# PSYCHOLOGY

ELEVENTH EDITION

## IN MODULES

DAVID G. MYERS

C. NATHAN DEWALL

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# The Story of Psychology: A Timeline

Timeline

by Charles L. Brewer, Furman University

B.C.E.

**387** — Plato, who believed in innate ideas, suggests that the brain is the seat of mental processes.

**335** — Aristotle, who denied the existence of innate ideas, suggests that the heart is the seat of mental processes.

C.E.

**1604** — Johannes Kepler describes inverted image on the retina.

**1605** — Francis Bacon publishes *The Proficiency and Advancement of Learning*.

**1636** — Harvard College is founded.

**1637** — René Descartes, the French philosopher and mathematician who proposed mind–body interaction and the doctrine of innate ideas, publishes *A Discourse on Method*.

**1690** — John Locke, the British philosopher who rejected Descartes' notion of innate ideas and insisted that the mind at birth is a "blank slate" *(tabula rasa),* publishes *An Essay Concerning Human Understanding*, which stresses empiricism over speculation.

**1774** — Franz Mesmer, an Austrian physician, performs his first supposed cure using "animal magnetism" (later called mesmerism and hypnosis). In **1777** he was expelled from the practice of medicine in Vienna.

**1793** — Philippe Pinel releases the first mental patients from their chains at the Bicêtre Asylum in France and advocates more humane treatment of mental patients.

**1802** — Thomas Young publishes *A Theory of Color Vision* in England. (His theory was later called the trichromatic theory.)

**1808** — Franz Joseph Gall, a German physician, describes phrenology, the belief that the shape of a person's skull reveals mental faculties and character traits.

**1834** — Ernst Heinrich Weber publishes *The Sense of Touch*, in which he discusses the "just noticeable difference *(jnd)"* and what we now call Weber's law.

**1848** — Phineas Gage suffers massive brain damage when a large iron rod accidentally pierces his brain, leaving his intellect and memory intact but altering his personality.

**1859** — Charles Darwin publishes *On the Origin of Species by Means of Natural Selection*, synthesizing much previous work on the theory of evolution, including that of Herbert Spencer, who coined the phrase "survival of the fittest."

**1861** — Paul Broca, a French physician, discovers an area in the left frontal lobe of the brain (now called Broca's area) that is critical for the production of spoken language.

**1901** — Ten founders establish the British Psychological Society.

**1905** — Mary Whiton Calkins becomes the first woman president of the APA.

— Ivan Petrovich Pavlov begins publishing studies of conditioning in animals.

— Alfred Binet and Théodore Simon produce the first intelligence test for assessing the abilities and academic progress of Parisian schoolchildren.

**1913** — John B. Watson outlines the tenets of behaviorism in a *Psychological Review* article, "Psychology as the Behaviorist Views It."

**1914** — During World War I, Robert Yerkes and his staff develop a group intelligence test for evaluating U.S. military personnel, which increases the U.S. public's acceptance of psychological testing.

**1920** — Leta Stetter Hollingworth publishes *The Psychology of Subnormal Children*, an early classic. In **1921** she is cited in *American Men of Science* for her research on the psychology of women.

— Francis Cecil Sumner receives a Ph.D. degree in psychology from Clark University, becoming the first African-American to earn a psychology doctorate.

— John B. Watson and Rosalie Rayner report conditioning a fear reaction in a child called "Little Albert."

**1921** — Hermann Rorschach, a Swiss psychiatrist, introduces the Rorschach Inkblot Test.

**1923** — Developmental psychologist Jean Piaget publishes *The Language and Thought of the Child*.

**1924** — Mary Cover Jones reports reconditioning a fear reaction in a child (Peter), a forerunner of systematic desensitization developed by Joseph Wolpe.

**1927** — In *Introduction to the Technique of Child Analysis*, Anna Freud discusses psychoanalysis in the treatment of children.

**1929** — Wolfgang Köhler publishes *Gestalt Psychology*, which criticizes behaviorism and outlines essential elements of the gestalt position and approach.

**1931** — Margaret Floy Washburn becomes the first female psychologist (and the second female scientist in any discipline) elected to the U.S. National Academy of Sciences.

**1932** — In *The Wisdom of the Body*, Walter B. Cannon coins the term *homeostasis*, discusses the fight-or-flight response, and identifies hormonal changes associated with stress.

**1869**— Francis Galton, Charles Darwin's cousin, publishes *Hereditary Genius*, in which he claims that intelligence is inherited. In **1876** he coins the expression "nature and nurture" to correspond with "heredity and environment."

**1874**— Carl Wernicke, a German neurologist and psychiatrist, shows that damage to a specific area in the left temporal lobe (now called Wernicke's area) disrupts ability to comprehend or produce spoken or written language.

**1878**— G. Stanley Hall receives from Harvard University's Department of Philosophy the first U.S. Ph.D. degree based on psychological research.

**1879**— Wilhelm Wundt establishes at the University of Leipzig, Germany, the first psychology laboratory, which becomes a mecca for psychology students from all over the world.

**1883**— G. Stanley Hall, student of Wilhelm Wundt, establishes the first formal U.S. psychology laboratory at Johns Hopkins University.

**1885**— Hermann Ebbinghaus publishes *On Memory*, summarizing his extensive research on learning and memory, including the "forgetting curve."

**1886**— Joseph Jastrow receives from Johns Hopkins University the first Ph.D. degree in psychology awarded by a Department of Psychology in the United States.

**1889**— Alfred Binet and Henri Beaunis establish the first psychology laboratory in France at the Sorbonne, and the first International Congress of Psychology meets in Paris.

**1890**— William James, Harvard University philosopher and psychologist, publishes *The Principles of Psychology*, describing psychology as "the science of mental life."

**1891**— James Mark Baldwin establishes the first psychology laboratory in the British Commonwealth at the University of Toronto.

**1892**— G. Stanley Hall spearheads the founding of the American Psychological Association (APA) and becomes its first president.

**1893**— Mary Whiton Calkins and Christine Ladd-Franklin are the first women elected to membership in the APA.

**1894**— Margaret Floy Washburn is the first woman to receive a Ph.D. degree in psychology (Cornell University).

— Harvard University denies Mary Whiton Calkins admission to doctoral candidacy because of her gender, despite Hugo Münsterberg's claim that she was the best student he had ever had there.

**1896**— John Dewey publishes "The Reflex Arc Concept in Psychology," helping to formalize the school of psychology called functionalism.

**1898**— In *Animal Intelligence,* Edward L. Thorndike, Columbia University, describes his learning experiments with cats in "puzzle boxes." In **1905,** he proposes the "law of effect."

**1900**— Sigmund Freud publishes *The Interpretation of Dreams*, his major theoretical work on psychoanalysis.

**1933**— Inez Beverly Prosser becomes the first African-American woman to receive a doctoral degree in psychology from a U.S. institution (Ph.D., University of Cincinnati).

**1935**— Christiana Morgan and Henry Murray introduce the Thematic Apperception Test to elicit fantasies from people undergoing psychoanalysis.

**1936**— Egas Moniz, a Portuguese physician, publishes work on the first frontal lobotomies performed on humans.

**1938**— B. F. Skinner publishes *The Behavior of Organisms*, which describes operant conditioning of animals.

— In *Primary Mental Abilities*, Louis L. Thurstone proposes seven such abilities.

— Ugo Cerletti and Lucio Bini use electroshock treatment with a human patient.

**1939**— David Wechsler publishes the Wechsler–Bellevue intelligence test, forerunner of the Wechsler Intelligence Scale for Children (WISC) and the Wechsler Adult Intelligence Scale (WAIS).

— Mamie Phipps Clark receives a master's degree from Howard University. In collaboration with Kenneth B. Clark, she later extends her thesis, "The Development of Consciousness of Self in Negro Preschool Children," providing joint research cited in the U.S. Supreme Court's **1954** decision to end racial segregation in public schools.

— Edward Alexander Bott helps found the Canadian Psychological Association. He becomes its first president in **1940.**

— World War II provides many opportunities for psychologists to enhance the popularity and influence of psychology, especially in applied areas.

**1943**— Psychologist Starke Hathaway and physician J. Charnley McKinley publish the Minnesota Multiphasic Personality Inventory (MMPI).

**1945**— Karen Horney, who criticized Freud's theory of female sexual development, publishes *Our Inner Conflicts*.

**1946**— Benjamin Spock's first edition of *The Commonsense Book of Baby and Child Care* appears; the book will influence child raising in North America for several decades.

**1948**— Alfred Kinsey and his colleagues publish *Sexual Behavior in the Human Male*, and they publish *Sexual Behavior in the Human Female* in **1953.**

— B. F. Skinner's novel, *Walden Two*, describes a Utopian community based on positive reinforcement, which becomes a clarion call for applying psychological principles in everyday living, especially communal living.

— Ernest R. Hilgard publishes *Theories of Learning*, which was required reading for several generations of psychology students in North America.

**1949**— Raymond B. Cattell publishes the Sixteen Personality Factor Questionnaire (16PF).

***Continued on inside back cover***

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For Danielle Baker, in celebration of
your becoming part of our family

To Charles K. DeWall,
tireless educator, delightful dad, and
consummate artist

# About the Authors

Hope College Public Relations

David Myers received his psychology Ph.D. from the University of Iowa. He has spent his career at Hope College in Michigan, where he has taught dozens of introductory psychology sections. Hope College students have invited him to be their commencement speaker and voted him "outstanding professor."

His research and writings have been recognized by the Gordon Allport Intergroup Relations Prize, by a 2010 Honored Scientist award from the Federation of Associations in Behavioral & Brain Sciences, by a 2010 Award for Service on Behalf of Personality and Social Psychology, by a 2013 Presidential Citation from APA Division 2, and by three honorary doctorates.

With support from National Science Foundation grants, Myers' scientific articles have appeared in three dozen scientific periodicals, including *Science, American Scientist, Psychological Science,* and the *American Psychologist.* In addition to his scholarly writing and his textbooks for introductory and social psychology, he also digests psychological science for the general public. His writings have appeared in four dozen magazines, from *Today's Education* to *Scientific American*. He also has authored five general audience books, including *The Pursuit of Happiness* and *Intuition: Its Powers and Perils.*

David Myers has chaired his city's Human Relations Commission, helped found a thriving assistance center for families in poverty, and spoken to hundreds of college and community groups. Drawing on his experience, he also has written articles and a book *(A Quiet World)* about hearing loss, and he is advocating a transformation in American assistive listening technology (see www.hearingloop.org). For his leadership, he received an American Academy of Audiology Presidential Award in 2011, and the Hearing Loss Association of America Walter T. Ridder Award in 2012.

He bikes to work year-round and plays regular pickup basketball. David and Carol Myers have raised two sons and a daughter, and have one granddaughter.

Nathan DeWall is professor of psychology and director of the Social Psychology Lab at the University of Kentucky. He received his bachelor's degree from St. Olaf College, a master's degree in social science from the University of Chicago, and a master's degree and Ph.D. in social psychology from Florida State University. DeWall received the 2011 College of Arts and Sciences Outstanding Teaching Award, which recognizes excellence in undergraduate and graduate teaching. In 2011, the Association for Psychological Science identified DeWall as a "Rising Star" for "making significant contributions to the field of psychological science."

Brian Connors Manke

DeWall conducts research on close relationships, self-control, and aggression. With funding from the National Institutes of Health and the National Science Foundation, he has published over 140 scientific articles and chapters. DeWall's research awards include the SAGE Young Scholars Award from the Foundation for Personality and Social Psychology, the Young Investigator Award from the International Society for Research on Aggression, and the Early Career Award from the International Society for Self and Identity. His research has been covered by numerous media outlets, including *Good Morning America, Wall Street Journal, Newsweek, Atlantic Monthly, New York Times, Los Angeles Times, Harvard Business Review, USA Today,* and National Public Radio. DeWall blogs for *Psychology Today.* He has lectured nationally and internationally, including in Hong Kong, China, the Netherlands, England, Greece, Hungary, Sweden, and Australia.

Nathan is happily married to Alice DeWall. He enjoys playing with his two golden retrievers, Finnegan and Atticus. In his spare time, he writes novels, watches sports, and runs and runs and runs—including in 2014 two 50-kilometer ultramarathons, one 60-kilometer ultramarathon, a 75-mile run through the Mojave Desert, and three 100-mile ultramarathons.

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# PREFACE

In the thirty-two years since Worth Publishers invited me (David Myers) to write this book, so much has changed in the world, in psychology, and within the covers of this book across its eleven editions. With this edition, I continue as lead author while beginning a gradual, decade-long process of welcoming a successor author, the award-winning teacher-scholar-writer, Nathan DeWall.

Yet across these three decades of *Psychology* there has also been a stability of purpose: *to merge rigorous science with a broad human perspective that engages both mind and heart.* We aim to offer a state-of-the-art introduction to psychological science that speaks to students' needs and interests. We aspire to help students understand and appreciate the wonders of their everyday lives. And we seek to convey the inquisitive spirit with which psychologists *do* psychology.

We are enthusiastic about psychology and its applicability to our lives. Psychological science has the potential to expand our minds and enlarge our hearts. By studying and applying its tools, ideas, and insights, we can supplement our intuition with critical thinking, restrain our judgmentalism with compassion, and replace our illusions with understanding. By the time students complete this guided tour of psychology, they will also, we hope, have a deeper understanding of our moods and memories, about the reach of our unconscious, about how we flourish and struggle, about how we perceive our physical and social worlds, and about how our biology and culture in turn shape us. (See **TABLES 1** and **2**.)

Believing with Thoreau that "anything living is easily and naturally expressed in popular language," we seek to communicate psychology's scholarship with crisp narrative and

▼ TABLE 1

## Evolutionary Psychology and Behavior Genetics

| In addition to the coverage found in Module 12, the **evolutionary perspective** is covered on the following pages: | | In addition to the coverage found in Module 11, **behavior genetics** is covered on the following pages: | |
|---|---|---|---|
| Aging, p. 215 | Hunger and taste preference, p. 428 | Abuse, intergenerational transmission of, p. 311 | Obesity and weight control, pp. 430–432 |
| Anxiety disorders, pp. 626–627 | Instincts, p. 420 | Adaptability, p. 74 | Parenting styles, p. 202 |
| Biological predispositions: | Intelligence, pp. 386, 393, 409–413 | Aggression, pp. 545–550 | Perception, pp. 254–255 |
| in learning, pp. 300–306 | Language, pp. 370–371, 373–375 | intergenerational transmission of, p. 311 | Personality, p. lv |
| in operant conditioning, pp. 303–306 | Love, pp. 220–221 | Autism spectrum disorder, pp. 192–195 | Personality traits, pp. 587–594 |
| Brainstem, pp. 69–70 | Math and spatial ability, p. 410 | Behavior genetics perspective, p. 10 | Psychological disorders and: |
| Consciousness, p. 92 | Mating preferences, pp. 148–149 | Biological perspective, pp. 52–53 | ADHD, p. 615 |
| Darwin, Charles, pp. 6, 144–146 | Menopause, p. 214 | Brain plasticity, pp. 81–82 | anxiety disorders, pp. 625–627 |
| Depression and light exposure therapy, p. 678 | Need to belong, p. 448 | Continuity and stages, p. 178 | biopsychosocial approach, pp. 612–613 |
| Emotion, effects of facial expressions and, p. 474 | Obesity, p. 430 | Deprivation of attachment, pp. 199–201 | bipolar disorder and depressive disorders, pp. 631–634 |
| Emotional expression, pp. 472–473 | Overconfidence, pp. 360–361 | Depth perception, p. 249 | depression, pp. 628, 631–634 |
| Evolutionary perspective, defined, pp. 9–10 | Perceptual adaptation, pp. 254–255 | Development, pp. 181–182 | personality disorders, pp. 649–651 |
| Exercise, pp. 507–508 | Puberty, onset of, p. 204 | Drives and incentives, pp. 420–421 | posttraumatic stress disorder, pp. 623–627 |
| Fear, pp. 362–363 | Sensation, p. 230 | Drug dependence, p. 128 | schizophrenia, pp. 641–645 |
| Feature detection, pp. 244–245 | Sensory adaptation, pp. 234–235 | Drug use, pp. 127–128 | violent behavior, p. 616 |
| Hearing, p. 256 | Sexual orientation, pp. 443–446 | Eating disorders, p. 652 | Reward deficiency syndrome, p. 73 |
| | Sexuality, pp. 147–150, 433 | Epigenetics, pp. 182, 612, 634, 644 | Romantic love, p. 220 |
| | Sleep, p. 105 | Happiness, pp. 479–481, 483–486 | Sexual disorders, pp. 435–436 |
| | Smell, pp. 266–267 | Hunger and taste preference, pp. 428–429 | Sexual orientation, pp. 443–446 |
| | Taste, p. 266 | Intelligence: | Sexuality, pp. 433–434 |
| | | Down syndrome, p. 403 | Sleep patterns, p. 104 |
| | | genetic and environmental influences, pp. 405–415 | Smell, pp. 266–268 |
| | | Learning, pp. 300–303 | Stress, personality, and illness, pp. 496–499 |
| | | Motor development, p. 185 | benefits of exercise, pp. 507–509 |
| | | Nature-nurture, p. 6 | Traits, pp. 394, 409 |
| | | twins, p. 7 | |

▼ TABLE 2
## Neuroscience

In addition to the coverage found in Modules 5–7, **neuroscience** can be found on the following pages:


Aggression, pp. 545–546
Aging: physical exercise and the brain, p. 216
Animal language, pp. 367–368
Antisocial personality disorder, pp. 649–651
Arousal, pp. 437–438
Attention deficit/hyperactivity disorder (ADHD) and the brain, p. 615
Autism spectrum disorder, pp. 192–195
Automatic prejudice: amygdala, pp. 539–540
Biofeedback, p. 509
Biopsychosocial approach, p. 9
  aggression, p. 547
  aging, pp. 224, 339
  dementia and Alzheimer's, pp. 218–219, 333
  development, pp. 170–172
  dreams, pp. 112–116
  drug use, pp. 128–129
  emotion, pp. 204–205, 331–332, 461–467, 470–471
  learning, pp. 300–305
  pain, pp. 262–263
  personality, pp. 594–596
  psychological disorders, p. 612
  sleep, pp. 100–105
  therapeutic lifestyle change, pp. 688–689
Brain development:
  adolescence, pp. 204–205
  experience and, pp. 152–153
  infancy and childhood, pp. 184–185
  sexual differentiation in utero, p. 165
Brain stimulation therapies, pp. 685–687
Cognitive neuroscience, pp. 5, 93
Drug dependence, pp. 128–129
Dual-processing, pp. 93–94
Emotion and cognition, pp. 460–464
Fear-learning, p. 626
Fetal alcohol syndrome and brain abnormalities, p. 182
Hallucinations, pp. 124–126
  and near-death experiences, p. 124
  and schizophrenia, pp. 640, 642
  and sleep, p. 102
Hormones and:
  abuse, pp. 200–201
  appetite, pp. 426–427
  development, p. 165
    in adolescents, pp. 167, 140–141, 205–205
    of sexual characteristics, pp. 167, 204–205
  emotion, pp. 464–465
  gender, pp. 165–167
  sex, pp. 165–167, 433–434
  sexual behavior, pp. 433–434
  stress, pp. 464–465, 491–494, 506
  weight control, pp. 426–427
Hunger, pp. 424–427
Insight, pp. 357–358
Intelligence, pp. 386–388
  creativity, pp. 365–367
  twins, pp. 406–407
Language, pp. 370, 376–377
  and deafness, pp. 374–376
  and thinking in images, pp. 381–382
Light-exposure therapy: brain scans, p. 678
Meditation, pp. 509–511
Memory:
  emotional memories, pp. 331–332
  explicit memories, pp. 329–330
  implicit memories, p. 330
  physical storage of, pp. 328–333
  and sleep, p. 106
  and synaptic changes, pp. 332–333
Mirror neurons, pp. 307–309
Neuroscience perspective, defined, pp. 9–10
Neurotransmitters and:
  anxiety disorders, pp. 626, 682–683
  biomedical therapy:
    depression, pp. 633–634
    ECT, pp. 685–686
    schizophrenia, pp. 642, 682
  child abuse, p. 200
  cognitive-behavioral therapy: obsessive-compulsive disorder, pp. 669–670
  depression, pp. 633–634, 683–684
  drugs, pp. 119, 122–123
  exercise, p. 509
  narcolepsy, pp. 110–111
  schizophrenia, pp. 642–645
Observational learning and brain imaging, p. 306
Optimum arousal: brain mechanisms for rewards, pp. 421–422
Orgasm, pp. 435, 438
Pain, pp. 261–263
  experienced and imagined pain, p. 309
  phantom limb pain, p. 262
  virtual reality, p. 264
Parallel vs. serial processing, pp. 246–247
Perception:
  brain damage and, p. 246
  color vision, pp. 243–244
  feature detection, pp. 244–245
  transduction, p. 230
  visual information processing, pp. 241–246
Perceptual organization, pp. 247–250
Personality and brain-imaging, p. 587
Posttraumatic stress disorder (PTSD) and the limbic system, pp. 623–624
Psychosurgery: lobotomy, pp. 687–688
Schizophrenia and brain abnormalities, pp. 642–645
Sensation:
  body position and movement, p. 269
  deafness, pp. 257–259
  hearing, pp. 256–259
  sensory adaptation, pp. 234–235
  smell, pp. 266–268
  taste, p. 266
  touch, p. 261
  vision, pp. 239–255
Sexual orientation, pp. 443–445
Sleep:
  cognitive development and, pp. 114–115
  memory and, p. 106
  recuperation during, p. 105
Smell and emotion, pp. 268–269
Unconscious mind, pp. 580–581


vivid storytelling. We hope to tell psychology's story in a way that is warmly personal as well as rigorously scientific. We love to reflect on connections between psychology and other realms, such as literature, philosophy, history, sports, religion, politics, and popular culture. And we love to provoke thought, to play with words, and to laugh. For his pioneering 1890 *Principles of Psychology*, William James sought "humor and pathos." And so do we.

We are grateful for the privilege of assisting with the teaching of this mind-expanding discipline to so many students, in so many countries, through so many different languages. To be entrusted with discerning and communicating psychology's insights is both an exciting honor and a great responsibility.

Creating this book is a team sport. Like so many human achievements, it reflects a collective intelligence. Woodrow Wilson spoke for us: "I not only use all the brains I have, but all I can borrow." The thousands of instructors and millions of students across the globe who have taught or studied with this book have contributed immensely to its development. Much of this contribution has occurred spontaneously, through correspondence and conversations. And we look forward to continuing feedback as we strive, over future editions, to create an ever better book and teaching package.

# New Co-Author

For this new edition I [DM] welcome my new co-author, University of Kentucky professor Nathan DeWall. (For more information and videos that introduce Nathan DeWall and our collaboration, see www.macmillanhighered.com/dewallvideos.) Nathan is not only one of psychology's "rising stars" (as the Association for Psychological Science rightly said in 2011), he also is an award-winning teacher and someone who shares my passion for writing—and for communicating psychological science through writing. Although I continue as lead author, Nathan's fresh insights and contributions are already enriching this book, especially for this eleventh edition, through his leading the revision of Modules 11–13, 37–41, 46–48, and 49–53. But my fingerprints are also on those modules' revisions, even as his are on the other modules. With support from our wonderful editors, this is a team project. In addition to our work together on the textbook, Nathan and I enjoy co-authoring the monthly Teaching Current Directions in Psychological Science column in the *APS Observer*, and we blog at www.talkpsych.com, where we share exciting new findings, everyday applications, and observations on all things psychology.

www.TalkPsych.com

# Why a Modular Book?

This 56-module text has been a wish come true for me [DM]. It breaks out of the box by restructuring the material into a buffet of (a) short, digestible chapters (called modules) that (b) can be selected and assigned in any order.

Have we not all heard the familiar student complaint: "The chapters are too long!" A text's typical 30- to 50-page chapters cannot be read in a single sitting before the eyes grow weary and the mind wanders. So, why not parse the material into readable units? Ask your students whether they would prefer a 700-page book to be organized as fourteen 50-page chapters or as fifty 14-page chapters. You may be surprised at their overwhelming support for shorter chapters. Indeed, students digest material better when they process it in smaller chunks—as spaced rather than massed practice.

I have equally often heard from instructors bemoaning the fact that they "just can't get to everything" in the book. Sometimes instructors want to cover certain sections in a traditional, long chapter but not others. For example, in the typical Consciousness chapter, someone may want to cover Sleep and Dreams but not Drugs. In *Psychology, Eleventh Edition in Modules*, instructors could easily choose to cover Module 9, Sleep and Dreams, but not Module 10, Drugs and Consciousness.

# How Is This Different From *Psychology,* Eleventh Edition?

The primary differences between this book and *Psychology,* eleventh edition, are organization and module independence.

## Organization

This book really IS *Psychology,* eleventh edition—just in a different format. So, this modular version contains all the updated research and innovative new coverage from *Psychology,* eleventh edition. This version offers the same content from *Psychology,* eleventh edition's 16 chapters parsed instead into 56 modules.

## The Modules Are Independent

Each module in this book is self-standing rather than dependent upon the others for understanding. Cross-references to other parts of the book have been replaced with brief explanations. In some cases, illustrations or key terms are repeated to avoid possible confusion. No assumptions are made about what students have read prior to each module. This independence gives instructors ultimate flexibility in deciding which modules to use, and in what order. Connections among psychology's subfields and findings are still made—they are just made in a way that does not assume knowledge of other parts of the book.

# What Else Is New Since *Psychology, Tenth Edition in Modules?*

This eleventh edition is the most carefully reworked and extensively updated of all the revisions to date. This new edition features improvements to the organization and presentation, especially to our system of supporting student learning and remembering. And we offer the exciting new **How Would You Know?** feature in LaunchPad, engaging students in the scientific process.

## "How Would You Know?" Research Activities

These online activities engage students in the scientific process, showing them how psychological research begins with a question, and how key decision points can alter the meaning and value of a psychological study. In a fun, interactive environment, students learn about important aspects of research design and interpretation. I [ND] have enjoyed taking the lead on this project and sharing my research experience and enthusiasm with students.

## EXPANDED Study System Follows Best Practices From Learning and Memory Research

The improved learning system harnesses the *testing effect*, which documents the benefits of actively retrieving information through self-testing (**FIGURE 1**). Thus, each module offers several Retrieval Practice questions interspersed throughout. Creating these *desirable difficulties* for students along the way optimizes the testing effect, as does *immediate feedback* (via an inverted answer beneath each question).

In addition, each section of text begins with numbered questions that establish *learning objectives* and direct student reading. A *Review* section follows each module, providing students an opportunity to practice rehearsing what they've just learned. The Review offers self-testing through repeated learning objective questions (with answers for checking in the Complete Module Reviews Appendix), along with a page-referenced list of key terms. At the end of each unit of modules, new *Test Yourself* questions in multiple formats promote optimal retention.

▼ FIGURE 1
**How to learn and remember**
For a 5-minute animated guide to more effective study, visit www.tinyurl.com/HowToRemember.

## Over 1200 New Research Citations

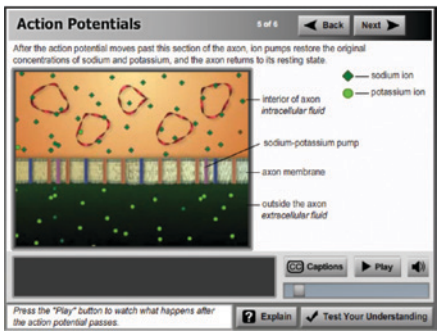
Our ongoing scrutiny of dozens of scientific periodicals and science news sources, enhanced by commissioned reviews and countless e-mails from instructors and students, enables integrating our field's most important, thought-provoking, and

▼ TABLE 3
**Positive Psychology**

Coverage of **positive psychology** topics can be found in the following modules:

| Topic | Module |
|---|---|
| Altruism/Compassion | 16, 29, 45, 47, 55 |
| Coping | 41 |
| Courage | 43, 45 |
| Creativity | 27, 29, 47 |
| Emotional intelligence | 29, 45 |
| Empathy | 15, 23, 38, 43, 54, 55 |
| Flow | Appendix A |
| Gratitude | 41, 45 |
| Happiness/Life Satisfaction | 17, 33, 36, 39, 41 |
| Humility | 2 |
| Humor | 41, 43 |
| Justice | 43 |
| Leadership | 45, 47, 48, Appendix A |
| Love | 12, 15, 17, 33, 36, 39, 45, 47, 54 |
| Morality | 14, 16 |
| Optimism | 41, 48 |
| Personal control | 41 |
| Resilience | 17, 39, 43, 56 |
| Self-discipline | 16, 36, 47 |
| Self-efficacy | 39, 48 |
| Self-esteem | 33, 36, 39, 48 |
| Spirituality | 41, 43 |
| Toughness (grit) | 29, 36 |
| Wisdom | 8, 15, 27, 45, 47 |

▼ FIGURE 2
**Sample LaunchPad callout from Module 5.**




student-relevant new discoveries. Part of the pleasure that sustains this work is learning something new every day! See p. xxxvi for a list of significant **Content Changes** to this edition.

## Reorganized Modules

In addition to the new study aids and updated coverage, we've introduced the following organizational changes:

- Module 1, What Is Psychology?, now has a clearer organization and greater emphasis on modern approaches, including Cross-Cultural and Gender Psychology, and new coverage of Positive Psychology (see also **TABLE 3**).
- Module 3, Research Strategies, now offers greater emphasis on Psychology's Research Ethics.
- Hypnosis is now covered in the Pain discussion in Module 20, The Nonvisual Senses (moved from the Consciousness modules).
- The Motivation and Work modules have been re-titled What Drives Us: Hunger, Sex, Friendship, and Achievement, with the Psychology at Work discussion moving to its own Appendix.
- The Social Psychology modules now follow the Personality modules.

## Dedicated Versions of Next-Generation Media

This eleventh edition is accompanied by the new **LaunchPad,** with carefully crafted, prebuilt assignments, **LearningCurve** formative assessment activities, **How Would You Know?** activities, and **Assess Your Strengths** projects. This system also incorporates the full range of Worth's psychology media products. (For details, see p. xxvi and www.macmillanhighered.com/launchpad/myers11einmodules.)

For this new edition, you will see that we've offered callouts from the text pages to especially pertinent, helpful resources from LaunchPad. (See **FIGURE 2** for a sample.)

LaunchPad For an animated explanation of this process, visit LaunchPad's ***Concept Practice: Action Potentials.***

# What Continues?

## Eight Guiding Principles

Despite all the exciting changes, this new edition retains its predecessors' voice, as well as much of the content and organization. It also retains the goals—the guiding principles—that have animated the previous ten editions:

### Facilitating the Learning Experience

1. **To teach critical thinking** By presenting research as intellectual detective work, we illustrate an inquiring, analytical mind-set. Whether students are studying development, cognition, or social behavior, they will become involved in, and see

the rewards of, critical reasoning. Moreover, they will discover how an empirical approach can help them evaluate competing ideas and claims for highly publicized phenomena—ranging from ESP and alternative therapies to group differences in intelligence and repressed and recovered memories.

2. **To integrate principles and applications** Throughout—by means of anecdotes, case histories, and the posing of hypothetical situations—we relate the findings of basic research to their applications and implications. Where psychology can illuminate pressing human issues—be they racism and sexism, health and happiness, or violence and war—we have not hesitated to shine its light.
3. **To reinforce learning at every step** Everyday examples and rhetorical questions encourage students to process the material actively. Concepts presented earlier are frequently applied, and reinforced. For instance, in Module 2, students learn that much of our information processing occurs outside of our conscious awareness. Ensuing modules drive home this concept. Numbered Learning Objective Questions at the beginning of main sections, Retrieval Practice self-tests throughout each module, Reviews at the end of each module, a marginal glossary, and Test Yourself questions at the end of each unit of modules help students learn and retain important concepts and terminology.

## Demonstrating the Science of Psychology

4. **To exemplify the process of inquiry** We strive to show students not just the outcome of research, but how the research process works. Throughout, the book tries to excite the reader's curiosity. It invites readers to imagine themselves as participants in classic experiments. Several modules introduce research stories as mysteries that progressively unravel as one clue after another falls into place. Our new "How Would You Know?" activities in LaunchPad encourage students to think about research questions and how they may be studied effectively.
5. **To be as up to date as possible** Few things dampen students' interest as quickly as the sense that they are reading stale news. While retaining psychology's classic studies and concepts, we also present the discipline's most important recent developments. In this edition, 867 references are dated 2012–2014. Likewise, new photos and everyday examples are drawn from today's world.
6. **To put facts in the service of concepts** Our intention is not to fill students' intellectual file drawers with facts, but to reveal psychology's major concepts—to teach students how to think, and to offer psychological ideas worth thinking about. In each module, we place emphasis on those concepts we hope students will carry with them long after they complete the course. Always, we try to follow Albert Einstein's purported dictum that "everything should be made as simple as possible, but not simpler." Learning Objective Questions and Retrieval Practice questions throughout each module help students learn and retain the key concepts.

## Promoting Big Ideas and Broadened Horizons

7. **To enhance comprehension by providing continuity** We often present concepts with a significant issue or theme that links subtopics, forming a thread that ties ideas together. For Learning, we convey the idea that bold thinkers can serve as intellectual pioneers. For Thinking and Language, we raise the issue of human rationality and irrationality. In Psychological Disorders, we convey empathy for, and understanding of, troubled lives. Other threads, such as cognitive neuroscience, dual processing, and cultural and gender diversity, weave throughout the whole book, and students hear a consistent voice.

8. **To convey respect for human unity and diversity** Throughout the book, readers will see evidence of our human kinship—our shared biological heritage, our common mechanisms of seeing and learning, hungering and feeling, loving and hating. They will also better understand the dimensions of our diversity—our individual diversity in development and aptitudes, temperament and personality, and disorder and health; and our cultural diversity in attitudes and expressive styles, child raising and care for the elderly, and life priorities.

## Continually Improving Cultural and Gender Diversity Coverage

Discussion of the relevance of cultural and gender diversity begins on the first page and continues throughout the text.

This edition presents an even more thoroughly cross-cultural perspective on psychology (**TABLE 4**)—reflected in research findings and in text and photo examples. Cross-cultural and gender psychology are now given greater visibility with enhanced coverage

▼ TABLE 4
### Culture and Multicultural Experience

Coverage of **culture and multicultural experience** can be found on the following pages:


Aggression, pp. 546–550
  and video games, pp. 312-313, 549
Aging population, pp. 214–215
AIDS, p. 495
Anger, pp. 477–478
Animal research ethics, p. 40
Attraction: love and marriage, pp. 557–558
Attractiveness, pp. 147–149, 551–552, 554–555
Attribution: political effects of, p. 519
Behavioral effects of culture, pp. 7, 141
Body ideal, p. 652
Body image, p. 652
Categorization, p. 356
Conformity, p. 527
Corporal punishment practices, pp. 295–296
Culture:
  context effects, p. 237
  definition, pp. 155–156
  variation over time, pp. 156–157
Cultural norms, pp. 156, 171–172
Culture and the self, pp. 157–160
Culture shock, p. 156
Deaf culture, pp. 81, 85, 372–375
Development:
  adolescence, pp. 203–204
  attachment, pp. 199–200
  child raising, pp. 160–161
  cognitive development, p. 192
  moral development, pp. 206–208
  parenting styles, p. 202
  social development, pp. 197–199
Drug use, pp. 128–129
Emotion:
  emotion-detecting ability, pp. 468–469
  expressing, pp. 468–475
Enemy perceptions, pp. 563–564
Fear, p. 363
Flow, p. A-1
Fundamental attribution error, pp. 518–519
Gender:
  cultural norms, p. 161, 167–168
  roles, pp. 167–168
  social power, pp. 162–163
Grief, expressing, p. 225
Happiness, pp. 480, 482, 484–486
Hindsight bias, pp. 20–21
History of psychology, pp. 2–9
Homosexuality, views on, p. 440
Human diversity/kinship, pp. 40, 155–161
Identity: forming social, pp. 209–210
Individualism/collectivism, p. 159
Intelligence, pp. 386, 410–413
  and nutrition, pp. 408–409, 412
  bias, pp. 413–414
  Down syndrome, pp. 403–404
Language, pp. 155, 371–372, 379–381
  critical periods, p. 374
  monolingual/bilingual, pp. 379–381
  universal grammar, pp. 373–374
Leaving the nest, p. 212
Life satisfaction, pp. 480, 482–486
Life span and well-being, p. 223
Management styles, p. A-13
Marriage, pp. 220–221
Memory, encoding, pp. 324–325
Menopause, p. 214
Mental illness rate, pp. 617–618
Motivating achievement, p. A-8
Motivation: hierarchy of needs, pp. 422–423
Need to belong, pp. 448–450
Neurotransmitters: curare, p. 59
Obesity, pp. 430–432
Observational learning: television and aggression, pp. 312–313
Organ donation, pp. 362–363
Pace of life, pp. 30, 156
Pain: perception of, p. 263
Parent and peer relationships, pp. 210–211
Participative management, p. A-12-A-13
Peacemaking:
  conciliation, p. 567
  contact, pp. 564–565
  cooperation, pp. 565–566
Peer influence, pp. 154–155
Personal control: democracies, p. 502
Power of individuals, p. 536
Prejudice, pp. 37, 41, 538–545
  "missing women," p. 540
Prejudice prototypes, p. 356
Psychological disorders:
  cultural norms, pp. 610–611
  dissociative identity disorder, p. 648
  eating disorders, pp. 612, 652
  schizophrenia, pp. 612, 641–644
  suicide, pp. 637–638
  *susto,* p. 612
  *taijin-kyofusho,* p. 612
Psychotherapy:
  culture and values in, p. 680
  EMDR training, p. 677
Puberty and adult independence, p. 212
Self-esteem, p. 485
Self-serving bias, pp. 602–603
Sex drive, p. 147
Sexual orientation, pp. 440–441
Similarities, pp. 145–146
Sleep patterns, p. 104
Social clock, p. 220
Social loafing, p. 533
Social networking, pp. 451–453
Social-cultural perspective, pp. 9–10
Spirituality: Israeli kibbutz communities, pp. 512–513
Stress:
  adjusting to a new culture, p. 490
  health consequences, pp. 490–491, 495, 497–498
  racism and, p. 490
Taste preferences, p. 428
Teen sexuality, pp. 438–439
Testing bias, pp. 414–415
Weight control, p. 429


See also Modules 42–45: Social Thinking, Social Influence, Antisocial Relations, and Prosocial Relations.

moved to Module 1. There is focused coverage of culture and the psychology of women and men in Module 13, Culture, Gender, and Other Environmental Influences, with thoroughly integrated coverage throughout the text (see **TABLE 5**). In addition, we are working to offer a world-based psychology for our worldwide student readership. We continually search the world for research findings and text and photo examples, conscious that readers may be in Sydney, Seattle, or Singapore. Although we reside in the United States, we travel abroad regularly and maintain contact with colleagues in Canada, Britain, China, and many other places; and subscribe to European periodicals. Thus, each new edition offers a broad, world-based perspective, and includes research from around the world. We are all citizens of a shrinking world, so American students, too, benefit from information and examples that internationalize their world-consciousness. And if psychology seeks to explain *human* behavior (not just American or Canadian or Australian behavior), the broader the scope of studies presented, the more accurate is our picture of this world's people. Our aim is to expose all students to the world beyond their own culture, and we continue to welcome input and suggestions from all readers.

▼ TABLE 5
## The Psychology of Men and Women

Coverage of the **psychology of men and women** can be found on the following pages:

- Absolute thresholds, pp. 231–232
- ADHD, p. 615
- Adulthood: physical changes, pp. 214–215
- Aggression, pp. 545–546
  - father absence, p. 548
  - pornography, pp. 548–549
  - rape, pp. 548–549
- Alcohol:
  - and addiction, p. 120
  - and sexual aggression, p. 119
  - use, pp. 119–120
- Altruism, p. 560
- Androgyny, p. 169
- Antisocial personality disorder, pp. 650–651
- Attraction, pp. 551–556
- Autism spectrum disorder, pp. 193–194
- Biological predispositions in color perceptions, pp. 302–303
- Biological sex/gender, pp. 165–167
- Bipolar disorder, pp. 629–630
- Body image, p. 652
- Color vision, p. 243
- Conformity/obedience, p. 528
- Dating, pp. 552–553
- Depression, pp. 631–632
  - learned helplessness, p. 635
- Dream content, p. 112
- Drug use:
  - biological influences, p. 127
  - psychological/social-cultural influences, pp. 128–129
- Eating disorders, pp. 651–653
- Emotion-detecting ability, pp. 470–471
- Empty nest, p. 222
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- Father presence, p. 439
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- Prejudice, p. 356
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- PTSD: development of, pp. 623–624
- Rape, p. 544
- Religiosity and life expectancy, pp. 511–513
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- Sexual fantasies, p. 438
- Sexual orientation, pp. 440–446
- Sexuality, p. 433
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  - evolutionary explanation, pp. 147–149
  - external stimuli, pp. 437–438
  - imagined stimuli, p. 438
- Sexualization of girls, p. 439
- Sexually transmitted infections, pp. 436–437
- Stereotyping, p. 236
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  - depression, p. 498
  - health, and sexual abuse, pp. 506–507
  - heart disease, p. 497
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  - response to, p. 492
- Suicide, p. 637
- Teratogens: alcohol consumption, p. 182
- Transgender, pp. 169–170
- Women in psychology's history, pp. 3–4

## Strong Critical Thinking Coverage

We love to write in a way that gets students thinking and keeps them active as they read, and we aim to introduce students to critical thinking throughout the book. Revised and more plentiful Learning Objective Questions at the beginning of text sections, and even more regular Retrieval Practice questions encourage critical reading to glean an understanding of important concepts. This eleventh edition also includes the following opportunities for students to learn or practice their critical thinking skills.

- The ***Thinking Critically With Psychological Science*** unit of modules introduces students to psychology's research methods, emphasizing the fallacies of our everyday intuition and common sense and, thus, the need for psychological science. *Critical thinking* is introduced as a key term on page 24. Module 4, Statistical Reasoning in Everyday Life, encourages students to "focus on thinking smarter by applying simple statistical principles to everyday reasoning" (pp. 36–40).
- ***"Thinking Critically About . . ." boxes*** are found throughout the book, modeling for students a critical approach to some key issues in psychology. For example, see "Thinking Critically About: Prenatal Testing to Predict Future Traits" (Module 11), or "Thinking Critically About: The Stigma of Introversion" (Module 48).
- ***Detective-style stories*** throughout the narrative get students thinking critically about psychology's key research questions. For example, in Module 52, we present the causes of schizophrenia piece by piece, showing students how researchers put the puzzle together.
- ***"Apply this"*** and ***"Think about it"*** style discussions keep students active in their study. In Module 43, for example, students take the perspective of participants in a Solomon Asch conformity experiment, and later in one of Stanley Milgram's obedience experiments. We've also asked students to join the fun by taking part in activities they can try along the way. For example, in Module 18, they try out a quick sensory adaptation activity. In Module 38, they try matching expressions to faces and test the effects of different facial expressions on themselves.
- ***Critical examinations of pop psychology*** spark interest and provide important lessons in thinking critically about everyday topics. For example, Module 22 offers an examination of ESP claims, and Module 26 examines claims of the repression of painful memories.

See **TABLE 6** for a complete list of this text's coverage of critical thinking topics and Thinking Critically About boxes.

# APA Assessment Tools

In 2011, the American Psychological Association (APA) approved the **Principles for Quality Undergraduate Education in Psychology.** These broad-based principles and their associated recommendations were designed to "produce psychologically literate citizens who apply the principles of psychological science at work and at home." (See www.apa.org/education/undergrad/principles.aspx.)

APA's more specific **2013 Learning Goals and Outcomes,** from their *Guidelines for the Undergraduate Psychology Major,* Version 2.0, were designed to gauge progress in students graduating with psychology majors. (See www.apa.org/ed/precollege/about/psymajor-guidelines.pdf.) Many psychology departments use

▼ TABLE 6
## Critical Thinking and Research Emphasis

**Critical thinking** coverage and in-depth stories of psychology's **scientific research** process, can be found on the following pages:

***Thinking Critically About . . . boxes:***

Handedness, p. 86
Addiction, p. 118
Prenatal Testing to Predict Future Traits, p. 143
Subliminal Persuasion, p. 233
Hypnosis and Pain Relief, p. 265
ESP—Perception Without Sensation?, pp. 272–274
Does Viewing Media Violence Trigger Violent Behavior?, pp. 312–313
Repressed or Constructed Memories of Abuse?, pp. 348–349
The Fear Factor—Why We Fear the Wrong Things, pp. 362–363
Lie Detection, pp. 466–467
The Stigma of Introversion, p. 588
ADHD—Normal High Energy or Disordered Behavior?, p. 615
Are People With Psychological Disorders Dangerous?, p. 616

***Critical Examinations of Pop Psychology:***

The need for psychological science, pp. 20–25
Perceiving order in random events, p. 22
Do we use only 10 percent of our brains?, p. 79
Has the concept of "addiction" been stretched too far?, p. 118
Near-death experiences, p. 124
Critiquing the evolutionary perspective, pp. 149–150
How much credit or blame do parents deserve?, pp. 153–154
Sensory restriction, p. 254
Can hypnosis be therapeutic? Alleviate pain?, p. 265
Is there extrasensory perception?, pp. 272–273
Do other species exhibit language?, pp. 377–379
Do video games teach or release violence?, p. 549
How valid is the Rorschach test?, pp. 578–579
Is Freud credible?, pp. 579–582
Is repression a myth?, p. 580
Is psychotherapy effective?, pp. 673–675
Evaluating alternative therapies, pp. 677–678

***Thinking Critically With Psychological Science:***

The limits of intuition and common sense, pp. 20–21
The scientific attitude, pp. 23–25
"Critical thinking" introduced as a key term, p. 24
The scientific method, pp. 26–27
Regression toward the mean, pp. 33–34
Correlation and causation, pp. 34–35
Exploring cause and effect, p. 35
Random assignment, p. 35
Independent and dependent variables, pp. 37–38
Statistical reasoning, pp. 42–48
Describing data, pp. 43–46
Making inferences, pp. 46–47
The evolutionary perspective on human sexuality, pp. 147–151

***Scientific Detective Stories:***

Is breast milk better than formula?, pp. 35–36
Our divided brains, pp. 82–86
Why do we sleep?, pp. 105–106
Why we dream, pp. 113–116
Twin and adoption studies, pp. 135–140
How a child's mind develops, pp. 184–192
How do we see in color?, pp. 243–244
Parallel processing, p. 246
Is hypnosis an extension of normal consciousness or an altered state?, p. 265
How are memories constructed?, pp. 321–328
How do we store memories in our brains?, pp. 328–334
Do other species exhibit language?, pp. 377–379
Aging and intelligence, pp. 399–401
Why do we feel hunger?, pp. 425–427
What determines sexual orientation?, pp. 442–446
The pursuit of happiness: Who is happy, and why?, pp. 479–487
Why—and in whom—does stress contribute to heart disease?, pp. 496–499
How and why is social support linked with health?, pp. 505–507
Why do people fail to help in emergencies?, pp. 559–560
Self-esteem versus self-serving bias, pp. 601–605
What causes depressive disorders and bipolar disorder?, pp. 631–637
Do prenatal viral infections increase the risk of schizophrenia?, pp. 642–643
Is psychotherapy effective?, pp. 673–675

these goals and outcomes to help establish their own benchmarks for departmental assessment purposes.

Some instructors are eager to know whether a given text for the introductory course helps students get a good start at achieving these APA benchmarks. **TABLE** 7 on the next page outlines the way *Psychology, Eleventh Edition in Modules*, could help you to address the 2013 APA Learning Goals and Outcomes in your department.

In addition, an APA working group in 2013 drafted guidelines for **Strengthening the Common Core of the Introductory Psychology Course** (http://tinyurl.com/14dsdx5). Their goals are to "strike a nuanced balance providing flexibility yet guidance." The group noted that "a mature science should be able to agree upon and communicate its unifying core while embracing diversity."

# MCAT Now Includes Psychology

Starting in 2015, the Medical College Admission Test (MCAT) is devoting 25 percent of its questions to the "Psychological, Social, and Biological Foundations of Behavior," with most of those questions coming from the psychological science taught in introductory psychology courses. From 1977 to 2014, the MCAT focused on biology, chemistry, and physics.

▼ TABLE 7
*Psychology, Eleventh Edition in Modules,* Corresponds to 2013 APA Learning Goals

| Relevant Feature from *Psychology, Eleventh Edition in Modules* | APA Learning Goals | | | | |
|---|---|---|---|---|---|
| | Knowledge Base in Psychology | Scientific Inquiry and Critical Thinking | Ethical and Social Responsibility in a Diverse World | Communication | Professional Development |
| Text content | • | • | • | • | • |
| Thinking Critically boxes | • | • | • | | • |
| Learning Objective Questions previewing text sections | • | • | | • | |
| Retrieval Practice self-tests throughout text | • | • | | • | |
| Module Reviews | • | • | | • | |
| "Try this"-style activities integrated throughout | • | • | | • | • |
| Unit Tests | • | • | | • | |
| Psychology at Work appendix | • | • | • | | • |
| Subfields of Psychology appendix, with Careers in Psychology in LaunchPad | • | | • | | • |
| LaunchPad with LearningCurve formative quizzing | • | • | • | • | • |
| "How Would You Know?" activities in LaunchPad | • | • | • | • | |
| Assess Your Strengths feature in LaunchPad | • | • | • | • | • |

Hereafter, reported the *Preview Guide for MCAT 2015,* the exam will also recognize "the importance of socio-cultural and behavioral determinants of health and health outcomes." The exam's new psychology section covers the breadth of topics in this text. For example, see **TABLE 8,** which outlines the precise correlation between the topics in this text's Sensation and Perception modules and the corresponding portion of the MCAT exam. For a complete pairing of the new MCAT psychology topics with this book's contents, see www.macmillanhighered.com/Catalog/product/psychologyinmodules-eleventhedition-myers.

# Next-Generation Multimedia

*Psychology, Eleventh Edition in Modules* boasts impressive multimedia options. For more information about any of these choices, visit Worth Publishers' online catalog at www.macmillanhighered.com/Catalog/product/psychologyinmodules-eleventhedition-myers.

## LaunchPad With LearningCurve Quizzing and "How Would You Know?" Activities

**LaunchPad** (www.macmillanhighered.com/launchpad/myers11einmodules) offers a set of prebuilt assignments, carefully crafted by a group of instructional designers and instructors with an abundance of teaching experience as well as deep familiarity with Worth content. Each LaunchPad unit contains videos, activities, and formative assessment pieces to build student understanding for each topic, culminating with a randomized summative quiz to hold students accountable for the unit. Assign units

▼ TABLE 8
## Sample MCAT Correlation With *Psychology, Eleventh Edition in Modules*

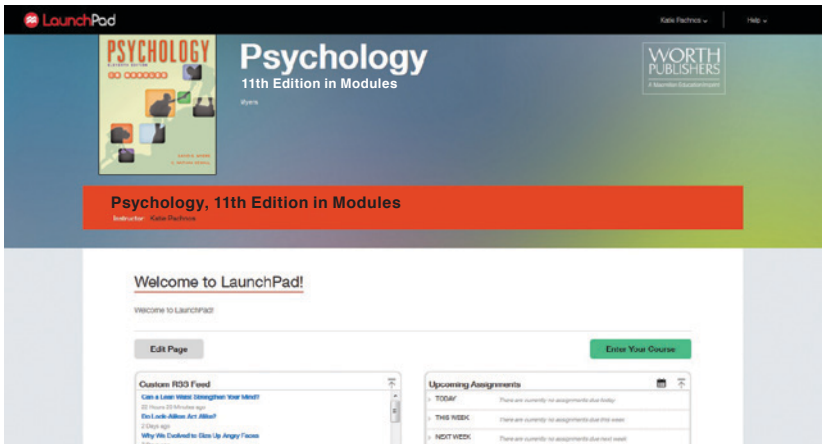
| MCAT 2015 | *Psychology, Eleventh Edition in Modules* Correlations | |
|---|---|---|
| Sample Content Category 6A: Sensing the environment | | Page Number |
| **Sensory Processing** | **Sensation and Perception** | 228–277 |
| Sensation | Basic Concepts of Sensation and Perception | 230–238 |
| *Thresholds* | Thresholds | 231–233 |
| | *Difference Thresholds* | 232–233 |
| *Weber's Law* | *Weber's law* (key term) | 232–233 |
| *Signal detection theory* | *Signal detection theory* (key term) | 231 |
| *Sensory adaptation* | Sensory Adaptation | 234–235 |
| Sensory receptors | Transduction | 230 |
| *Sensory pathways* | Vision: Sensory and Perceptual Processing | 239–255 |
| | Hearing | 256–260 |
| | Pain | 261–265 |
| | Taste | 266 |
| | Smell | 266–269 |
| | Body Position and Movement | 269 |
| *Types of sensory receptors* | The Eye | 240–242 |
| | Color Processing | 243–244 |
| | Hearing | 256–260 |
| | Understanding Pain | 261–263 |
| | Taste | 266 |
| | Smell | 266–269 |
| | Body Position and Movement | 269 |
| | *Table 20.2, Summarizing the Senses* | 271 |
| **Vision** | Vision: Sensory and Perceptual Processing | 239–255 |
| Structure and function of the eye | The Eye | 240–242 |
| Visual processing | Information Processing in the Eye and Brain | 241–247 |
| *Visual pathways in the brain* | *Figure 19.6, Pathway from the eyes to the visual cortex* | 242 |
| *Parallel processing* | *Parallel Processing* | 246 |
| *Feature detection* | *Feature Detection* | 244–245 |
| **Hearing** | Hearing | 256–260 |
| Auditory processing | Hearing | 256–260 |
| *Auditory pathways in the brain* | The Ear | 257–259 |
| | Pitch (key term) | 256 |
| | *Figure 20.1, The physical properties of waves* | 256 |
| | *Locating Sounds* | 260 |
| Sensory reception by hair cells | *The Ear* | 257–259 |
| | *Table 20.2, Summarizing the Senses* | 271 |
| **Other Senses** | Touch, Taste, Smell, Body Position and Movement | 260–271 |
| Somatosensation | Touch | 261–264 |
| | Sensory Functions (of the cortex) | 78 |
| | *Somatosensory cortex* (key term) | 78–79 |
| | *Table 20.2, Summarizing the Senses* | 271 |

*(continued)*

▼ TABLE 8
**Sample MCAT Correlation With *Psychology, Eleventh Edition in Modules* (continued)**

| MCAT 2015 | *Psychology, Eleventh Edition in Modules* Correlations | |
|---|---|---|
| Sample Content Category 6A: Sensing the environment | | Page Number |
| *Pain perception* | Pain | 261–265 |
| | *Understanding Pain* | 261–263 |
| | *Controlling Pain* | 263–265 |
| | *Hypnosis and Pain Relief* | 265 |
| Taste | Taste | 266 |
| *Taste buds/chemoreceptors that detect specific chemicals* | Taste | 266 |
| | *Table 20.2, Summarizing the Senses* | 271 |
| | *Figure 20.11, Taste, Smell, and Memory* | 268 |
| Smell | Smell | 266–269 |
| *Olfactory cells/chemoreceptors that detect specific chemicals* | Smell | 266–269 |
| | *Table 20.2, Summarizing the Senses* | 271 |
| *Pheromones* | *Smell of sex-related hormones* | 443, 445 |
| *Olfactory pathways in the brain* | *Figure 20.11, Taste, Smell, and Memory* | 268 |
| | Sensory Interaction | 269–271 |
| Kinesthetic sense | Body Position and Movement | 269 |
| Vestibular sense | Body Position and Movement | 269 |
| **Perception** | Sensation and Perception | 228–277 |
| Perception | Basic Concepts of Sensation and Perception | 230–238 |
| *Bottom-up/Top-down processing* | Basic Concepts of Sensation and Perception: *bottom-up* and *top-down processing* (key terms) | 230 |
| *Perceptual organization (e.g., depth, form, motion, constancy)* | *Perceptual Organization: Form Perception, Depth Perception, Motion Perception, and Perceptual Constancy* | 247–253 |
| | *Figure 19.11, Parallel processing (of motion, form, depth, color)* | 246 |
| *Gestalt principles* | Perceptual Organization: Form Perception—*gestalt* (key term) | 246–248 |

▼ FIGURE 3
Sample from LaunchPad




in just a few clicks, and find scores in your gradebook upon submission. Customize units as you wish, adding and dropping content to fit your course. (See **FIGURE 3**.)

- **LearningCurve** combines adaptive question selection, personalized study plans, immediate and valuable feedback, and state-of-the-art question analysis reports. Based on the latest findings from learning and memory research, LearningCurve's game-like nature keeps students engaged while helping them learn and *remember* key concepts.
- New **How Would You Know?** activities offer a fun, interactive environment for learning about important aspects of research design and interpretation. Topics include "How Would You Know If Having Children Relates to Being Happier?", "If a Cup of Coffee Can Warm Up Relationships?", and "If People Can Learn to Reduce Anxiety?" Students

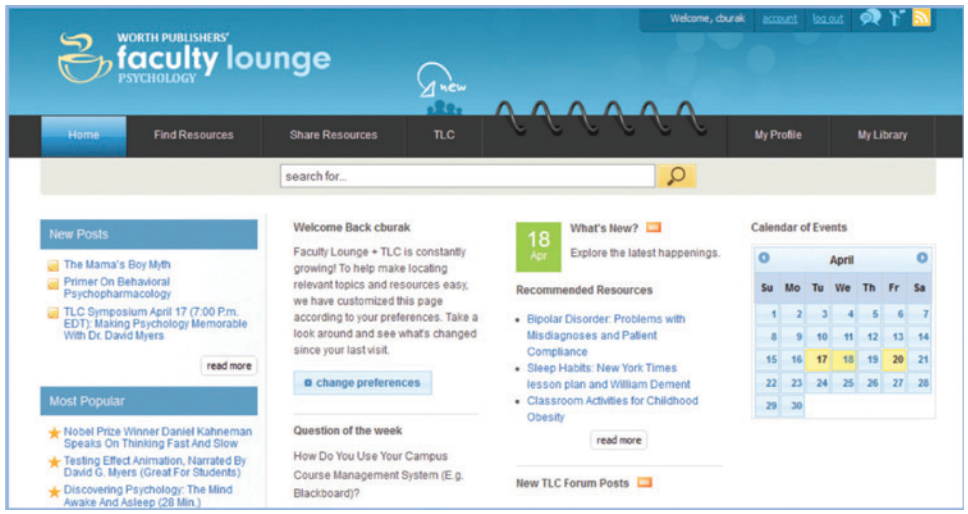
work through the process of setting up an effective research design and interpreting results, and see first-hand how decisions at each step affect outcomes.

- With **Assess Your Strengths** activities, students may take inventories and questionnaires developed by researchers across psychological science. These self-assessments allow students to apply psychology's principles to their own lives and experiences. After taking each self-assessment, students will find additional information about the strength being tested (for example, personal growth initiative, sleep quality, empathizing/systemizing, intrinsic/extrinsic motivation, mindfulness, self-control, and hope), as well as tips for nurturing that strength more effectively in their own lives.
- An **Interactive eBook** allows students to highlight, bookmark, and make their own notes, just as they would with a printed textbook.
- **Concept Practice,** created by award-winning multimedia author Thomas Ludwig (Hope College), helps students solidify their understanding of key concepts. With these in-depth tutorials, students explore a variety of important topics, often in an experimental context in the role of either researcher or participant. Tutorials combine animations, video, illustrations, and self-assessment.
- **PsychSim 6.0** Thoroughly re-imagined and retooled for the mobile web, the new release of PsychSim by Thomas Ludwig uses interactive videos, charts, and simulations to immerse students in the world of psychological research, placing them in the role of scientist or participant in activities that highlight important concepts, processes, and experimental approaches.
- **Video Activities** include more than 100 engaging video modules that instructors can easily assign and customize for student assessment. Videos cover classic experiments, current news footage, and cutting-edge research, all of which are sure to spark discussion and encourage critical thinking.
- **Labs** offer an interactive experience that fortifies the most important concepts and content of introductory psychology. In these activities, students participate in classic and contemporary experiments, generating real data and reviewing the broader implications of those findings. A virtual host makes this a truly interactive experience.
- The **Scientific American Newsfeed** delivers weekly articles, podcasts, and news briefs on the very latest developments in psychology from the first name in popular science journalism.
- **Deep integration** is available between LaunchPad products and Blackboard, Brightspace by D2L, Canvas, and Moodle. These deep integrations offer educators single sign-on and gradebook sync now with auto-refresh. Also, these best-in-class integrations offer deep linking to all Macmillan digital content at the unit and asset level, giving professors ultimate flexibility and customization capability within their LMS.

## Faculty Support and Student Resources

- **Instructor's Resources** available in LaunchPad
- **Lecture Guides** available in LaunchPad
- **Faculty Lounge**—http://psych.facultylounge.worthpublishers.com—(see **FIGURE 4,** next page) is an online gathering place to find and share favorite teaching ideas and materials, including videos, animations, images, PowerPoint

▼ FIGURE 4
**Sample from our Faculty Lounge site** (http://psych.facultylounge.worthpublishers.com)




slides and lectures, news stories, articles, web links, and lecture activities. Includes publisher- as well as peer-provided resources—all faculty-reviewed for accuracy and quality.

- **Instructor's Media Guide for Introductory Psychology**
- Enhanced Course Management Solutions (including course cartridges)
- e-Book in various available formats

## Video and Presentation

- **The Video Collection for Introductory Psychology** is a complete collection, all in one place, of all of our video clips. The set is accompanied by its own Faculty Guide.
- **Interactive Presentation Slides for Introductory Psychology** is an extraordinary series of PowerPoint lectures. This is a dynamic, yet easy-to-use way to engage students during classroom presentations of core psychology topics. This collection provides opportunities for discussion and interaction, and includes an unprecedented number of embedded video clips and animations.

## Assessment

- **LearningCurve** quizzing
- Diploma Test Banks, downloadable from LaunchPad and on our online catalog
- Unit Quizzes in LaunchPad
- Clicker Question Presentation Slides now in PowerPoint

## Print

- Study Guide
- *Pursuing Human Strengths: A Positive Psychology Guide*
- *Critical Thinking Companion,* Second Edition
- *Psychology and the Real World: Essays Illustrating Fundamental Contributions to Society,* second edition. This project of the FABBS Foundation brought together a virtual "Who's Who" of contemporary psychological scientists to

describe—in clear, captivating ways—the research they have passionately pursued and what it means to the "real world." Each contribution is an original essay written for this project.

## In Appreciation

If it is true that "whoever walks with the wise becomes wise" then we are wiser for all the wisdom and advice received from colleagues. Aided by thousands of consultants and reviewers over the last two decades, this has become a better, more effective, more accurate book than two authors alone (these two authors, at least) could write. All of us together are smarter than any one of us.

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*Salt Lake Community College*

And we appreciate the helpful guidance offered by the dozens of instructors who reviewed our new "How Would You Know?" feature in LaunchPad. (See www.macmillanhighered.com/launchpad/myers11einmodules for details.)

At Worth Publishers a host of people played key roles in creating this eleventh edition.

Although the information gathering is never ending, the formal planning began as the author-publisher team gathered for a two-day retreat. This happy and creative gathering included John Brink, Thomas Ludwig, Richard Straub, Nathan, and Dave from the author team, along with assistants Kathryn Brownson and Sara Neevel. We were joined by Worth Publishers executives Tom Scotty, Joan Feinberg, Craig Bleyer, Doug Bolton, Catherine Woods, Kevin Feyen, and Elizabeth Widdicombe; editors Christine Brune, Nancy Fleming, Tracey Kuehn, Betty Probert, Trish Morgan, and Dora Figueiredo; sales and marketing colleagues Kate Nurre, Carlise Stembridge, Tom Kling, Lindsay Johnson, Mike Krotine, Kelli Goldenberg, Jen Cawsey, and Janie Pierce-Bratcher; media specialists Rachel Comerford, Gayle Yamazaki, Andrea Messineo, and Pepper Williams; and special guest Jennifer Peluso (Florida Atlantic University). The input and brainstorming during this meeting of minds gave birth, among other things, to LaunchPad's new "How Would You Know?" activities and the text's improved and expanded system of study aids.

Publishers Kevin Feyen and Rachel Losh have been valued team leaders, thanks to their dedication, creativity, and sensitivity. Kevin, now, Digital Product Development, has supported us in so many ways, including helping to envision the new interactive LaunchPad. Rachel, Worth's Publisher for Psychology and Sociology, has overseen, encouraged, and guided our author-editor team. Catherine Woods, Vice President, Editing, Design, and Media, helped construct and execute the plan for this text and its supplements. Lauren Samuelson helped envision our new "How Would You Know?" activities and expertly directed all the details of their production. Lauren and Nadina Persaud coordinated production of the huge media and print supplements package for this edition. Betty Probert efficiently edited and produced the supplements and, in the process, also helped fine-tune the whole book. Nadina and Katie Pachnos also provided invaluable support in commissioning and organizing the multitude of reviews,

sending information to professors, and handling numerous other daily tasks related to the book's development and production. Lee McKevitt did a splendid job of laying out each page. Robin Fadool and Lisa Passmore worked together to locate the myriad photos.

Tracey Kuehn, Director of Editing, Design, and Media Production, displayed tireless tenacity, commitment, and impressive organization in leading Worth's gifted artistic production team and coordinating editorial input throughout the production process. Project Editor Robert Errera and Production Manager Sarah Segal masterfully kept the book to its tight schedule, and Art Director Diana Blume skillfully directed creation of the beautiful new design and art program. Production Manager Stacey Alexander, along with Supplements Production Editor Julio Espin, did their usual excellent work of producing the supplements.

Christine Brune, chief editor for the last nine editions, is a wonder worker. She offers just the right mix of encouragement, gentle admonition, attention to detail, and passion for excellence. An author could not ask for more. Development Editor Nancy Fleming is one of those rare editors who is gifted both at "thinking big" about a module—and with a kindred spirit to our own—while also applying her sensitive, graceful, line-by-line touches. Development Editor Trish Morgan amazed us with her meticulous eye, impressive knowledge, and deft editing. And Deborah Heimann did an excellent job with the copyediting.

To achieve our goal of supporting the teaching of psychology, this teaching package not only must be authored, reviewed, edited, and produced, but also made available to teachers of psychology. For their exceptional success in doing that, our author team is grateful to Worth Publishers' professional sales and marketing team. We are especially grateful to Executive Marketing Manager Kate Nurre, Marketing Manager Lindsay Johnson, and National Psychology and Economics Consultant emeritus Tom Kling, both for their tireless efforts to inform our teaching colleagues of our efforts to assist their teaching, and for the joy of working with them.

At Hope College, the supporting team members for this edition included Kathryn Brownson, who researched countless bits of information and proofed hundreds of pages. Kathryn has become a knowledgeable and sensitive adviser on many matters, and Sara Neevel has become our high-tech manuscript developer, par excellence. At the University of Kentucky, we've been happy to welcome our sharp new assistant, Lorie Hailey, to our team.

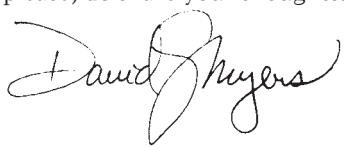
Again, I [DM] gratefully acknowledge the editing assistance and mentoring of my writing coach, poet Jack Ridl, whose influence resides in the voice you will be hearing in the pages that follow. He, more than anyone, cultivated my delight in dancing with the language, and taught me to approach writing as a craft that shades into art. Likewise, I [ND] am grateful to my intellectual hero and mentor, Roy Baumeister, who taught me how to hone my writing and embrace the writing life.

After hearing countless dozens of people say that this book's supplements have taken their teaching to a new level, we reflect on how fortunate we are to be a part of a team in which everyone has produced on-time work marked by the highest professional standards. For their remarkable talents, their long-term dedication, and their friendship, we thank John Brink, Thomas Ludwig, and Richard Straub. With this new edition, we also welcome and thank Sue Frantz for her gift of instructors' resources.

Finally, our gratitude extends to the many students and instructors who have written to offer suggestions, or just an encouraging word. It is for them, and those about to begin their study of psychology, that we have done our best to introduce the field we love.

* * *

The day this book went to press was the day we started gathering information and ideas for the next edition. Your input will influence how this book continues to evolve. So, please, do share your thoughts.



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# Content Changes

*Psychology, Eleventh Edition in Modules* includes 1200 new research citations, an expanded study system that reflects the latest in cognitive psychology research on retention, new research activities in LaunchPad, a lightly revised unit organization, a fresh new design, and many fun new photos and cartoons. In addition, you will find the following significant content changes in this new eleventh edition.

## The Story of Psychology

- New art richly illustrates the discussion of psychology's roots, where new subsections help organize the presentation.
- *Structuralism* and *functionalism*, are now key terms.
- Contemporary Psychology section substantially updated, with expanded coverage of *evolutionary psychology* and *behavior genetics*, cross-cultural and gender psychology, and *positive psychology*.
- Updated coverage of women in psychology.
- New art illustrates cultural diversity.
- New illustration with figure introduces the *biopsychosocial approach* more effectively.
- Updated table of current perspectives.
- Now introduces *health psychologists*; and new *forensic psychology* example and photo.
- Updated discussion on how to Improve Your Retention—And Your Grades details the *testing effect*, and how to apply it effectively to learning with this text.

## Thinking Critically With Psychological Science

- Unit organization lightly modified and improved. (For example, naturalistic observation is now covered before surveys, and the section on frequently asked questions about psychological research has been reorganized, with new section on Psychology's Research Ethics.)
- *Intuition* now defined in this unit, with new illustration (as well as in Thinking and Language). New current event examples incorporated.
- New research support for *hindsight bias* in people of all ages from across the world.
- Critical thinking strategies discussion enriched with new art illustrating that the study of psychology prepares people for varied occupations.
- Improved sleep deprivation example illustrates how theories are developed through the scientific method.
- Importance of research replication given increased emphasis.
- New research with figure on Twitter message moods, and on international Facebook friendships, illustrates discussion of "big data" methods in naturalistic observation.
- New photo illustrates naturalistic observation, and new survey data examples.
- Coverage of *regression toward the mean* has moved here (from Therapy in the tenth edition).
- Includes new research examples of correlations that may seem to be simple cause and effect.
- New research explores parenting and happiness.
- Updated research for breast-feeding versus bottle-feeding experimentation example.
- New research examples of the placebo effect in athletes and others.
- Expanded discussion of psychology's research ethics, with subsections on studying and protecting participants and on values in research.
- Expanded discussion of descriptive and inferential statistics.
- New research demonstrates the dangers of statistical illiteracy.
- Updated discussion of our love of big, round numbers, but also new research on how precise numbers can sometimes seem more credible.
- Table on computing standard deviation now appears here, rather than in Appendix B as in the previous edition.

## The Biology of Mind

- *Refractory period* and *all-or-none response* are now key terms.
- Improved coverage of *agonists* and *antagonists*, which are now key terms, along with improved figure.
- Sensory neurons are now identified as *afferent* (inward), and motor neurons as *efferent* (outward).

- Expanded illustration of the functional divisions of the nervous system.
- Additional research on the vast number of neurons and synapses.
- Updated research on *oxytocin's* effects on physical and social responses.
- New research on how the endocrine system enables the persistence of emotions even without conscious awareness of their cause.
- New illustration of a living human brain demonstrates neuroscientists studying the brain at work.
- Now includes information on how much energy our brain consumes in relation to its size.
- New commentary and research on the sometimes overblown claims about neuroimaging often found in the media and in advertising.
- Updated information on the massive funding of the Human Brain Project and the Human Connectome Project.
- Improved figure showing the brainstem and thalamus.
- *Hippocampus* now defined here as well as in the Memory unit.
- New research example of woman with damaged amygdala experiencing no fear, even when threatened with a gun.
- New research demonstrates the role of dopamine in pleasant experiences and memories, such as the "chills" response to a favorite piece of music.
- New photos show examples of neural prosthetics in action.
- Now discusses research funding by the U.S. Army to build a helmet that might read and transmit soldiers' thoughts.
- Coverage of the *somatosensory cortex* (previously referred to as the "sensory cortex") has been fully updated.
- Improved figure showing the visual cortex and auditory cortex.
- New research on how complex tasks integrate many parts of the brain.
- Updated research on the damage to the neurons in Phineas Gage's left frontal lobe, but also to a portion of its axons that connect the frontal lobes with the rest of the brain.
- New high-resolution diffusion spectrum image reveals brain neural networks within the two hemispheres and the corpus callosum neural bridge between them.
- New research on brain plasticity in those who cannot see or hear.
- Updated research on brain plasticity in young children.
- New research on evidence of neurogenesis discovered by the carbon-dating of neurons in the hippocampus (made possible by the release of radioactive carbon isotopes during Cold War nuclear tests).

## Consciousness and the Two-Track Mind

- Expanded coverage of conscious awareness, with several new research examples.
- Research update to studies of communication in comatose patients.
- New example illustrates connection between conscious and unconscious processing.
- *Parallel processing* is now also defined in this unit (rather than only in Sensation and Perception, as in the previous edition).
- Increased coverage of the question of consciousness and free will.
- *Selective attention* discussion expanded, with updated research and new examples.
- New art illustrates *inattentional blindness* in two new examples.
- Change blindness is illustrated with new art, there is new research on change deafness, and a new photo series depicts choice blindness.
- Updates to research on sleep pattern variations.
- *Suprachiasmatic nucleus* is now a key term, identified in an improved figure.
- New research supports idea that ample sleep aids skill learning and high performance.
- Updated research on why we sleep and on the effects of sleep deprivation.
- New research on how sleep-deprived students have more conflicts in friendships and romantic relationships.
- Updated figure shows physiological effects of sleep deprivation (in the brain, immune system, and stomach, and reflected in blood pressure and weight).
- Updated table on natural sleep aids.
- New research on sleep apnea, and new photo of a CPAP machine being used for treatment.
- Research updates to What We Dream section, including cases of those unable to see or walk from birth having these abilities in their dreams.

- New research on our ability to learn to associate a particular sound with an odor while asleep.
- New art illustrates how learning is consolidated into long-term memory during sleep, supporting the cognitive development theory of why we dream.
- Added research support for increased activity in the emotion-related amygdala during emotional dreams.
- Updated table compares dream theories.
- Coverage of hypnosis now appears in a Thinking Critically box on pain control in the Sensation and Perception unit.
- Drugs and Consciousness discussion fully updated for DSM-5.
- *Substance use disorder* and *alcohol use disorder* are new key terms, and includes updated definitions, such as for *addiction* and *withdrawal*.
- New table outlines When Is Drug Use a Disorder?
- Updated Thinking Critically About box on addiction now includes discussion of DSM-5's inclusion of behavior addictions such as gambling disorder, and its proposal for further study of "Internet gaming disorder."
- New research on alcohol "intervention studies" that have lowered college students' positive expectations about alcohol and reduced their consumption.
- New illustration demonstrates tragic effects of drinking and driving.
- Updates on the lethal effects of smoking, including a life expectancy at least 10 years shorter.
- New research on smokers' relapse rates and on success of smoking cessation attempts.
- New photos illustrate the effects of a methamphetamine addiction over the course of 18 months.
- Updated research on negative health effects of Ecstasy.
- New research on the drop in IQ scores among persistent teen marijuana users.
- Updates to the Guide to Selective Psychoactive Drugs table.
- High school trends in drug use chart updated with latest data.
- New photo illustrates media models of smoking that influence teens.
- New research on the biological influences on drug use.
- Updates on the cultural, social, and cognitive influences on drug use.

## Nature, Nurture, and Human Diversity

- New co-author Nathan DeWall led the revision of this unit for the eleventh edition.
- New example opens the discussion of *behavior genetics*.
- Updated research on similarities as well as variation among identical and fraternal twins.
- New research on how genes influence personality traits and even specific behaviors.
- New photos throughout the unit of identical twins, siblings, and those adopted highlight gene-environment interaction.
- Updated research on the stability of temperament, and the greater temperament similarity among identical twins.
- New key term, *molecular behavior genetics*.
- Research updates on epigenetic influences, and on epigenetic marks left by trauma.
- New Thinking Critically About box on prenatal testing to predict future traits.
- New evolutionary psychology photo example.
- New research updates An Evolutionary Explanation of Human Sexuality; new table illustrates typical male-female differences in sexual attitudes.
- New research on the *sexual overperception bias*, which may occur when men misperceive a woman's friendliness.
- New research on Experience and Brain Development shows that premature babies given skin-on-skin contact are better off even 10 years later.
- New photo illustrates cultural differences in parenting.
- New research on greater reward activation influencing risk-taking among teens when with peers.
- Updates to discussion of collectivism and individualism, including new neuroscience research on distress in others resulting in greater emotional pain to collectivists.
- Sex and gender now more clearly differentiated, with *sex* a new key term.
- *Social script* now defined here as well as in the Social Psychology unit.
- New research on gender differences in aggression, with *relational aggression* now a key term illustrated with new photo.
- New research on gender and social power, and gender and social connectedness.
- The Nature of Gender now includes coverage of adolescent sexual development (moved here from Developing Across the Life Span unit in previous edition).

- New research updates discussion of earlier puberty and average age at onset.
- New photo illustrates height differences in adolescence; includes new key term, *spermarche*.
- New coverage of variations in sexual development, with *disorder of sexual development* a new key term.
- The Nurture of Gender section updated and reorganized with subsections. How Do We Learn Gender? subsection discusses gender identity and expression, with new coverage of *transgender* and *androgynous* gender identity.
- Updated discussion of nature, nurture, and their interaction concludes the unit.

## Developing Through the Life Span

- Unit headings and organization lightly modified and improved. (For example, complete coverage of the three main developmental issues now appears at the start of the unit, rather than at the ends of major chronological periods.)
- Research updates support the stability of temperament.
- Updated research on newborns' recognition of the familiar sounds of their mothers' language.
- New research on prenatal effects of mothers experiencing extreme stress.
- New research on how infants learn to walk, and discussion of research on when infants become consciously aware.
- Updated research demonstrates babies' rudimentary understanding of statistics.
- New photo shows egocentrism in action.
- Autism spectrum disorder discussion significantly revised to match DSM-5 update and with new research and a new photo.
- Expanded discussion of the value of Harlow experiments.
- New table, Dual Parenting Facts.
- New research on how an avoidant attachment style increases conflict and decreases commitment.
- Updated research on childhood trauma and its lasting effects that suggests in some cases it may boost *resilience*.
- Parenting Styles expanded with new cross-cultural research.
- Coverage of puberty has moved to the Nature, Nurture, and Human Diversity unit.
- New research with new figure on teen impulse control lagging reward seeking, which peaks in the mid-teens.
- Updated coverage of moral judgments and automatic moral responses, with new photo illustrating moral reasoning.
- Expanded discussion of moral action and the ability to delay gratification.
- New research on adolescent identity development, and on decline of self-esteem in the early to mid-teen years and rebound in late adolescence.
- Updated social networking research in peer relationship discussion, and new research on parents' and teens' shared self-disclosure on social media.
- Emerging Adulthood discussion includes updated figure on the lengthening transition to adulthood.
- Global data on life expectancy for women and men updated.
- Includes new research on childhood bullying leading to biological scars, in the discussion of *telomeres*.
- Updated research on older drivers and on speech patterns slowing with age.
- Neuroscience research on the aging brain's plasticity, evident with activity in both right and left frontal lobes in memory tasks.
- In Adulthood, the Cognitive Development section has been reorganized and expanded, with the aging and memory discussion followed by coverage of *neurocognitive disorders* and *Alzheimer's disease*, now both key terms.
- New commentary and research on "brain fitness" programs.
- New figure in Adulthood's Commitments illustrates changing ways Americans meet their partners.
- Updated figure illustrates stability of life satisfaction over the life span.
- New research, with new graph, suggests well-being relates to social time for all ages.
- Updated research on bereavement.

## Sensation and Perception

- Unit introduction now notes unusual condition of "voice blindness" in addition to face blindness.
- New neuroscience research on how priming can evoke brain activity without conscious awareness.
- New coverage of the adaptation of emotion perception, with "try this" photo example.
- New illustrations demonstrate perceptual set.
- Updated research and new pair of photos illustrate context effects.

- New research on how emotions and motives color our social perceptions.
- New research on how the iris dilates or constricts even when imagining different light conditions.
- Baseball pitch example now illustrates the astonishing speed of visual information processing.
- Expanded discussion of classic research on feature detectors.
- New art illustrates the visual cliff experiments.
- Research update on children's difficulty in accurately perceiving motion, and their resulting increased risk for pedestrian accidents.
- New research on cataract surgery in children supports doing so at as young an age as possible.
- New coverage of the speed of audition.
- Updated coverage of the experience of hearing loss, including global statistics as well as *cochlear implants,* with new art.
- New research on hearing loss among teens.
- New research illustrates how our responses to touch are influenced by cognition.
- Updated research on women's greater sensitivity to pain.
- Two new sports examples of the powerful effect of distraction on the experience of pain.
- New research support for maximizing pain relief with placebos, distraction, and hypnosis.
- Hypnosis now covered in a new Thinking Critically About Hypnosis and Pain Relief box.
- Updated cognitive neuroscience research helps explain smell-cognition connection.
- New research on the vast number of odors we could potentially discriminate, given that they trigger combinations of receptors.
- New research updates the interaction of taste and touch, and other types of sensory interaction.
- Expanded discussion with new research on *synesthesia*.
- New example of psychic predictions about missing person cases in the Thinking Critically About ESP box.

## Learning

- Compelling new unit introduction.
- New example supports subtle effect of learned associations.
- New research on process of learning habits, and on how we tend to fall back on old habits when our willpower is low.
- New figure illustrates Pavlov's device for recording salivation.
- Research update supports finding that we generalize our like or dislike based on learned facial features.
- New information on what happened to "Little Albert."
- New art with figure illustrates Thorndike's law of effect, and a new photo illustrates shaping.
- Punishment section now includes research on children's compliance after a reprimand and a time out.
- Improved table compares Ways to Decrease Behavior.
- Updated research on physical punishment and increased aggressiveness, as well as global figures on legal protections for children.
- New research supports idea that punishment should focus on prohibitions rather than positive obligations.
- New discussion in Skinner's Legacy of how his work anticipated some of today's positive psychology.
- New research on how adaptive learning software supports individualized learning.
- Updated summary on how to best reinforce desired behaviors.
- Taste aversion illustrated with new photo.
- Updated research on biologically predisposed, learned association between the color red and sex.
- New photo illustrates how animals can most easily learn and retain behaviors that draw on their biological predispositions.
- New research on how a focus on intrinsic rewards in schooling and career may lead to extrinsic rewards as well.
- New research supports vicarious reinforcement, with even learned fears being extinguished when we observe others safely navigating the feared situation.
- Updated research on how the brain might support empathy and imitation, and how we may act even when a vicarious prompt is a fictional story.
- Expanded coverage, with new photos, of social learning among other animals.
- New research on how prosocial media boosts helping behaviors, and new photo illustrates prosocial modeling.
- New research examples update media violence viewing/violent behavior discussion.
- Research update supports finding that observing risk-taking increases real-life risk-taking.

## Memory

- New photo example from a worldwide memory competition.
- New music and face recognition research examples, and new research on face recognition among sheep.
- New photo illustrates measures of retention.
- *Parallel processing* is now defined in this set of modules.
- New research shows we remember less when we know information will be available online.
- Memory subsystems clarified and simplified as automatic vs. effortful, with implicit/explicit differences presented within that simpler organization; details provided about brain areas for these differing memory functions.
- Updated research on how those with a large working memory capacity tend to retain more information after sleep and to be creative problem solvers.
- Figure illustrating the effects of *chunking* on memory updated with new examples.
- New research supports the *testing effect* and updates other study tips. New link to author's Testing Effect YouTube animation.
- Memory storage discussion updated with new research on memory components that are distributed across a network, with some of those brain cells activating again upon memory retrieval.
- New art illustrates the hippocampus, and *memory consolidation* has become a key term.
- New research on flashbulb memory and tunnel vision memory.
- Research update on how experience and learning increase synaptic number as well as efficiency.
- New personal story from author illustrates example of insufficient time for memory consolidation.
- Research updates how priming can influence behaviors.
- New examples illustrate context-dependent memory, with *encoding specificity principle* a new key term.
- New photo accompanies graph illustrating the serial position effect.
- New research on enlarged brain areas in "super memory" people.
- New research on Henry Molaison's nondeclarative memory abilities.
- Includes new research on wide belief in repression of traumatic memories.
- *Reconsolidation* is a new key term.
- Memory construction now demonstrated with author's personal experience at Loftus presentation.
- Discussion of memories of abuse includes new research and has become a Thinking Critically box.

## Thinking and Language

- New photo demonstrates *prototype*.
- New research on how *insight* improves when electrical stimulation disrupts assumptions created by past experiences.
- New photo illustrates heuristic thinking strategy.
- Updated research on the effectiveness of cigarette package warnings and graphic photos in risk assessment.
- New research explains the planning fallacy.
- Updated discussion of why we fear the wrong things.
- Research updates on unconsciously learned associations in newlyweds and others.
- Includes new research on the value of employing intuition for complex decisions; new examples relate to attitudes and decision-making.
- Discussion of *creativity* moved here from the Intelligence unit, with new key terms *convergent* and *divergent* thinking.
- New photo and research on the development of creative traits in girls.
- New research on animal consciousness and cognitive feats.
- New research updates discussion of babies' language comprehension and productive language development.
- Discussion of language development in the brain updated with new neuroscience research.
- Revised figure illustrates brain activity when speaking and hearing words.
- Includes new research on animal cognition, as well as neuroscience research on a gene unique to humans that helps enable speech.
- *Linguistic determinism* discussion updated with new research on unsymbolized thoughts and new cross-cultural research.
- Other new cross-cultural research outlines advantages of bilingualism.

## Intelligence

- New photo example illustrates how cultural understandings of intelligence are socially constructed.
- New research on distinct brain networks enabling distinct abilities updates discussion of *g* factor.

- Now includes Gardner's ninth possible intelligence, existential intelligence, in Theories of Multiple Intelligences.
- New photo illustrates savant syndrome.
- New research suggests mastery (e.g., of chess) requires 3000–11,000 practice hours.
- Table comparing theories of intelligence now includes emotional intelligence.
- Improved organization of section on the history of intelligence testing.
- New photo illustrates testing with block design puzzles.
- New research updates continuing global rise in intelligence test scores, illustrated in updated figure, and possible reasons for this phenomenon.
- Grade inflation effects now included, with new research.
- Updated research supports strength of intelligence stability over time.
- Updated research suggests those with higher intelligence live healthier and longer.
- New example demonstrates legal connotations of low IQ scores.
- New photo example illustrates the high extreme of intelligence.
- New neuroscience and other research updates and clarifies discussion of the heritability of intelligence.
- Updated research on the benefits of enrichment programs for disadvantaged children and on how poverty-related stresses impede cognitive performance.
- Updated research supports importance of establishing a *growth mind-set* for academic success.
- New research supports impact of cultural and other expectations on academic flourishing.
- Updated discussion outlines interaction of schooling, intelligence, and motivation.
- New photo example of Shakuntala Devi, "the human computer."
- Updated cross-cultural research that supports impact of gender expectations on academic flourishing.
- New research shows that as gender equity has increased, the gap between boys and girls with very high math SAT scores has narrowed.
- Updated discussion of intelligence variation due to racial, ethnic, and socioeconomic differences.
- New research supports the effect of expectations on test performance and suggests ways to boost school achievement among stereotyped minorities.

## What Drives Us: Hunger, Sex, Friendship, and Achievement

- The new unit title reflects the meaningful ways in which motivation directs our behavior.
- Powerful new unit introduction.
- Coverage of industrial-organizational psychology has moved to Appendix A: Psychology at Work.
- The *Yerkes-Dodson law* is now included in the discussion of optimum arousal.
- *Hunger Games* example now illustrates Maslow's hierarchy.
- New research updates biological and cultural influences on taste preferences, and situational influences on eating.
- Discussion of obesity and weight control streamlined with improved organization, and updated with global statistics and a new photo.
- New research on negative social, health, and memory effects of obesity.
- Updates on our changing workplace, with most modern jobs not requiring physical activity.
- Sexual Motivation section extensively updated with improved organization.
- New research expands discussion of The Physiology of Sex, with *asexuality* a new key term.
- New section on Sexual Dysfunctions and Paraphilias with DSM-5 updates; includes enhanced discussion of sexual disorders in women.
- Updated statistics on sexually transmitted infections.
- Psychology of Sex updated with new research and improved organization.
- New photo illustrates hypersexuality in video games.
- New research and statistics on sexual orientation, including increased coverage of lesbian and bisexual orientations.
- Origins of Sexual Orientation updated with new research.
- New research enhances coverage of Sex and Human Values.
- Affiliation and Achievement section updated, with *affiliation need* now a key term.
- New research on attachment bonds and our physiological responses to them updates The Benefits of Belonging discussion.
- New research updates in The Pain of Ostracism, with *ostracism* a new key term.
- New example with photo of first African-American West Point graduate.
- Connecting and Social Networking section fully updated.

## Emotions, Stress, and Health

- New co-author Nathan DeWall led the revision of this unit for the eleventh edition.
- Restructured opening to Introduction to Emotion more clearly outlines the bodily arousal, expressive behaviors, and conscious experiences in emotion and the resulting puzzle for psychologists of how these pieces fit together.
- New research on how emotional experience is subjective and yet real.
- Improved figure showing the brain's pathways to emotions.
- Updates to table summarizing emotion theories.
- Includes new research on speedy first impressions.
- Update on accurate lie detection by police professionals, and on how the unconscious mind can outperform the conscious mind in lie detection.
- New research on how humans excel at detecting nonverbal threats.
- Updated discussion of gender differences in emotional experience, and the importance of context for accurate detection of facial expressions.
- The *facial feedback effect* research on Botox and depression has been updated, and *behavior feedback effect* is a new key term.
- Discussion of anger has been updated, including research on *catharsis* (with new photo), tips for managing our anger, and a new study on forgiveness.
- Updates on the benefits of happiness and ways to increase happiness, including buying shared experiences rather than material goods.
- Coverage of positive psychology has moved here from the Personality unit.
- New research on how economic inequality has increased, how specific genes influence our sense of well-being, and how nations may assess citizens' overall satisfaction.
- New research on how some stress early in life can build resilience, but can also lead to greater adult stress responses and disease risk.
- Updated research on the health-depleting effects of depression, anxiety, and stress, and the connection between social threats and inflammation.
- Stress and Vulnerability to Disease section updated with new research and examples.
- Stress and Heart Disease subsection revised and updated; now includes *Type D* personality (as well as *Type A* and *Type B*).
- Reorganized/improved new Health and Coping section.
- Personal Control section revised and expanded with new research.
- Coverage of *learned helplessness*, *external locus of control*, and *internal locus of control* moved here (from the Personality unit). New key term *self-control* and new photo examples.
- Revised and expanded discussion of optimism and health; new research on how to become more optimistic and reduce levels of depression.
- Social Support revised and updated with new research and new examples, including a study of people in low-conflict marriages living longer, healthier lives.
- New research supports effects of exercise on preventing or reducing depression and anxiety, and new cross-cultural research supports exercise/life satisfaction link.
- Now includes information about the 150-minutes-per-week exercise target shown to have highest effect on well-being.
- Relaxation and Meditation section revised and updated with new research and examples, including research showing link between meditation and a decrease in depression and anxiety, and improvement in decision-making.
- Support for the longevity/religiosity link updated, with new research about possible contributions of healthy lifestyle choices among those who are religiously active.

## Social Psychology

- This unit now appears before the Personality unit.
- New research and examples show power of priming in how attitudes affect actions.
- New photo illustrates attitudes following behavior.
- New research expands group pressure and conformity discussion, including new example of lasting changes in personality due to career choices.
- New research on brain regions that become active when people experience cognitive conflict and negative arousal also becoming active when experiencing *cognitive dissonance*.
- Coverage of persuasion includes updates using climate change as central example.

- New research expands discussion of social synchrony and mimicry being spread through our social networks.
- New photo illustrates how some appear to conform to nonconformity.
- New study with figure on how "I voted" message influenced others on social media.
- Milgram discussion includes updated coverage of replications of his research with different groups.
- Table showing home advantage in team sports updated with new data and additional team sports.
- New photo illustrates social loafing.
- New table helps students distinguish among *social facilitation*, *social loafing*, and *deindividuation*.
- Updates on the Internet as social amplifier, with new examples that demonstrate *group polarization* online.
- Updated figure illustrates increased acceptance of interracial dating among Americans.
- Significantly updated and reorganized prejudice discussion now covers ethnicity, gender, and sexual orientation separately.
- New research and examples of persisting subtle prejudice, including *implicit prejudice*.
- New research examples of *ingroup bias*, including the finding that ingroup discrimination sometimes results from networking and mutual support rather than hostility.
- New coverage of the MAOA gene in The Biology of Aggression.
- Research updates on women's perception of men with higher facial width-to-height ratios as more dominant.
- Psychological and Social-Cultural Factors in Aggression updated, including new research on media models and video games.
- Updated research on contributors to aggression, and updates to the biopsychosocial understanding of aggression figure.
- New photos illustrate the *mere exposure effect*.
- Updated discussion of modern matchmaking, including new graph of heterosexual and same-sex couples that met online.
- New research and examples update discussion of physical attraction.
- New research on increased personal happiness in people from both rich and poor countries if they had donated to a charity in the past month.
- Updated research on people who had been generously treated later being more likely to be generous themselves.
- New photo illustrates altruism during the Rwandan genocide.
- Research updates to The Norms for Helping discussion.
- New example illustrates *mirror-image perceptions*.

## Personality

- New co-author Nathan DeWall led the revision of this unit for the eleventh edition.
- This unit now appears immediately before the Psychological Disorders unit.
- Compelling new unit introduction.
- Improved coverage of modern-day psychodynamic approaches, now more clearly distinguished from historical Freudian roots.
- Assessing Unconscious Processes discussion now includes the *Thematic Apperception Test (TAT)*.
- New research expands discussion of the *modern unconscious mind*, and how modern theorists have continued to study irrationality, sexuality, and other areas of interest to Freud.
- New research and examples support value of humanistic psychology's positive regard and focus on listening with empathy.
- New photo illustrates extraversion.
- New Thinking Critically box, The Stigma of Introversion.
- Updated section on Biology and Personality covers personality-related brain activity variation, and personality differences in animals.
- Big Five discussion updated with new research, including cultural changes over time, relation to brain structure/function, and actual prediction of behavior.
- New research on how personality tendencies taken to either extreme may become maladaptive, and updates on how music preferences, personal spaces, online spaces, and written communications relate to personality traits, with new photo.
- Social-Cognitive Theories revised and updated, and expanded to include *heredity-environment interaction*.
- New photo illustrates *reciprocal determinism*.
- Personal Control and Positive Psychology sections moved to the Emotions, Stress, and Health unit.
- Exploring the Self section updated; *self-efficacy* now a key term.
- Updates to the table comparing the major personality theories.
- New research and discussion outlines importance of positive goal-setting in considering *possible selves*.

- New research on the perils of excessive optimism, blindness to one's own incompetence, and self-serving bias, but with some value placed on self-serving bias helping us replace despair with confidence.
- Discussion of *narcissism* updated.

## Psychological Disorders

- New co-author Nathan DeWall led the revision of this unit for the eleventh edition.
- Reorganized and thoroughly updated to reflect changes to psychiatry's latest edition of its diagnostic manual—the **DSM-5.** Includes integration of psychiatric diagnoses into mainstream medical practice, redefinition of disorders, new disorder categories, changes in labels, and updated definition of *psychological disorder.*
- The biopsychosocial approach enriched with discussion of *epigenetics,* with associated updates throughout the unit.
- New mentions of controversial changes in the DSM-5 throughout these modules, including the new disruptive mood dysregulation disorder, removal of the bereavement exception for depression, and loosened criteria for adult ADHD.
- New, careful explanation of how care providers use DSM-5 criteria and codes for diagnosis and treatment, using insomnia disorder as illustrative example.
- New results of *field trials* on clinician agreement with DSM-5 for certain categories of disorder.
- Updated Thinking Critically box on ADHD, including controversies about diagnosis and concerns about those seeking the "good-grade pills."
- Thinking Critically About Insanity box significantly revised, with new focus and title—Are People With Psychological Disorders Dangerous?
- New photo example of media portrayals of psychological disorders.
- More research on gender differences in generalized anxiety disorder.
- New photo example illustrates discussion of *panic disorder.*
- New research on misperceiving panic symptoms as a heart attack or other illness, with new example.
- New example and research updates discussion of *obsessive-compulsive disorder,* and new research updates *PTSD* statistics.
- New photo example illustrates how we are biologically prepared to fear some things more than others.
- New research and examples in Understanding Anxiety Disorders, OCD, and PTSD on learned fears and stimulus generalization, as well as neural, hormonal, and genetic influences.
- Updated table on Diagnosing Major Depressive Disorder.
- New research updates discussion of depression, including updated statistics and new research on gender differences and on cultural influences.
- New research on the possible factors that put women at greater risk for depression.
- New data on incidence of bipolar disorder, particularly its diagnosis among Americans and among those in creative professions.
- New coverage of *dysthymia,* and updated discussion of a *seasonal pattern* for depression and bipolar disorder.
- Suicide rates discussion updated, including with more research on ethnic differences, and updates to the nonsuicidal self-injury research.
- Updated research on the dangers of relentless, self-focused *rumination.*
- Understanding Depressive Disorders and Bipolar Disorder updated with new research studies exploring genetic, biochemical, cognitive, and behavioral predictors.
- New research updates discussion of cognitive symptoms of schizophrenia, including an impaired theory of mind.
- *Chronic* and *acute schizophrenia* are new key terms.
- New neuroscience and genetic research updates Understanding Schizophrenia.
- Includes new schizophrenia risk factors—childhood physical, sexual, and emotional abuse.
- New research on how abnormal brain anatomy may accompany dissociative identity disorder.
- New research on how those with antisocial personality disorder may show lower emotional intelligence.
- Understanding Antisocial Personality Disorder updated and improved with new genetics research, and discussion of adaptive aspects of some symptoms of psychopathy, such as fearlessness and dominance.
- New examples and other research update Eating Disorders.
- New research on a gene that reduces available serotonin, increasing risk for developing anorexia or bulimia.

## Therapy

- Introduction to Therapy and the Psychological Therapies reorganized/improved; now distinguishes psychotherapy and biomedical therapy more clearly.
- New explanations and research updates Psychoanalysis and Psychodynamic Therapy.
- New photo illustrates face-to-face therapy.
- Helpful new examples of people overcoming fears in Exposure Therapies discussion.
- New photos illustrates virtual reality exposure therapy.
- Cognitive-Behavioral Therapy discussion updated with new research and information, including how positive self-talk is helpful even for those without depression.
- New information on how psychotherapy can be more accessible and affordable through web- and phone-based interventions, work setting treatments, and self-help efforts facilitated by groups, books, and smartphone apps.
- Improved and updated table compares psychotherapies.
- Updated research on effectiveness of certain psychotherapies for specific disorders.
- New research with new photo supports the importance of the *therapeutic alliance*.
- Updated discussion of cultural influences in successful therapy.
- Reorganized section on Finding a Mental Health Professional.
- Updated explanation of how primary care providers prescribe most psychiatric drugs, followed by psychiatrists (and psychologists in some U.S. states).
- New research on the placebo effect in drug therapy showing that even mere exposure to advertising about a drug's effectiveness can increase its effect.
- Clarified and updated explanation of *antidepressants*, and about the preference for the term *SSRIs*, given their multiple treatment uses (not just for depression).
- New research on the possibility of quicker-acting antidepressants.
- Revised explanation more explicitly differentiates today's gentler ECT from its harsher form when first introduced in 1938, and updated research on its effectiveness for severe depression and "treatment-resistant" patients.
- New neuroscience research on how ECT may weaken connections in a "hyperconnected" neural hub in the left frontal lobe.
- New research on the effectiveness of rTMS neurostimulation therapy to treat depression.
- Research updates on deep brain stimulation treatment of depression.
- Therapeutic Lifestyle Change updated with new research supporting value of healthy lifestyle choices, including time spent in natural environments.
- New table compares psychotherapies and biomedical therapies.
- Reorganized/expanded final sections on Preventing Psychological Disorders and Building Resilience.
- Updated research supports concept of higher *resilience* in certain groups.
- Coverage of *posttraumatic growth* now appears here, in reference to struggles with challenging crises.
- Updated research suggests importance of *finding meaning* to foster posttraumatic growth after tragedy, and as a preventive mental health strategy.

## Appendix A: Psychology at Work

- This new appendix, part of the Motivation and Work unit in the previous edition, offers a focused look at industrial-organizational psychology.
- New section on Matching Interests to Work in discussion of personnel psychology.
- New information on career planning in Discovering Your Strengths.
- New research suggests busier, focused people are happier.
- New research on the interviewer illusion updates Do Interviews Predict Performance?
- Updated research on worker satisfaction and engagement, and on the success/morale relationship in employees, supports the finding that successful managers consider employee well-being.
- Updated research on leadership styles, with a new photo illustrating the power of positive leadership.
- Expanded discussion of successful goal-setting from effective leaders introduces value of *collective intelligence*.

## Appendix B: Subfields of Psychology

- This appendix focuses on educational requirements, type of work, and likely places to work for each of psychology's main subfields.
- New photo examples illustrate community psychology, forensic psychology, and sport psychology.

## Appendix C: Complete Module Reviews

- In an effort to encourage students to self-test, the Reviews at the end of each module include only a list of the learning objective questions—repeated from within that module. Answers to those questions form these complete module reviews, which students may use to check their answers or review the material.

## Appendix D: Answers to *Test Yourself* Questions

- Students may check their answers here for the new multiple-format questions found in a self-test at the end of each unit.

# Time Management

## Or, How to Be a Great Student and Still Have a Life

—Richard O. Straub University of Michigan, Dearborn


### How Are You Using Your Time Now?

### Design a Better Schedule

Plan the Term

Plan Your Week

### Make Every Minute of Your Study Time Count

Take Useful Class Notes

Create a Study Space That Helps You Learn

Set Specific, Realistic Daily Goals

Use SQ3R to Help You Master This Text

Don't Forget About Rewards!

### Do You Need to Revise Your New Schedule?

Are You Doing Well in Some Courses But Not in Others?

Have You Received a Poor Grade on a Test?

Are You Trying to Study Regularly for the First Time and Feeling Overwhelmed?

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We all face challenges in our schedules. If you are making the transition from high school to college, you may be delighting in new freedoms, but also struggling to balance your many new responsibilities. Or you may be a student returning to school after spending a few years at work. You may be balancing work and family along with your classes.

How can you balance all of your life's demands and be successful? Time management. Manage the time you have so that you can find the time you need.

In this section, I will outline a simple, four-step process for improving the way you make use of your time.

1. Keep a time-use diary to understand how you are using your time. You may be surprised at how much time you're wasting.
2. Design a new schedule for using your time more effectively.

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3. Make the most of your study time so that your new schedule will work for you.
4. If necessary, refine your new schedule, based on what you've learned.

# How Are You Using Your Time Now?

Although everyone gets 24 hours in the day and seven days in the week, we fill those hours and days with different obligations and interests. If you are like most people, you probably use your time wisely in some ways, and not so wisely in others. Answering the questions in **TABLE 1** can help you find trouble spots—and hopefully more time for the things that matter most to you.

The next thing you need to know is how you actually spend your time. To find out, record your activities in a time-use diary for one week. Be realistic. Take notes on how much time you spend attending class, studying, working, commuting, meeting personal and family needs, fixing and eating meals, socializing (don't forget texting, gaming, and social networking), exercising, and anything else that occupies your time, including life's small practical tasks, which can take up plenty of your 24/7. As you record your activities, take notes on how you are feeling at various times of the day. When does your energy slump, and when do you feel most energetic?

# Design a Better Schedule

Take a good look at your time-use diary. Where do you think you may be wasting time? Do you spend a lot of time commuting, for example? If so, could you use that time more productively? If you take public transportation, commuting is a great time to read and test yourself for review.

Did you remember to include time for meals, personal care, work schedules, family commitments, and other fixed activities?

How much time do you sleep? In the battle to meet all of life's daily commitments and interests, we tend to treat sleep as optional. Do your best to manage your life so that you can get enough sleep to feel rested. You will feel better and be healthier, and you will also do better academically and in relationships with your family and friends. (You will read more about this in Module 9.)

Are you dedicating enough time for focused study? Take a last look at your notes to see if any other patterns pop out. Now it's time to create a new and more efficient schedule.

## Plan the Term

Before you draw up your new schedule, think ahead. Use your phone's calendar feature, or buy a portable calendar that covers the entire school term, with a writing space for each day. Using the course outlines provided by your instructors, enter the dates of all exams, term-paper deadlines, and other important assignments. Also be sure to enter your own long-range personal plans (work and family commitments, etc.). Keep your calendar up to date, refer to it often, and change it as needed. Through this process, you will develop a regular schedule that will help you achieve success.

## Plan Your Week

To pass those exams, meet those deadlines, and keep up with your life outside of class, you will need to convert your long-term goals into a daily schedule. Be realistic—you

▼ TABLE 1
**Study Habits Survey**

Answer the following questions, writing *Yes* or *No* for each line.

1. Do you usually set up a schedule to budget your time for studying, work, recreation, and other activities? _____
2. Do you often put off studying until time pressures force you to cram? _____
3. Do other students seem to study less than you do, but get better grades? _____
4. Do you usually spend hours at a time studying one subject, rather than dividing that time among several subjects? _____
5. Do you often have trouble remembering what you have just read in your course work? _____
6. Before reading a module, do you skim through it and read the section headings? _____
7. Do you try to predict test questions from your class notes and reading? _____
8. Do you usually try to summarize in your own words what you have just finished reading? _____
9. Do you find it difficult to concentrate for very long when you study? _____
10. Do you often feel that you studied the wrong material for a test? _____

Thousands of students have participated in similar surveys. Students who are fully realizing their academic potential usually respond as follows: (1) yes, (2) no, (3) no, (4) no, (5) no, (6) yes, (7) yes, (8) yes, (9) no, (10) no.

Do your responses fit that pattern? If not, you could benefit from improving your time management and study habits.

will be living with this routine for the entire school term. Here are some more things to add to your calendar.

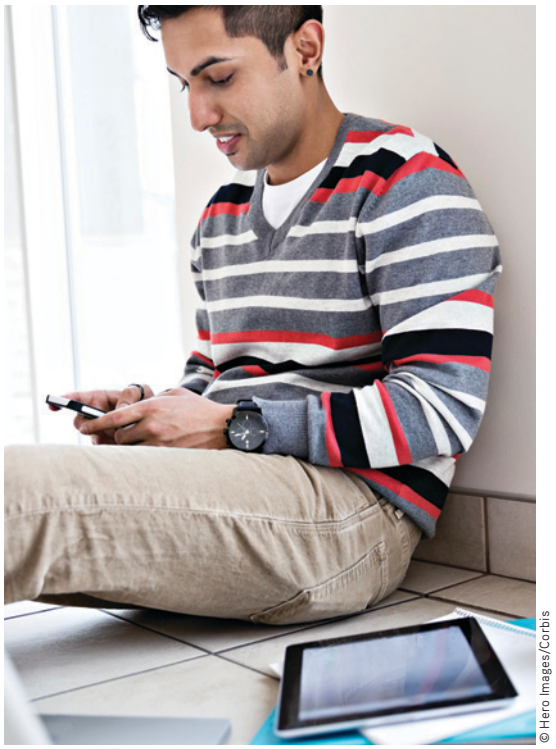
1. Enter your class times, work hours, and any other fixed obligations. Be thorough. Allow plenty of time for such things as commuting, meals, and laundry.
2. Set up a study schedule for each course. Remember what you learned about yourself in the study habits survey (Table 1) and your time-use diary. **TABLE 2,** More Tips for Effective Scheduling, offers some detailed guidance drawn from psychology's research.
3. After you have budgeted time for studying, fill in slots for other obligations, exercise, fun, and relaxation.

## Make Every Minute of Your Study Time Count

How do you study from a textbook? Many students simply read and reread in a passive manner. As a result, they remember the wrong things—the catchy stories but not the main points that show up later in test questions. To make things worse, many

▼ TABLE 2
### More Tips for Effective Scheduling

| There are a few other things you will want to keep in mind when you set up your schedule. |
|---|
| ***Spaced study is more effective than massed study.*** If you need 3 hours to study one subject, for example, it's best to divide that into shorter periods spaced over several days. |
| ***Alternate subjects, but avoid interference.*** Alternating the subjects you study in any given session will keep you fresh and will, surprisingly, increase your ability to remember what you're learning in each different area. Studying similar topics back-to-back, however, such as two different foreign languages, could lead to interference in your learning. (You will hear more about this in Module 26). |
| ***Be smart about your smart phone.*** Texting, snapchatting, browsing, and e-mail can be real distractions. When your concentration is interrupted, it takes extra time and energy to regain the focus you need to make study time count. Consider scheduling a time for checking the phone—perhaps once per hour on the hour—and ignore it during the rest of your study time. (Module 36 has more tips for maintaining balance and focus in your social networking.) |
| ***Determine the amount of study time you need to do well in each course.*** The time you need depends on the difficulty of your courses and the effectiveness of your study methods. Ideally, you would spend at least 1 to 2 hours studying for each hour spent in class. Increase your study time slowly by setting weekly goals that will gradually bring you up to the desired level. |
| ***Create a schedule that makes sense.*** Tailor your schedule to meet the demands of each course. For the course that emphasizes lecture notes, plan a daily review of your notes soon after each class. If you are evaluated for class participation (for example, in a language course), allow time for a review just before the class meets. Schedule study time for your most difficult (or least motivating) courses during hours when you are the most alert and distractions are fewest. |
| ***Schedule open study time. Life can be unpredictable.*** Emergencies and new obligations can throw off your schedule. Or you may simply need some extra time for a project or for review in one of your courses. Try to allow for some flexibility in your schedule each week. |
| Following these guidelines will help you find a schedule that works for you! |



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students take poor notes during class. Here are some tips that will help you get the most from your class and your text.

## Take Useful Class Notes

Good notes will boost your understanding and retention. Are yours thorough? Do they form a sensible outline of each lecture? If not, you may need to make some changes.

### Keep Each Course's Notes Separate and Organized

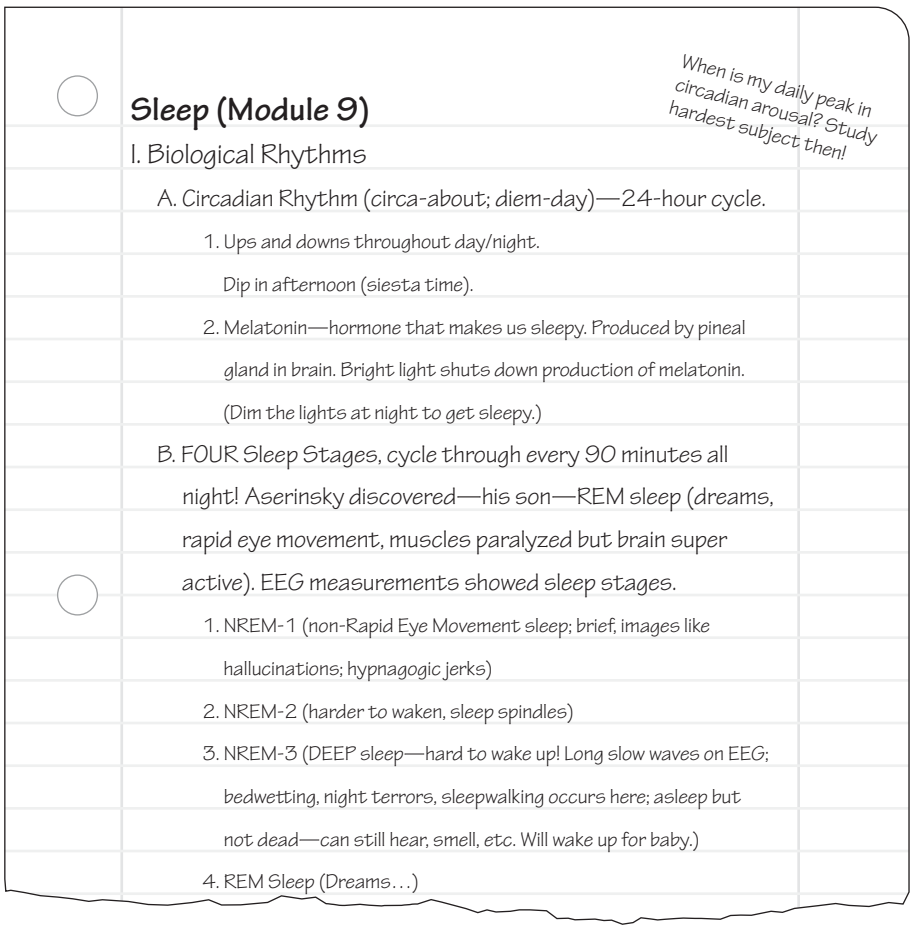
Keeping all your notes for a course in one location will allow you to flip back and forth easily to find answers to questions. Three options are (1) separate notebooks for each course, (2) clearly marked sections in a shared ring binder, or (3) carefully organized folders if you opt to take notes electronically. For the print options, removable pages will allow you to add new information and weed out past mistakes. Choosing notebook pages with lots of space, or using mark-up options in electronic files, will allow you to add comments when you review and revise your notes after class.

### Use an Outline Format

Use roman numerals for major points, letters for supporting arguments, and so on. (See **FIGURE 1** for a sample.) In some courses, taking notes will be easy, but some instructors may be less organized, and you will have to work harder to form your outline.

### Clean Up Your Notes After Class

Try to reorganize your notes soon after class. Expand or clarify your comments and clean up any hard-to-read scribbles while the material is fresh in your mind. Write




▼ FIGURE 1
**Sample class notes in outline form** Here is a sample from a student's notes taken in outline form from a lecture on sleep.

important questions in the margin, or by using an electronic markup feature, next to notes that answer them. (For example: "What are the sleep stages?") This will help you when you review your notes before a test.

## Create a Study Space That Helps You Learn

It's easier to study effectively if your work area is well designed.

### Organize Your Space

Work at a desk or table, not on your bed or in a comfy chair that will tempt you to nap.

### Minimize Distractions

Turn the TV off, put away your phone, and close distracting windows on your computer. If you must listen to music to mask outside noise, play soft instrumentals, not vocal selections that will draw your mind to the lyrics.

### Ask Others to Honor Your Quiet Time

Tell roommates, family, and friends about your new schedule. Try to find a study place where you are least likely to be disturbed.

## Set Specific, Realistic Daily Goals

The simple note "7–8 P.M.: Study Psychology" is too broad to be useful. Instead, break your studying into manageable tasks. For example, you will want to subdivide large reading assignments. If you aren't used to studying for long periods, start with relatively short periods of concentrated study, with breaks in between. In this text, for example, you might decide to read one major section before each break. Limit your breaks to 5 or 10 minutes to stretch or move around a bit.

Your attention span is a good indicator of whether you are pacing yourself successfully. At this early stage, it's important to remember that you're in training. If your attention begins to wander, get up immediately and take a short break. It is better to study effectively for 15 minutes and then take a break than to fritter away 45 minutes out of your study hour. As your endurance develops, you can increase the length of study periods.

## Use SQ3R to Help You Master This Text

You will hear more about SQ3R in Module 1.

David Myers and Nathan DeWall organized this text by using a system called SQ3R (Survey, Question, Read, Retrieve, Review). Using SQ3R can help you to understand what you read, and to retain that information longer.

Applying SQ3R may feel at first as though it's taking more time and effort to "read" a module, but with practice, these steps will become automatic.

### Survey

Before you read a module, survey its key parts. Scan the outline. Note that text sections have numbered Learning Objective Questions to help you focus. Pay attention to headings, which indicate important subtopics, and to words set in bold type.

Surveying gives you the big picture of a module's content and organization. Understanding the module's logical sections will help you break your work into manageable pieces in your study sessions.

### Question

As you survey, don't limit yourself to the numbered Learning Objective Questions that appear throughout the module. Jotting down additional questions of your own will cause you to look at the material in a new way. (You might, for example, scan this section's headings and ask "What does 'SQ3R' mean?") Information becomes easier to remember when you make it personally meaningful. Trying to answer your questions while reading will keep you in an active learning mode.

### Read

As you read, keep your questions in mind and actively search for the answers. If you come to material that seems to answer an important question that you haven't jotted down, stop and write down that new question.

Be sure to read everything. Don't skip photo or art captions, graphs, boxes, tables, or quotes. An idea that seems vague when you read about it may become clear when you see it in a graph or table. Keep in mind that instructors sometimes base their test questions on figures and tables.

### Retrieve

When you have found the answer to one of your questions, close your eyes and mentally recite the question and its answer. Then write the answer next to the question in your own words. Trying to explain something in your own words will help you figure out where there are gaps in your understanding. These kinds of opportunities to practice *retrieving* develop the skills you will need when you are taking exams. If you study without ever putting your book and notes aside, you may develop false confidence about what you know. With the material available, you may be able to recognize the correct answer to your questions. But will you be able to recall it later, when you take an exam without having your mental props in sight?

Test your understanding as often as you can. Testing yourself is part of successful learning, because the act of testing forces your brain to work at remembering, thus establishing the memory more permanently (so you can find it later for the exam!). Use the self-testing opportunities throughout each module, including the periodic Retrieval Practice items. Also take advantage of the self-testing that is available through LaunchPad.

### Review

After working your way through the module, read over your questions and your written answers. Take an extra few minutes to create a brief written summary covering all of your questions and answers. At the end of each main text section, you should take advantage of two important opportunities for self-testing and review—a list of that module's Learning Objective Questions for you to try answering before checking Appendix C (Complete Module Reviews), and a list of that module's key terms for you to try to define before checking the referenced page. At the end of each unit of modules, be sure to try answering the Test Yourself questions, which cover all of the key concepts (with answers in Appendix D).

## Don't Forget About Rewards!

If you have trouble studying regularly, giving yourself a reward may help. What kind of reward works best? That depends on what you enjoy. You might start by making a list of 5 or 10 things that put a smile on your face. Spending time with a loved one, taking a walk or going for a bike ride, relaxing with a magazine or novel, or watching a favorite show can provide immediate rewards for achieving short-term study goals.

To motivate yourself when you're having trouble sticking to your schedule, allow yourself an immediate reward for completing a specific task. If running makes you smile, change your shoes, grab a friend, and head out the door! You deserve a reward for a job well done.

# Do You Need to Revise Your New Schedule?

What if you've lived with your schedule for a few weeks, but you aren't making progress toward your academic and personal goals? What if your studying hasn't paid off in better grades? Don't despair and abandon your program, but do take a little time to figure out what's gone wrong.

## Are You Doing Well in Some Courses But Not in Others?

Perhaps you need to shift your priorities a bit. You may need to allow more study time for chemistry, for example, and less time for some other course.

## Have You Received a Poor Grade on a Test?

Did your grade fail to reflect the effort you spent preparing for the test? This can happen to even the hardest-working student, often on a first test with a new instructor. This common experience can be upsetting. "What do I have to do to get an A?" "The test was unfair!" "I studied the wrong material!"

Try to figure out what went wrong. Analyze the questions you missed, dividing them into two categories: class-based questions and text-based questions. How many questions did you miss in each category? If you find far more errors in one category than in the other, you'll have some clues to help you revise your schedule. Depending on the pattern you've found, you can add extra study time to review of class notes, or to studying the text.

## Are You Trying to Study Regularly for the First Time and Feeling Overwhelmed?

Perhaps you've set your initial goals too high. Remember, the point of time management is to identify a regular schedule that will help you achieve success. Like any skill, time management takes practice. Accept your limitations and revise your schedule to work slowly up to where you know you need to be—perhaps adding 15 minutes of study time per day.

* * *

I hope that these suggestions help make you more successful academically, and that they enhance the quality of your life in general. Having the necessary skills makes any job a lot easier and more pleasant. Let me repeat my warning not to attempt to make too drastic a change in your lifestyle immediately. Good habits require time and self-discipline to develop. Once established, they can last a lifetime.

## REVIEW Time Management: Or, How to Be a Great Student and Still Have a Life

### 1. How Are You Using Your Time Now?

- Identify your areas of weakness.
- Keep a time-use diary.
- Record the time you actually spend on activities.
- Record your energy levels to find your most productive times.

### 2. Design a Better Schedule

- Decide on your goals for the term and for each week.
- Enter class times, work times, social times (for family and friends), and time needed for other obligations and for practical activities.
- Tailor study times to avoid interference and to meet each course's needs.

### 3. Make Every Minute of Your Study Time Count

- Take careful class notes (in outline form) that will help you recall and rehearse material covered in lectures.
- Try to eliminate distractions to your study time, and ask friends and family to help you focus on your work.
- Set specific, realistic daily goals to help you focus on each day's tasks.
- Use the SQ3R system (survey, question, read, retrieve, review) to master material covered in your text.
- When you achieve your daily goals, reward yourself with something that you value.

### 4. Do You Need to Revise Your New Schedule?

- Allocate extra study time for courses that are more difficult, and a little less time for courses that are easy for you.
- Study your test results to help determine a more effective balance in your schedule.
- Make sure your schedule is not too ambitious. Gradually establish a schedule that will be effective for the long term.

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Henk Badenhorst/Vetta/Getty Images

# The Story of Psychology

**Harvard astronomer Owen Gingerich (2006)** reported that there are more than 100 billion galaxies. One of these, our own relative speck of a galaxy, has a few hundred billion stars, many of which, like our Sun-star, are circled by planets. On the scale of outer space, we are less than a single grain of sand on all the oceans' beaches, and our lifetime but a relative nanosecond.

Yet there is nothing more awe inspiring and absorbing than our own inner space. Our brain, adds Gingerich, "is by far the most complex physical object known to us in the entire cosmos" (p. 29). Our consciousness—our mind somehow arising from matter—remains a profound mystery. Our thinking, emotions, and actions (and their interplay with others' thinking, emotions, and actions) fascinate us. Outer space staggers us with its enormity. But inner space enthralls us. Enter psychological science.

For people whose exposure to psychology comes from the news and popular media, psychologists seem to analyze personality, offer counseling, dispense child-raising advice, examine crime scenes, and testify in court. Do they? *Yes*, and much more. Consider some of psychology's questions that you may wonder about:

- Have you ever found yourself reacting to something as one of your biological parents would—perhaps in a way you vowed you never would—and then wondered how much of your personality you inherited? *To what extent do genes predispose our person-to-person differences in personality? To what extent do home and community environments shape us?*
- Have you ever worried about how to act among people of a different culture, race, gender, or sexual orientation? *In what ways are we alike as members of the human family? How do we differ?*
- Have you ever awakened from a nightmare and wondered why you had such a crazy dream? *Why do we dream?*
- Have you ever played peekaboo with a 6-month-old and wondered why the baby finds the game so delightful? The infant reacts as though, when you momentarily move behind a door, you actually disappear—only to reappear out of thin air. *What do babies actually perceive and think?*
- Have you ever wondered what fosters school and work success? *Are some people just born smarter? Does sheer intelligence explain why some people get richer, think more creatively, or relate more sensitively?*
- Have you ever wondered how the Internet, video games, and electronic social networks affect people? *How do today's electronic media influence what we think and how we relate?*
- Have you ever become depressed or anxious and wondered whether you'll ever feel "normal"? *What triggers our bad moods—and our good ones? What's the line between a normal mood swing and a psychological disorder for which someone should seek help?*

As we will see in Module 1, psychology is a science that seeks to answer such questions about us all—how and why we think, feel, and act as we do.