreaming more scientific.

Scientific Observation *People have been observing other people for centuries. Isn't psychology, by now, mostly common sense?* You may be surprised to learn how many common-sense beliefs about human behavior are false. For example, have you ever heard that some people are left-brained and some are right-brained? Or that subliminal advertising really works? Or that people prefer to receive thoughtful gifts rather than an impersonal gift, like money? It turns out that these widely held beliefs, and many others, are simply wrong (Lilienfeld et al., 2010).

But how could common sense be wrong so often? One problem with common sense is that it often depends on casual or haphazard observations. For example, has someone ever told you that people in New York City (or Mexico, or Paris, or wherever) are rude? This often means no more than that someone is relying on hearsay or had a bad encounter on one visit. It may well say nothing about those people in general.

Unlike casual observation, psychologists rely on **scientific observation**. Although both are based on gathering *empirical evidence* (information gained from direct observation), scientific observation is *systematic*, or carefully planned. Scientific observations also are *intersubjective*, which means that more than one observer can confirm them. Basically, the scientific approach says, "Let's take a more objective look" (Stanovich, 2013).

Psychologists, then, study behavior directly by systematically collecting data (observed facts) so that they can draw valid conclusions. Would you say it's true, for instance, that "the clothes make the man"? Or do you believe that "you can't judge a book by its cover"? Why argue about it? As psychologists, we simply look at some people who are well dressed and some who are not and, through scientific observation, find out who makes out better in a variety of situations.

Here's an example of gathering empirical evidence: Have you ever wondered if, when it comes to giving gifts,



AP Photo/Science Source

The scientific study of dreaming was made possible by use of the EEG, a device that records the tiny electrical signals the brain generates as a person sleeps. The EEG converts these electrical signals to a written record of brain activity. Certain shifts in brain activity, coupled with the presence of rapid eye movements, are strongly related to dreaming. (See Module 24 for more details.)