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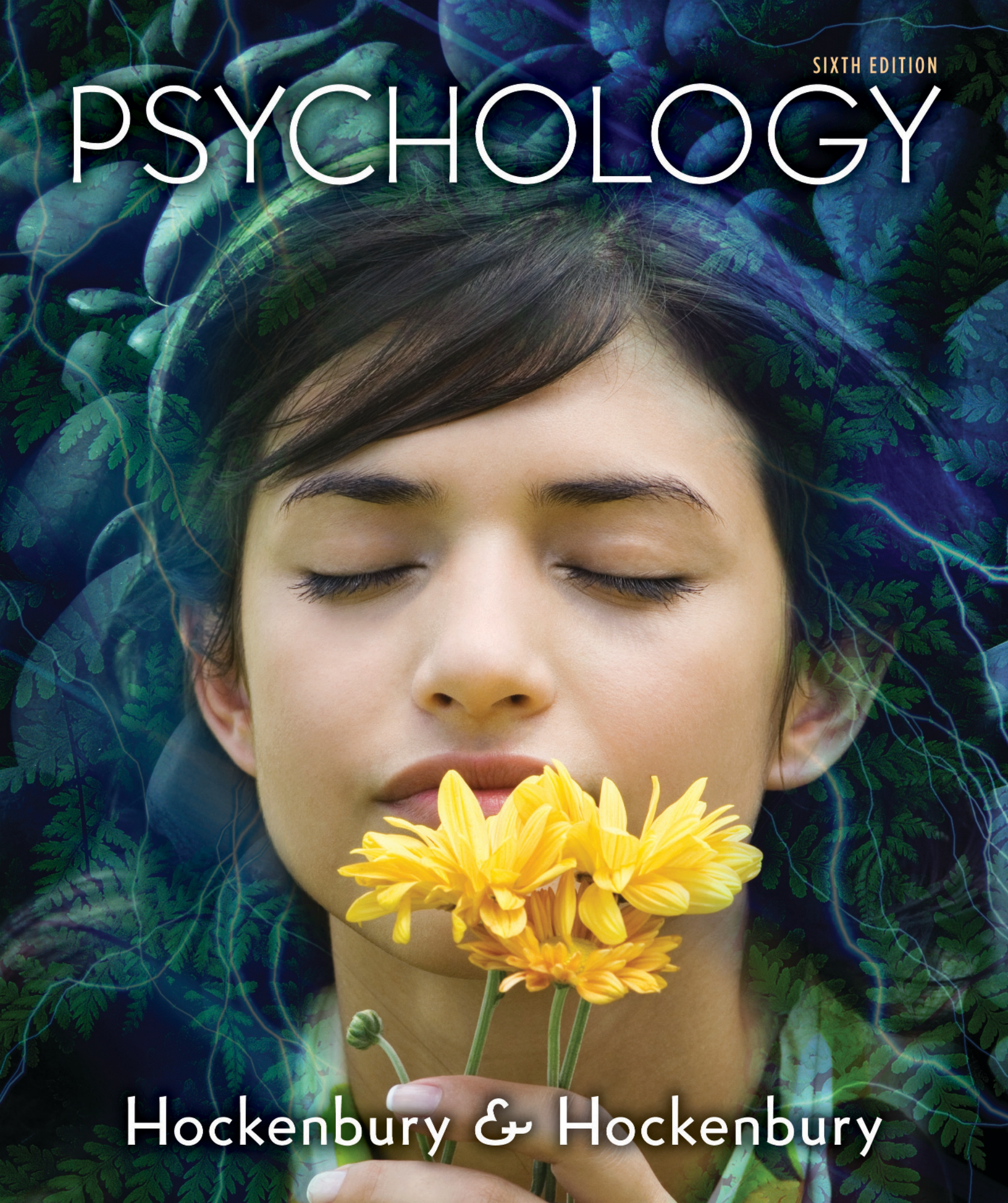

Hockenbury & Hockenbury

PSYCHOLOGY

SIXTH EDITION

PSYCHOLOGY

Don H. Hockenbury
Tulsa Community College

Sandra E. Hockenbury

With contributions by Loren L. Toussaint

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To Marna—with appreciation and gratitude

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Don's favorite research interests include the scientific study of sleep and dreaming, biopsychology, memory, psychological disorders, and the history of psychology. Don belongs to several professional organizations, including the Association of Psychological Science (APS), the American Psychological Association (APA), the American Academy of Sleep Medicine (AASM), and the Sleep Research Society (SRS).

Sandra E. Hockenbury is a science writer who specializes in psychology. Sandy received her B.A. from Shimer College and her M.A. from the University of Chicago, where she was also a research associate at the Institute of Social and Behavioral Pathology. Prior to co-authoring *Psychology* and *Discovering Psychology*, Sandy worked for several years as a psychology editor in both academic and college textbook publishing. Sandy has also taught as an adjunct faculty member at Tulsa Community College.

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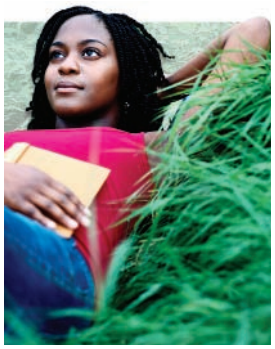

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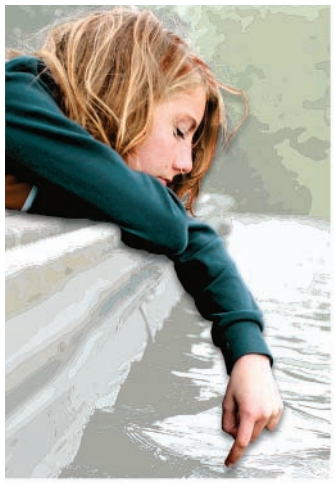

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To the Instructor

Welcome to the sixth edition of *Psychology!* For those of you who are using *Psychology* for the first time, this faculty preface will help orient you to the many features of our text, its supplements, and its media package. If you want to get the most out of our book and teaching package, reading this preface will be well worth your time. To those of you who have used a previous edition of *Psychology,* thank you for helping make our text a success! Rest assured that, once again, we have taken several steps to help make your transition to the new edition as smooth and easy as possible. As we've done previously, we have assembled a complete, detailed, and page-referenced list of changes in the new edition. You can find that list and other helpful materials in the instructor's section of the *Psychology,* Sixth Edition, Web Companion.

We've been gratified by the enthusiastic response to the five previous editions of *Psychology.* We've especially enjoyed the e-mails and letters we've received from students who felt that our book was speaking directly to them. Students and faculty alike told us how much they appreciated *Psychology*'s distinctive voice, its inviting learning environment, the engaging writing style, and the clarity of its explanations—qualities we've maintained in the sixth edition. It's hard to believe, but we've spent the last 20 years of our lives researching and writing six editions of *Psychology* and its smaller sibling, *Discovering Psychology.* Watching the evolution of new research over the past two decades has only further solidified our conviction that psychology is the most exciting of all the sciences.

Before we wrote the first word of the first edition, we had a clear vision for this book: combine the scientific authority of psychology with a narrative that engages students and relates to their lives. Drawing from decades (yes, it really has been decades) of teaching experience, we've written a book that weaves cutting-edge psychological science with real-life stories that draw students of all kinds into the narrative.

More so than any other science, psychology speaks to students' lives. It provides a wealth of practical insights about behavior and mental processes. Throughout the text, we strive to communicate the excitement of scientific discovery and the relevance of psychological findings to students. It is a labor of love, not only for the sake of our discipline, but also for those wonderful "aha!" moments when some everyday behavior suddenly makes sense to a student because it's seen in a new light.

Neuroscience and Behavior Laughing and talking as you and a friend simultaneously ride your bikes and scan the path for obstacles—even seemingly simple behaviors involve the harmonious integration of multiple internal signals and body processes. What kinds of questions might neuroscientists ask about the common behaviors shown here?

This edition of *Psychology* reflects our continued commitment to the goals that have guided us as teachers and authors. Once again, we invite you to explore every page of the new edition of *Psychology*, so you can see firsthand how we:

- Communicate both the scientific rigor and personal relevance of psychology
- Clearly explain psychological concepts and the relationships among them
- Show how classic psychological studies help set the stage for today's research
- Personalize historical figures in psychology with interesting biographical details
- Encourage and model critical and scientific thinking
- Present controversial topics in an impartial and evenhanded fashion
- Expand students' awareness of cultural and gender influences
- Create a student-friendly, personal learning environment
- Actively engage diverse students, including adult learners
- Provide an effective pedagogical system that helps students develop more effective learning strategies

What's New in the Sixth Edition

We began the revision process with the thoughtful recommendations and feedback we received from hundreds of faculty using the text, from reviewers, and from colleagues. We also had face-to-face dialogues with our own students as well as groups of students across the country. After carefully evaluating the feedback from faculty

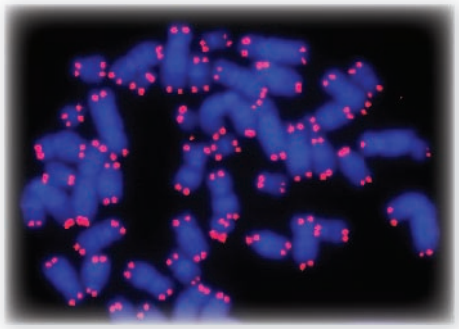
and students, we worked, fueled at times by too many cups of coffee, to create the book you now have in your hands.

This sixth edition reflects an exhaustive updating with new coverage of the latest research, a stunning new design, and some exciting new media options. We have pored over dozens of journals and clicked through thousands of Web sites to learn about the latest in psychological science. As a result, this new edition features hundreds of new references. Just to highlight a few additions, this edition features new or completely revised sections on glial cells (Chapter 2); attention, the functions of consciousness, and meditation (Chapter 4); animal cognition (Chapter 7); epigenetics and moral development (Chapter 9); resilience, social status, and the effects of stress on telomeres (Chapter 13); and mindfulness-based and acceptance psychotherapies (Chapter 15). In addition, we have significantly updated coverage of neuroscience and expanded our coverage of culture and diversity throughout.

The Latest Psychological Science

Faculty members have told us how much they appreciate our efforts to present interesting and current psychology research to students. Keeping up with our incredibly diverse and productive discipline is an ongoing process. Just so you know, we currently subscribe to 12 print and 6 electronic journals, and we regularly monitor multiple psychology, neuroscience, and life science Web sites. And, we both enjoy thumbing through past and current issues of the *New Yorker* in search of just the right cartoon to enliven a new discussion or topic. The stacks of unshelved journals in our respective home offices can sometimes reach truly frightening heights. But scanning journals, newsletters, and science magazines like *New Scientist* and *Discover* often leads us to fascinating new research studies that ultimately find their way into our text. Examples range from the effects of concussions in professional athletes to "hooking up" on campus and evaluating the effectiveness of "baby genius" videos.

As of our last count, there are over 1500 new references in the sixth edition of *Psychology,* more than half of which are from 2009, 2010, or 2011. These new citations reflect the many new and updated topics and discussions in the sixth edition of *Psychology.* From positive psychology to the latest discoveries about stress and telomeres or the effectiveness of meditation in controlling pain and improving attention, our goal is to present students with interesting, clear explanations of psychological science. Later in this preface, you'll find a list of the updates by chapter.



ISM/Phototake

Telomeres *Telomeres* are short, repeated DNA sequences that are found at the very tips of chromosomes (Epel, 2009b). In the photo above, the telomeres are the fluorescent tips on the blue-stained human chromosomes. Like the plastic tips that protect shoelaces from fraying, telomeres protect the genetic data in the chromosomes from being broken or scrambled during cell division. With each cell division, the telomeres get shorter. However, an enzyme called *telomerase* can protect and even lengthen telomeres. Psychologists today are actively studying the environmental factors that affect telomere length, including behavioral interventions that increase telomerase activity (Jacobs & others, 2011).

New Design, New Photos

Created with today's media-savvy students in mind, the clean, modern, new look of *Psychology* showcases the book's cutting-edge content and student-friendly style. Carefully chosen photographs—more than 60 percent of them new—apply psychological concepts and research to real-world situations. Accompanied by information-rich captions that expand upon the text, vivid and diverse photographs help make psychology concepts come alive, demonstrating psychology's relevance to today's students.

New Connections to the American Psychological Association's Principles for Quality Education in Psychology and APA Goals and Outcomes

Many faculty and departments are creating uniform standards for the psychology major and the introductory psychology course. To support faculty's efforts on this front, the sixth edition offers a new appendix on the APA's Principles for Quality Education in Psychology and the APA's goals and outcomes. In addition, the sixth edition test bank ties questions directly to the APA goals.

State-of-the-Art Media Options

There has been a revolution in the educational use of the Web over the past several years. For the sixth edition, our book is accompanied by the latest in educational technology, which combines interactive, visually exciting media with high-quality assessment. This edition is accompanied by *PsychPortal,* an e-book, a video tool kit, and new, interactive presentation slides. For more information about these supplements, please turn to the heading "The Teaching Package: Media Supplements," or you can get more information by going to our companion Web site at www.worthpublishers.com/hockenbury6e.

Three-Dimensional Brain Model

In addition to the cutting-edge coverage of the brain within the book, every new copy of the book can be packaged with a three-dimensional brain created by award-winning designer Bruce Foster and renowned anatomist Todd Buck. Together with the teaching activities available on the instructor Web site, this brain model will help students understand brain anatomy and its relation to human behavior.

Major Chapter Revisions

As you page through our new edition, you will encounter new examples, boxes, photos, and illustrations in every chapter. Below are highlights of some of the most significant changes:

Chapter 1, Introduction and Research Methods

- Updated discussion of the nature–nurture issue
- Revised introduction to the scientific method
- Updated data on specialty areas and employment settings for psychologists
- New research examples and photo illustrations of concepts in research methods, including operational definitions, meta-analysis, and naturalistic observation
- New example illustrates the use of the case study method in research
- New data and table to illustrate survey research, along with a discussion of computer-administered surveys
- Revised discussion of experimental design includes 2011 research on how the environment affects weight gain and the "freshman fifteen"
- Updated and revised "Enhancing Well-Being with Psychology" application on psychology in the media

Chapter 2, Neuroscience and Behavior

- Reorganized discussion of neurons, including a new figure illustrating the different kinds of neurons
- Expanded, updated section describes different glial cell types and is illustrated with stunning new photos and 2011 research
- Revised discussion of drug effects on neurotransmitters introduces new key terms, *agonist* and *antagonist*
- New discussion of traumatic brain injury, concussion, and chronic traumatic encephalopathy, with specific reference to veterans and athletes

- New Focus on Neuroscience, "Mapping the Pathways of the Brain," introduces a new brain-scanning technique, diffusion spectrum imaging, and the Human Connectome Project
- Streamlined Science Versus Pseudoscience box on phrenology
- Expanded and updated box, "Brain Myths," looks at left-brain/right-brain myths, handedness, and the 10 percent myth
- Updated Critical Thinking box, "'His' and 'Her' Brains?"
- New photo of Phineas Gage and streamlined presentation of his case
- Updated research in Enhancing Well-Being with Psychology application, including the effects of exercise on the brain

Chapter 3, Sensation and Perception

- Updated box on subliminal perception introduces the latest 2011 research
- Updated box on the impact of culture on perception
- Revised Critical Thinking box on ESP presents Daryl Bem's controversial 2011 precognition research
- Revised In Focus box, "Do Pheromones Influence Human Behavior?" includes new material on human chemosignals
- Revised discussion of factors that influence pain "gates" describes recent research on the use of odors to manipulate mood
- New photo examples of Gestalt principles, monocular cues, and depth perception concept review
- Enhancing Well-Being with Psychology application incorporates new research on pain control, including 2011 research on mindfulness meditation and new photo example of acupuncture in the NFL

Chapter 4, Consciousness and Its Variations

- Streamlined, retitled Prologue
- New introductory section on the functions of consciousness
- New section on attention and inattentional blindness, incorporating 2010–2011 studies and a visual demonstration of change blindness
- New discussion of multi-tasking and division of attention
- New 2011 research on brain activation during sleep
- New 2011 research on hypnagogic imagery related to daily experience
- Updated, 2011 research on contagious yawning in chimpanzees as an evolutionary adaptive social cue
- Updated section on the functions of sleep, including new information on sleep and memory, and sleep's effect on the immune and endocrine systems
- New 2011 research on sleep patterns in adolescence
- New Focus on Neuroscience, "The Sleep-Deprived Emotional Brain," features 2011 research on the effects of sleep deprivation on emotional regulation
- Condensed Focus on Neuroscience, "The Dreaming Brain: Turning REM On and Off"
- Revised discussion of the activation-synthesis model of dreaming
- New coverage of the neurocognitive model of dreaming, now a boldfaced key term
- Streamlined coverage of circadian rhythms, sleep and memory formation, sleep disorders, and psychoactive drugs
- Updated research on hypnosis and its applications

Mapping the Pathways of the Brain: The Connectome Using a new brainscanning technique called *diffusion spectrum imaging*, neuroscientists produced this three-dimensional image of the neural pathways of the brain. Each fiber in the photo represents hundreds of thousands of individual axons. Blue colors the bundled axons that form up the neural pathway stretching from the top to the bottom of the brain. Green represents pathways from the front (left) to the back (right) of the brain. Red shows the *corpus callosum*, the pathway *between* the right and left brain hemispheres.

- Expanded meditation coverage includes updated terminology and reflects scientific interest in meditation as a way to study how intensive mental training affects brain function and basic psychological processes such as attention, memory, emotion, and pain
- New Focus on Neuroscience "Meditation and the Brain," shows how mental training is associated with structural changes in the brain
- Updated research in the Focus on Neuroscience box, "The Addicted Brain"
- Updated statistics and research on the dangers of prescription painkillers
- New photo and discussion of medical marijuana and its legal status

Chapter 5, Learning

- New examples of stimulus discrimination and generalization in classical conditioning
- New reports on the possible identity of "Little Albert"
- New examples of conditioned reinforcement, schedules of reinforcement, negative reinforcement, and punishment
- Updated research on the use of punishment
- Revised Critical Thinking box, "Is Human Freedom Just an Illusion?" explores the use of virtual gaming systems to promote social good
- Updated research on mirror neurons in humans
- Updated research on observational learning in nonhuman animals
- New information on entertainment education programs in the United States
- Updated research on biological preparedness, evolution, and conditioned fears
- New photo illustrations of classically conditioned emotional reactions, primary and secondary reinforcers, accidental reinforcement, and learned helplessness
- New example of superstitious ritual in professional sports
- Revised and updated Critical Thinking box, "Does Exposure to Media Violence *Cause* Aggressive Behavior?"
- Added photo and biographical information for Martin Seligman, now a boldfaced key person
- Added biographical information on Marian and Keller Breland, with historical photos
- Enhancing Well-Being with Psychology application, "Using Learning Principles to Improve Self-Control," updated with new 2010 research

Superpower Memory in Just Minutes Per Day? Journalist Josh Foer (2011) visited a memory competition expecting to find people with special memory abilities. Instead, he encountered a group of "mental athletes"— people with ordinary minds who had trained their memories to accomplish incredible feats, such as reciting hundreds of random digits or pages of poetry. Told that anyone could develop an expert memory with training, he set out to prove it and devoted months to training his own memory. A year later, he won the USA Memory Championship and even set a new U.S. record by memorizing the position of a deck of cards in one minute, 40 seconds. Josh's secret? Mnemonic techniques, like the *method of loci*—and lots and lots of practice.

Chapter 6, Memory

- Discussion of flashbulb memories updated with new research and examples
- New research on forgetting notes exceptions to the Ebbinghaus forgetting curve
- New 2010 research on how and why testing improves memory
- Expanded discussion of common retrieval glitches
- New photos of Henry Molaison ("H.M.") and biographical discussion of how his life provided numerous scientific insights into memory processes
- Expanded and updated Enhancing Well-Being with Psychology application, "Superpower Memory in Minutes per Day!"

Chapter 7, Thinking, Language, and Intelligence

- Streamlined Prologue
- Expanded discussion of fixation incorporates 2011 research on how expertise can interfere with effective problem-solving
- Revised Critical Thinking box, "The Persistence of Unwarranted Beliefs," includes new material on wishful thinking bias

- Updated and expanded section, "Animal Communication and Cognition," featuring 2011 research on cooperation in elephants and problem-solving in corvids
- New example of the availability heuristic
- New photo and biographical discussion of Robert Sternberg
- New examples to illustrate Howard Gardner's theory of multiple intelligences
- Updated and streamlined discussion of group differences in IQ
- Updated discussion of stereotype threat, including 2010 and 2011 research
- Updated research on creativity in the Enhancing Well-Being with Psychology application
- Many new visual examples of cognitive processes, including decision-making, trial-and-error, creativity, and heuristics

Chapter 8, Motivation and Emotion

- Updated, 2011 information on global and U.S. prevalence of excess weight, obesity, and sedentary lifestyles
- Expanded Focus on Neuroscience, "Dopamine Receptors and Obesity," includes 2010 research on the effects of overeating on the brain's reward system chemistry
- Updated research on gender differences in emotion
- New 2011 cross-cultural research on the universality of emotional expression
- New, ethnically diverse photos of facial expressions of the basic emotions
- Updated 2010 and 2011 research on the effects of Botox on emotional experience as a test of the facial feedback hypothesis
- Thoroughly updated Enhancing Well-Being with Psychology application incorporates new 2010 and 2011 research
- New photo examples of Maslow's hierarchy of motives, cultural influences on eating behavior, achievement motivation, and lie detection

Chapter 9, Lifespan Development

- New Prologue, "Future Plans," explores the effects of culture and history on life stories
- Thoroughly revised genetics discussion features a brand-new section, "The New Science of Epigenetics," which explains how environmental factors trigger gene expression and includes 2010 and 2011 research on the impact of early stress
- Reorganized discussion of prenatal development includes new figure and coverage of prenatal brain development and expanded coverage of teratogens
- Revised and reorganized discussion of physical development in infants now includes cephalocaudal and proximodistal trends
- New Science Versus Pseudoscience box investigates claims that "baby media" can accelerate language and cognitive development
- New material on the timing of puberty
- New material on adolescent social development explores peer influence and romantic and sexual relationships
- New discussion of the development of moral reasoning highlights contemporary responses to Lawrence Kohlberg, now a boldfaced key person
- Expanded discussion of menopause
- Updated statistics on marriage and the family in the United States
- New placement of Critical Thinking box, "The Effects of Child Care on Attachment and Development," emphasizes the importance of this issue to working parents

The Importance of Attachment Secure attachment in infancy forms the basis for emotional bonds in later childhood. At one time, attachment researchers focused only on the relationship between mothers and infants. Today, the importance of the attachment relationship between fathers and children is also recognized (Lucassen & others, in press).

- Updated research on the structure of American families
- New material on cognitive function in late adulthood
- New Focus on Neuroscience, "Boosting the Aging Brain," presents 2011 research showing that even moderate exercise can improve brain functioning
- Revised Enhancing Well-Being with Psychology application notes parenting practices in other cultures

Chapter 10, Gender and Sexuality

- Updated discussions of gender differences and gender-role development
- Revised and updated coverage of sexual attitudes
- Expanded discussion of sexual orientation, with the latest prevalence estimates
- Section on sexual behavior updated with results from the National Survey of Sexual Health and Behavior, the National Survey of Family Growth, and the National Social Life, Health, and Aging Project
- Revised section on sexual disorders and problems
- Streamlined In Focus box, "Everything You Wanted to Know About Sexual Fantasies"
- Updated and expanded Critical Thinking box on mate preferences and evolutionary psychology
- New In Focus box, "Hooking Up on Campus," explores a cultural shift in sexual behavior

Chapter 11, Personality

- New artwork depicting Freud's classic iceberg analogy of personality
- New Focus on Neuroscience on the neuroscience of the "big five" personality traits
- New section on the Myers-Briggs Type Indicator test, its uses and limitations
- Updated research on personality assessment techniques
- Many new photo examples, including super-ego, sublimation, and self-efficacy

Deindividuation: Anonymity and Reduced Self-Awareness Hats and masks heightened the sense of anonymity felt by rioters in London during the summer of 2011. So did the general chaos on the streets, where throngs of people set fire to cars and looted local shops. Such factors add to the likelihood that people will commit antisocial acts that they would not commit if their identities were known (Morrell & others, 2011).

Chapter 12, Social Psychology

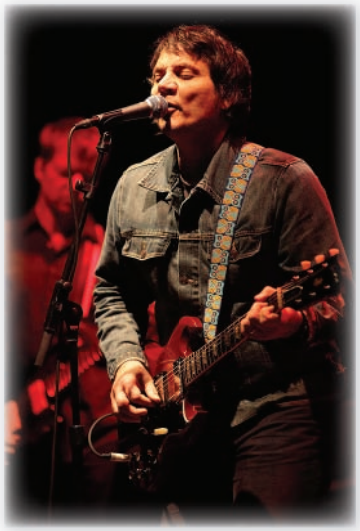
- New coverage of evolutionary approach to social psychology, and the importance of the *sense of self,* now a boldfaced key term
- Streamlined and updated discussion of person perception
- Fully revised section on social categorization now includes implicit and explicit cognition as boldfaced key terms
- Expanded and updated discussion of physical attractiveness
- Updated and expanded Focus on Neuroscience, "Brain Reward When Making Eye Contact with Attractive People"
- Revised discussion of attribution adds hindsight bias as new boldfaced key term
- New In Focus box, "Interpersonal Attraction and Liking"
- New section on implicit attitudes and the Implicit Association Test, with 2011 research
- Discussion of contemporary replication of Milgram's obedience study
- Updated and revised sections on bystander intervention and group processes, with new research and contemporary examples
- New photos and captions provide contemporary examples of the role of implicit personality theory in deceiving others, the persistence of the "what is beautiful is good" myth, blaming the victim bias, and bystander intervention

Chapter 13, Stress, Health, and Coping

- New prologue, "Fire and Ash," describes how two people respond to the stress of a major disaster and its aftermath
- New introduction to stress and health psychology uses the example of a gratitude list to explain how thoughts and moods can affect physical processes
- New figure depicting the role of appraisal in stress and coping
- New section on traumatic events distinguishes between normal coping and post-traumatic stress disorder
- New section on developing resilience incorporates 2010 research
- Revised discussion of daily hassles, including updated research on gender differences
- New photo example illustrates how major life events can create daily hassles
- New table listing examples of daily hassles, including specific examples of hassles faced by college students and by children dealing with the stress of adapting to a new culture
- Expanded section on social and cultural sources of stress, with new research on racism as a particularly potent stressor and the importance of perceived social status
- New section on work stress and burnout
- Reorganized section on the physical effects of stress, including distinction between acute and chronic stress
- All new section, "Stress, Chromosomes, and Aging: The Telomere Story," includes three new figures
- Updated research on personality, emotions, stress, and health
- New examples of research evidence for the importance of close relationships in our ability to deal with stressors
- Revised discussion of gender in the effects of social support
- Revised coverage of coping strategies includes new cross-cultural research
- New research on the health benefits of diversity in social support networks
- New photo examples of coping with stress, including new illustrations of finding meaning in tragedy and the effects of culture on coping
- Enhancing Well-Being with Psychology application, "Minimizing the Effects of Stress," includes a new section on mindfulness meditation and instructions for practicing a simple mindfulness of breathing meditation

Chapter 14, Psychological Disorders

- Revised Prologue, "Behind the Steel Door"
- New figure and data on the prevalence and incidence of psychological disorders in the United States
- Expanded coverage of the DSM-IV-TR presents a history of the manual, including critiques and a discussion of DSM-5
- Expanded attention to comorbidity, including updated results from the replication of the National Comorbidity Survey (NCS-R)
- Critical Thinking box updated with new research on violence and mental illness
- Updated research on eating disorders and new photo examples
- Current research on incidence of post-traumatic stress disorder in U.S. military personnel who have served in Iraq and Afghanistan, and on the long-term effects of exposure to terrorist attacks
- Updated information on the personality disorders
- Expanded discussion of borderline personality disorder, with updated statistics and new coverage of Marsha Linehan's biosocial developmental theory



Jeff Tweedy and Panic Disorder
Founder of the alternative rock band Wilco, Jeff Tweedy has suffered from severe panic attacks for years. Tweedy (2008) explains the vicious cycle that underlies panic disorder: "You'll have an actual panic attack and for weeks or months after that you'll have a fear of a panic attack that can heighten your anxiety and heighten your stress levels to the point where you end up having another panic attack." After psychological treatment, Tweedy is now better able to manage his symptoms of panic disorder.

- Expanded and updated research on genetic factors in schizophrenia and bipolar disorder includes 2011 findings
- New photo illustrations put a human face on psychological disorders, spotlighting people who have been diagnosed with panic disorder (Jeff Tweedy of Wilco), post-traumatic stress disorder, obsessive-compulsive disorder (Howard Hughes), major depression (Kurt Cobain, Sheryl Crow), bipolar disorder (Carrie Fisher), anorexia, schizophrenia, dissociative fugue, and multiple personality disorder

Chapter 15, Therapies

- Counseling Psychologist added to list of mental health professionals
- Updated information on the status of prescription privileges for psychologists
- Updated research on psychoanalysis, interpersonal therapy, humanistic therapy, and motivational interviewing
- New section on mindfulness and acceptance-based therapies
- New, extended example of desensitization combined with observational learning to treat flying phobia; updated research on aversive conditioning
- Updated research on rational emotive therapy and cognitive behavior therapy
- Revised and updated discussion of token economy and contingency management therapy
- New discussion of integrative psychotherapy
- Updated research on the effectiveness of atypical antipsychotic medications
- New data on the use of antidepressants in the United States and research that questions claims of their effectiveness
- Updated coverage of electroconvulsive therapy, plus new coverage of transcranial magnetic stimulation, vagus nerve stimulation, and deep brain stimulation

Appendix B, Industrial/Organizational Psychology

- Updated mechanical ability test sample
- New photo examples of ergonomically designed work environment, teleworking, and work-family balance

Appendix C, APA Principles for Quality Education in Psychology and APA Goals and Outcomes

- New section on the APA Principles for Quality Education in Psychology demonstrates how this text supports introductory psychology students and instructors in achieving these goals.

Features of *Psychology*

For all that is new in the sixth edition, we were careful to maintain the unique elements that have been so well received in the previous editions. Every feature and element in our text was carefully developed and serves a specific purpose. From comprehensive surveys, reviewers, and our many discussions with faculty and students, we learned what elements people wanted in a text and why they thought those features were important tools that enhanced the learning process. We also surveyed the research literature on text comprehension, student learning, and memory. In the process, we acquired many valuable insights from the work of cognitive and educational psychologists. Described below are the main features of *Psychology* and a discussion of how these features enhance the learning process.

The Narrative Approach

> Associate the new with the old in some natural and telling way, so that the interest, being shed along from point to point, fully suffuses the entire system of objects. . . . Anecdotes and reminiscences [should] abound in [your] talk; and the shuttle of interest will shoot backward and forward, weaving the new and the old together in a lively and entertaining way.
>
> —*William James*, Talks to Teachers (1899)

As you'll quickly discover, our book has a very distinctive voice. From the very first page of this text, the reader comes to know us as people and teachers through carefully selected stories and anecdotes. Some of our friends and relatives have also graciously allowed us to share stories about their lives. The stories are quite varied—some are funny, others are dramatic, and some are deeply personal. All of them are true.

The stories we tell reflect one of the most effective teaching methods: the *narrative approach*. In addition to engaging the reader, each story serves as a pedagogical springboard to illustrating important concepts and ideas. Every story is used to connect new ideas, terms, and ways of looking at behavior to information with which the student is already familiar.

Prologues

As part of the narrative approach, every chapter begins with a **Prologue,** a true story about ordinary people with whom most students can readily identify. The Prologue stories range from the experiences of a teenager with Asperger's Syndrome, to people struggling with the after-effects of a devastating wildfire, to the story of a man who regained his sight after decades of blindness. Each Prologue effectively introduces the chapter's themes and lays the groundwork for explaining why the topics treated by the chapter are important. The Prologue establishes a link between familiar experiences and new information—a key ingredient in facilitating learning. Later in the chapter, we return to the people and stories introduced in the Prologue, further reinforcing the link between familiar experiences and new ways of conceptualizing them.

Logical Organization, Continuity, and Clarity

As you read the chapters in *Psychology,* you'll see that each one tells the story of a major topic in a logical way that flows continuously from beginning to end. Themes are clearly established in the first pages of the chapter. Throughout the chapter, we come back to those themes as we present subtopics and specific research studies. Chapters are thoughtfully organized so that students can easily see how ideas are connected. The writing is carefully paced to maximize student interest and comprehension. Rather than simply mentioning terms and findings, we explain concepts clearly. And we use concrete analogies and everyday examples, rather than vague or flowery metaphors, to help students grasp abstract concepts and ideas.

Paradoxically, one of the ways that we maintain narrative continuity throughout each chapter is through the use of in-text boxes. The boxes provide an opportunity to explore a particular topic in depth without losing the narrative thread of the chapter. The **In Focus** boxes do just that—they focus on interesting topics in more depth than the chapter's organization would allow. These boxes highlight interesting research, answer questions that students commonly ask, or they show students how psychological research can be applied in their own lives. The sixth edition of *Psychology* includes the following In Focus boxes:

- Questions About the Use of Animals in Psychological Research, p. 37
- Do Pheromones Influence Human Behavior?, p. 106
- What You Really Want to Know About Sleep, p. 141
- What You Really Want to Know About Dreams, p. 152
- Watson, Classical Conditioning, and Advertising, p. 193
- Evolution, Biological Preparedness, and Conditioned Fears: What Gives You the Creeps?, p. 198

- Changing the Behavior of Others: Alternatives to Punishment, p. 206
- Déjà Vu Experiences: An Illusion of Memory?, p. 250
- H.M. and Famous People, p. 267
- Does a High IQ Score Predict Success in Life?, p. 296
- Neurodiversity: Beyond IQ, p. 302
- Detecting Lies, p. 341
- Beyond Male and Female: Variations in Gender Identity, p. 417
- Everything You Wanted to Know About Sexual Fantasies, p. 428
- Hooking Up on Campus, p. 429
- Explaining Those Amazing Identical-Twin Similarities, p. 472
- Interpersonal Attraction and Liking, p. 495
- Providing Effective Social Support, p. 549
- Gender Differences in Responding to Stress: "Tend-and-Befriend" or "Fight-or-Flight?", p. 551
- Using Virtual Reality to Conquer Phobias, p. 618
- Self-Help Groups: Helping Yourself by Helping Others, p. 627
- Servant Leadership: When It's Not All About You, p. B-10
- Name, Title, Generation, p. B-11

Scientific Emphasis

Many first-time psychology students walk into the classroom operating on the assumption that psychology is nothing more than common sense or a collection of personal opinions. Clearly, students need to walk away from an introductory psychology course with a solid understanding of the scientific nature of the discipline. To help you achieve that goal, in every chapter we show students how the scientific method has been applied to help answer different kinds of questions about behavior and mental processes.

Because we carefully guide students through the details of specific experiments and studies, they develop a solid understanding of how scientific evidence is gathered and the interplay between theory and research. And because we rely on original rather than secondary sources, students get an accurate presentation of both classic and contemporary psychological studies.

One unique way that we highlight the scientific method in *Psychology* is with our trademark **Science Versus Pseudoscience** boxes. In these boxes, students see the importance of subjecting various claims to the standards of scientific evidence. These boxes promote and encourage scientific thinking by focusing on topics that students frequently ask about in class. The sixth edition of *Psychology* includes the following Science Versus Pseudoscience boxes:

- What Is a Pseudoscience?, p. 22
- Phrenology: The Bumpy Road to Scientific Progress, p. 64
- Brain Myths, p. 79
- Subliminal Perception, p. 91
- Can a DVD Program Your Baby to Be a Genius?, p. 374
- Graphology: The "Write" Way to Assess Personality?, p. 475
- EMDR: Can You Wave Your Fears Away?, p. 632

Ruby Washington/The New York Times

Encouraging Language Development
Research shows that one of the most effective ways to enhance a child's cognitive development is to read to her—even in infancy (Robb & others, 2009). Rather than spending money on expensive videos, buy books or check them out from your local library.

Critical Thinking Emphasis

Another important goal of *Psychology* is to encourage the development of critical thinking skills. To that end, we do not present psychology as a series of terms, definitions, and facts to be skimmed and memorized. Rather, we try to give students an understanding of how particular topics evolve. In doing so, we also demonstrate the process of challenging preconceptions, evaluating evidence, and revising theories based on new evidence. In short, every chapter shows the process of psychological research—and the important role played by critical thinking in that enterprise.

Because we do not shrink from discussing the implications of psychological findings, students come to understand that many important issues in contemporary psychology are far from being settled. Even when research results are consistent, how to interpret those results can sometimes be the subject of considerable debate. As the authors of the text, we very deliberately try to be evenhanded and fair in presenting both sides of controversial issues. In encouraging students to join these debates, we often challenge them to be aware of how their own preconceptions and opinions can shape their evaluation of the evidence.

Beyond discussions in the text proper, every chapter includes one or more **Critical Thinking** boxes. These boxes are carefully designed to encourage students to think about the broader implications of psychological research—to strengthen and refine their critical thinking skills by developing their own positions on questions and issues that don't always have simple answers. Each Critical Thinking box ends with two or three questions that you can use as a written assignment or for classroom discussion. The sixth edition of *Psychology* includes the following Critical Thinking boxes:

- What Is Critical Thinking?, p. 18
- "His" and "Her" Brains?, p. 74
- ESP: Can Perception Occur Without Sensation?, p. 114
- Is Hypnosis a Special State of Consciousness?, p. 162
- Is Human Freedom Just an Illusion?, p. 208
- Does Exposure to Media Violence *Cause* Aggressive Behavior?, p. 223
- The Memory Wars: Recovered or False Memories?, p. 259
- The Persistence of Unwarranted Beliefs, p. 288
- Has Evolution Programmed Us to Overeat?, p. 329
- Emotion in Nonhuman Animals: Laughing Rats, Silly Elephants, and Smiling Dolphins?, p. 346
- The Effects of Child Care on Attachment and Development, p. 396
- Are Women *Really* More Emotional Than Men?, p. 413
- Freud Versus Rogers on Human Nature, p. 461
- Freud Versus Bandura on Human Aggression, p. 465
- Abuse at Abu Ghraib: Why Do Ordinary People Commit Evil Acts?, p. 512
- Do Personality Factors Cause Disease?, p. 546
- Are People with a Mental Illness as Violent as the Media Portray Them?, p. 562
- Does Smoking Cause Depression and Other Psychological Disorders?, p. 580

Cultural Coverage

As you can see in Table 1, we weave cultural coverage throughout many discussions in the text. But because students are usually unfamiliar with cross-cultural psychology, we also highlight specific topics in **Culture and Human Behavior** boxes. These boxes increase student awareness of the importance of culture in many areas of human experience. They are unique in that they go beyond simply describing

TABLE 1

Integrated Cultural Coverage

In addition to the topics covered in the Culture and Human Behavior boxes, cultural influences are addressed in the following discussions.

Page(s)	Topic
12	Cross-cultural perspective in contemporary psychology
12	Culture, social loafing, and social striving
53	Effect of traditional Chinese acupuncture on endorphins
91	Israeli study on the effects of subliminal stimuli on political attitudes
128	Use of acupuncture in traditional Chinese medicine for pain relief
163–164	Meditation in different cultures
164	Research collaboration between Tibetan Buddhist monks and Western neuroscientists
167	Racial and ethnic differences in drug metabolism rate
167	Cultural norms and patterns of drug use
167	Differences in alcohol use by U.S. ethnic groups
172	Tobacco and caffeine use in different cultures
175	Peyote use in religious ceremonies in other cultures
175	Medicinal use of marijuana in ancient China, Egypt, India, and Greece
176	Rave culture and drug use in Great Britain and Europe
208	Clash of B. F. Skinner's philosophy with American cultural ideals and individualistic orientation
222–224	Cross-cultural application of observational learning principles in entertainment-education programming in Mexico, Latin America, Asia, and Africa
243–244	Cross-cultural research on the tip-of-the-tongue phenomenon
290	Spontaneous development of sign languages in Nicaragua and Bedouin village as cross-cultural evidence of innate human predisposition to develop language
295	Historical misuse of IQ tests to evaluate immigrants
296	Wechsler's recognition of the importance of culture and ethnicity in developing the WAIS intelligence test
299–300	Role of culture in Gardner's definition and theory of intelligence
301	Role of culture in Sternberg's definition and theory of intelligence
305	IQ and cross-cultural comparison of educational differences
306–307	Effect of culture on IQ score comparisons
307	Potential effect of culture on intelligence test performance
308–309	Rapid gains in IQ scores in different nations
309–310	Cross-cultural studies of group discrimination and IQ
311	Role of culture in tests and test-taking behavior
322	Culture's effect on food preference and eating behavior
331	Obesity rates in cultures with different levels of economic development
336–337	Culture and achievement motivation
339	Culturally universal emotions
340	Culture and emotional experience
340	Cross-cultural research on gender and emotional expressiveness
342	Cross-cultural studies of psychological arousal associated with emotions
345–348	Universal facial expressions
347–348	Culture, cultural display rules, and emotional expression
371	Cultural influences on temperament
371	Cross-cultural studies of attachment
372	Native language and infant language development
372–373	Cross-cultural research on infant-directed speech
372–373	Culture and patterns of language development
377	Influence of culture on cognitive development
387	Cultural influences on timing of adolescent romantic relationships
391–392	Culture and moral reasoning
402	Cultural differences in the effectiveness of different parenting styles
409–410	Culture's influence on gender and gender roles
410	Gender stereotypes in different cultures
435–437	Prevalence rates of AIDS among different ethnic and racial groups in the United States and in different societies worldwide
445–446	Freud's impact on Western culture
446–447	Cultural influences on Freud's psychoanalytic theory
455–456	Cultural influences on Jung's personality theory
456	Jung on archetypal images, including mandalas, in different cultures
456–457	Cultural influences on the development of Horney's personality theory
461	Rogers on cultural factors in the development of antisocial behavior
469	Cross-cultural research on the universality of the five-factor model of personality
488–489	Cultural conditioning and the "what is beautiful is good" myth
492	Attributional biases in individualistic versus collectivistic cultures
495	Cultural differences in interpersonal attraction
498–499	Stereotypes, prejudice, and group identity
499	Ethnocentrism
512–513	Influence of cultural norms on conformity
510	Cross-cultural comparisons of destructive social influence
512–513	Role of cultural differences in abuse at Abu Ghraib prison in Iraq
530	Cross-cultural research on life events and stress
532–333	Cultural differences as source of stress
542	Cross-cultural research on the benefits of perceived control
553–554	Effect of culture on coping strategies
561	Role of culture in distinguishing between normal and abnormal behavior
563	Use of DSM categories to compile cross-cultural data on prevalence of psychological disorders
570	Cultural variants of panic disorder and panic attacks
570	*Taijin kyofusho*, a culture-specific disorder related to social phobia
572	PTSD in child soldiers in Uganda and Congo
574	Cultural influences in obsessions and compulsions
583–584	Western cultural ideals of beauty and prevalence rates of eating disorders
589	Role of culture in dissociative experiences
594	Prevalence of schizophrenia in different cultures
600	Findings from the Finnish Adoptive Family Study of Schizophrenia
612	Use of interpersonal therapy to treat depression in Uganda
611–612	Impact of cultural differences on effectiveness of psychotherapy
636	Efficacy of traditional herbal treatment for psychotic symptoms in India

cultural differences in behavior. They show students how cultural influences shape behavior and attitudes, including the student's own behavior and attitudes. The sixth edition of *Psychology* includes the following Culture and Human Behavior boxes:

- What Is Cross-Cultural Psychology?, p. 13
- Ways of Seeing: Culture and Top-Down Processes, p. 113
- Culture and the Müller-Lyer Illusion: The Carpentered-World Hypothesis, p. 126
- Culture's Effects on Early Memories, p. 241
- The Effect of Language on Perception, p. 290
- Performing with a Threat in the Air: How Stereotypes Undermine Performance, p. 308
- Where Does the Baby Sleep?, p. 370
- Evolution and Mate Preferences, p. 422
- Explaining Failure and Murder: Culture and Attributional Biases, p. 492
- The Stress of Adapting to a New Culture, p. 534
- Travel Advisory: The Jerusalem Syndrome, p. 594
- Cultural Values and Psychotherapy, p. 634

Separate Worlds? In childhood, girls tend to establish close relationships with one or two other girls and to cement their friendships by sharing thoughts and feelings. In contrast, boys tend to play in groups and favor competitive games and team sports. How might such gender differences affect intimate relationships in adolescence and adulthood?

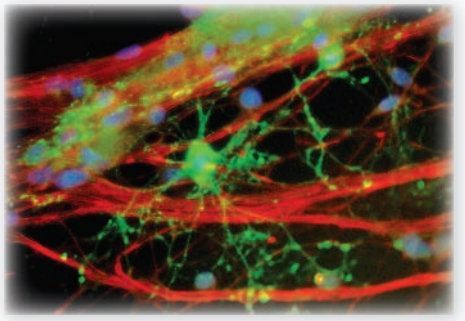
Gender Coverage

Gender influences and gender differences are described in many chapters. Table 2 shows the integrated coverage of gender-related issues and topics in *Psychology*. To help identify the contributions made by female researchers, the full names of researchers are provided in the References section at the end of the text. When researchers are identified using initials instead of first names (as APA style recommends), many students automatically assume that the researchers are male.

Neuroscience Coverage

Psychology and neuroscience have become intricately intertwined. Especially in the last decade, the scientific understanding of the brain and its relation to human behavior has grown dramatically. The imaging techniques of brain science—PET scans, MRIs, and functional MRIs—have become familiar terminology to many students, even if they don't completely understand the differences between them. To reflect that growing trend, we have increased our neuroscience coverage to show students how understanding the brain can help explain the complete range of human behavior, from the ordinary to the severely disturbed. Each chapter contains one or more **Focus on Neuroscience** discussions that are designed to complement the broader chapter discussion. Here is a complete list of the Focus on Neuroscience features in the sixth edition:

- Psychological Research Using Brain Imaging, p. 34
- Is "Runner's High" an Endorphin Rush?, p. 54
- Mapping the Pathways of the Brain, p. 65
- Juggling and Brain Plasticity, p. 66
- Vision, Experience, and the Brain, p. 97
- The Sleep-Deprived Emotional Brain, p. 147
- The Dreaming Brain: Turning REM On and Off, p. 149
- Meditation and the Brain, p. 165
- The Addicted Brain: Diminishing Rewards, p. 168
- How Methamphetamines Erode the Brain, p. 174



Glial Cells: More Than Just the Brain's Packing Material This colored micrograph shows the first stages of myelin formation by an *oligodendrocyte*, colored green. Like a spider spinning a web, the oligodendrocyte sends tendrils out to neighboring axons (red) and wraps layers of myelin around them in a spiral-shaped pattern (Fields, 2001a; Nave, 2010).

TABLE 2

Integrated Gender Coverage

Page(s)	Topic
4	Titchener's inclusion of female graduate students in his psychology program in the late 1800s
6–7	Contributions of Mary Whiton Calkins to psychology
6–7	Contributions of Margaret Floy Washburn to psychology
60–61	Endocrine system and effects of sex hormones
74	Sex differences and the brain
99	Gender differences in incidence of color blindness
106	Gender differences in responses to human chemosignals (pheromones)
110	Gender differences in the perception of pain
150	Gender differences in dream content
151	Gender and nightmare frequency
154	Gender differences in driving while sleepy and traffic accidents related to sleepiness
155–158	Gender differences in incidence of insomnia and other sleep disorders
169	Gender and rate of metabolism of alcohol
169	Gender and binge drinking among college students
176	Gender differences in effects of MDMA (ecstasy) on the brain
186	Women as research assistants in Pavlov's laboratories
291–292	How the lack of a gender-neutral pronoun in English influences thinking
309	Test performance and the influence of gender stereotypes
308–309	Language, gender stereotypes, and gender bias
329–330	Gender differences in caloric intake and sedentary lifestyles
330	Gender differences in rates of overweight and obesity
329–330	Gender differences in activity level and metabolism
348	Gender similarities and differences in experience and expression of emotion
348	Gender differences in cultural display rules and emotional expression
363	Sex differences in genetic transmission of recessive characteristics
383	Gender differences in timing of the development of primary and secondary sex characteristics
385	Gender and accelerated puberty in father-absent homes
384–385	Gender differences in brain maturation
386	Gender differences in effects of early and late maturation
391–392	Gender differences in moral reasoning
392–393	Gender differences related to the end of reproductive capability
393	Gender differences in friendship patterns
394	Average age of first marriage and higher education attainment
395	Gender differences in single parent, head-of-household status
396–397	Gender and patterns of career development and parenting responsibilities
397	Gender differences in life expectancy
408–409	Definitions of gender, gender role, and gender identity
413	Gender differences in emotional expression
414–416	Gender stereotypes and gender roles
415–418	Sex differences in early childhood behavior
415–418	Development of gender identity and gender roles
416–418	Theories of gender-role development
416–418	Gender-identity development in Freud's psychoanalytic theory
419–420	Sex differences in the pattern of human sexual response
421–422	Sex differences in hormonal influences on sexual motivation
422	Gender differences in mate preferences
423–426	Sexual orientation
452–453	Social factors influencing gender preference for pink and blue in early childhood
452–453	Freud's contention of gender differences in resolving Oedipus complex
455	Sexual archetypes (anima, animus) in Jung's personality theory
456–457	Horney's critique of Freud's view of female psychosexual development
459	Critique of sexism in Freud's theory
498	Misleading effect of gender stereotypes
495	Gender similarities and differences in interpersonal attraction
508	Gender similarities in results of Milgram's obedience studies
531–532	Gender differences in frequency and source of daily hassles
548	Gender differences in susceptibility to the stress contagion effect
548–549	Gender differences in providing social support and effects of social support
551	Gender and social networks
551	Gender differences in responding to stress—the "tend-and-befriend" response
567	Gender differences in anxiety disorder
569–570	Gender differences in prevalence of phobias
570	Gender differences in prevalence of social phobia and *taijin kyofusho*
571–572	Gender differences in prevalence of post-traumatic stress disorder
577	Gender differences in prevalence of major depression and seasonal affective disorder
579	Lack of gender differences in prevalence of bipolar disorder
582–584	Gender differences in prevalence of eating disorders
586	Gender differences in incidence of paranoid personality disorder
586–587	Gender differences in incidence of antisocial personality disorder
588	Gender differences in incidence of borderline personality disorder
597–598	Paternal age and incidence of schizophrenia
602	Gender differences in number of suicide attempts and in number of suicide deaths
646	Gender differences in sexual contact between therapists and clients
B-12	Gender differences in reasons for wanting to telecommute

- Mirror Neurons: Imitation in the Brain?, p. 220
- Assembling Memories: Echoes and Reflections of Perception, p. 262
- Mapping Brain Changes in Alzheimer's Disease, p. 269
- Seeing Faces and Places in the Mind's Eye, p. 279
- Dopamine Receptors and Obesity, p. 331
- Emotions and the Brain, p. 343
- The Adolescent Brain: A Work in Progress, p. 384
- Boosting the Aging Brain, p. 399
- Romantic Love and the Brain, p. 427
- The Neuroscience of Personality: Brain Structure and the Big Five, p. 471
- Brain Reward When Making Eye Contact with Attractive People, p. 490
- The Mysterious Placebo Effect, p. 540
- The Hallucinating Brain, p. 593
- Schizophrenia: A Wildfire in the Brain, p. 599
- Comparing Psychotherapy and Antidepressant Medication, p. 642

Enhancing Well-Being with Psychology

Among all the sciences, psychology is unique in the degree to which it speaks to our daily lives and applies to everyday problems and concerns. The **Enhancing Well-Being with Psychology** feature at the end of each chapter presents the findings from psychological research that address a wide variety of problems and concerns. In each of these features, we present research-based information in a form that students can use to enhance everyday functioning. As you can see in the following list, topics range from improving self-control to overcoming insomnia:

- Psychology in the Media: Becoming an Informed Consumer, p. 38
- Maximizing Your Brain's Potential, p. 81
- Strategies to Control Pain, p. 128
- Stimulus Control Therapy for Insomnia, p. 178
- Using Learning Principles to Improve Self-Control, p. 226
- Superpower Memory in Minutes per Day!, p. 270
- A Workshop on Creativity, p. 312
- Turning Your Goals into Reality, p. 354
- Raising Psychologically Healthy Children, p. 401
- Men, Women, and Conflict: Bridging the Gender Gap, p. 438
- Possible Selves: Imagine the Possibilities, p. 479
- The Persuasion Game, p. 520
- Minimizing the Effects of Stress, p. 555
- Understanding and Helping to Prevent Suicide, p. 602
- What to Expect in Psychotherapy, p. 645

The Pedagogical System

The pedagogical system in *Psychology* was carefully designed to help students identify important information, test for retention, and learn how to learn. It is easily adaptable to an SQ3R approach, for those instructors who have had success with

that technique. As described in the following discussion, the different elements of this text form a pedagogical system that is very student friendly, straightforward, and effective.

We've found that it appeals to diverse students with varying academic and study skills, enhancing the learning process without being gimmicky or condescending. A special student preface titled **To the Student** on pages xlv to xlvii, immediately before Chapter 1, describes the complete pedagogical system and how students can make the most of it.

The pedagogical system has four main components: (1) Advance Organizers, (2) Concept Reviews, (3) Chapter Reviews, and (4) the *Psychology,* Sixth Edition, Web companion site. Major sections are introduced by an **Advance Organizer** that identifies the section's *Key Theme* followed by a bulleted list of *Key Questions.* Each Advance Organizer mentally primes the student for the important information that is to follow and does so in a way that encourages active learning. Students often struggle with trying to determine what's important to learn in a particular section or chapter. As a pedagogical technique, the Advance Organizer provides a guide that directs the student toward the most important ideas, concepts, and information in the section. It helps students identify main ideas and distinguish them from supporting evidence and examples.

The **Concept Reviews** encourage students to review and check their learning at appropriate points in the chapter. As you look through the text, you'll see that the Concept Reviews vary in format. They include multiple-choice, matching, short answer, and true-false questions. Many of the Concept Reviews are interactive exercises that help students transfer their learning to new situations or examples.

Several other in-chapter pedagogical aids support the Advance Organizers and Concept Reviews. A clearly identified **Chapter Outline** provides an overview of topics and organization. Within the chapter, **key terms** are set in boldfaced type and defined in the margin. *Pronunciation guides* are included for difficult or unfamiliar words. Because students often have trouble identifying the most important theorists and researchers, names of **key people** are set in boldface type within the chapter. We also provide a page-referenced list of key people and key terms at the end of each chapter.

Beyond the learning aids in the text, every new copy of *Psychology* can be packaged with the study materials available through the online PsychPortal or the print Study Guide written by Cornelius Rea, Douglas College. Supplementing these materials, the **Book Companion Web site** contains multiple review activities. Each chapter has *two 15-question self-scoring practice quizzes, flashcards for rehearsing key terms, two crossword puzzles,* and more. In addition to the companion Web site, the book is accompanied by some other premium Web materials including **PsychPortal,** which combines all the electronic resources available for the book (including the e-book, interactive activities, and quizzes). The book companion site can be accessed at **www.worthpublishers.com/hockenbury6e.**

The Teaching Package: Print Supplements

The comprehensive teaching package that accompanies *Psychology* is designed to help you save time and teach more effectively. Many elements of the supplements package will be particularly helpful to the new, adjunct, or part-time instructor. This superb teaching package, expanded in the sixth edition, includes the following elements:

- **Instructor's Resources and Binder,** prepared by Edna Ross, University of Louisville, with Skip Pollock, Mesa Community College; Claudia Cochran-Miller, El Paso Community College; Beth Finders, St. Charles Community College; Beverly Drinnin, Des Moines Area Community College; Wayne Hall, San Jacinto College-Central Campus; and Nancy Melucci, Los Angeles Community College District.

This edition will feature new activities submitted by Paul DeMarco, University of Louisville; Julie Gurner, Community College of Philadelphia; Anne McCrea, Sinclair Community College; and Rachel Rogers, Community College of Rhode Island. Arranged topically rather than by chapter for this edition, the Instructor's Resources include an abundance of materials to aid instructors in planning their courses, including classroom demonstrations and activities, student exercises, advice on teaching the nontraditional student, popular video suggestions, and "Psychology in the News" topics. The lecture guides will contain chapter objectives and outlines and suggestions on how to approach your lecture.

- **Test Bank,** written by Don and Sandra Hockenbury with the assistance of Cornelius Rea. This edition's test bank was expertly revised by Matthew Hilimire, Georgia Tech. This enhanced, printed Test Bank includes over 6,000 multiple-choice, true-false, and short-answer essay questions, plus Learning Objectives for each chapter that correspond to those in the Instructor's Resources. The Test Bank includes visual questions that you can include when generating and printing your tests. Each question is referenced to the textbook, identified as a factual/definitional or conceptual/analytical question, and keyed to a learning objective and an APA learning outcome.
- ***Diploma*** **Computerized Test Bank** This versatile dual-platform test-generating software allows instructors to edit, add, or scramble questions from the *Psychology,* Sixth Edition, Test Bank; format tests, drag-and-drop questions to create quizzes quickly and easily, and then print them for an exam. The computerized Test Bank will also allow instructors to export into a variety of formats that are compatible with many Internet-based testing products. For more information on *Diploma,* please visit Wimba's Web site: http://www.wimba.com/products/diploma
- **Study Guide for *Psychology,*** written by Cornelius Rea who taught psychology courses for many years at Simon Fraser University and Douglas College, and currently has a consulting business in West Vancouver, British Columbia, Canada. The Study Guide is carefully designed to help students understand text information and prepare for exams. Each chapter begins with At a Glance (which provides an overview of the chapter). Each Study Guide section includes a series of Preview Questions followed by fill-ins (some asking for lengthy responses). At the end of each Study Guide section is a Concept Check (application questions) followed by a Review of Key Terms, Concepts, and Names. The guide also contains Graphic Organizers, which encourage students to complete graphs, charts, and flow diagrams that ultimately provide a visual synopsis of text material. At the end of every Study Guide chapter are Something to Think About questions, which contain thought-provoking questions designed to encourage critical thinking and application of the material, followed by three Progress Tests. All answers are provided at the end of the chapter.
- ***Psychology: The Human Experience*** **Telecourse Student Guide,** written by Ken Hutchins, Orange Coast College, Costa Mesa, California. The Emmy award–winning Coast Learning System's telecourse, titled *Psychology: The Human Experience,* is based on *Psychology,* the designated text to accompany the telecourse. Ken Hutchins, Don Hockenbury, and Sandra Hockenbury were members of the Faculty Advisory Committee and were closely involved in the development of the telecourse. The Telecourse Student Guide by Ken Hutchins draws clear connections between the text and the telecourse, helping students to get the most out of the learning experience.
- **The *Scientific American* Psychology Reader** is a collection of articles selected from recent issues of *Scientific American* magazine. Each article is accompanied by an introduction and preview of each article, as well as a series of thoughtful discussion questions to encourage classroom discussions.
- ***Pursuing Human Strengths: A Positive Psychology Guide*** by Martin Bolt, Calvin College. Martin Bolt's new workbook aims to help students build up their strengths. Closely following the research, this book provides a brief overview of

nine positive traits, such as hope, self-respect, commitment, and joy. It also offers self-assessment activities that help students gauge how much of the trait they have developed and research-based suggestions for how they might work further toward fostering these traits.

- ***Critical Thinking Companion*, Second Edition** by Jane Halonen, University of West Florida, and Cynthia Gray, Alverno College. This engaging and challenging handbook includes exercises in pattern recognition, practical problem-solving, creative problem-solving, scientific problem-solving, psychological reasoning, and perspective-taking.

The Teaching Package: Media Supplements

- **PsychPortal** is a breakthrough online learning space created by psychologists for psychologists. Combining a powerful quizzing engine with unparalleled media resources, it contains all the functionality you expect from a site that can serve as an independent online course, but it is the core teaching and learning components that make PsychPortal truly unique. PsychPortal for *Psychology,* Sixth Edition is organized around these main components:
  - **New! LearningCurve** Combining adaptive question selection, personalized study plans, and state-of-the-art question analysis reports, LearningCurve provides students with a unique learning experience. LearningCurve quizzing activities have a game-like feel that keeps students engaged in the material while helping them learn key concepts.
  - **New! Launch Pad** Launch Pad 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 Launch Pad 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. Instructors can assign units in just a few clicks, with student responses reported into PsychPortal's gradebook.
  - **A Complete, Fully Interactive eBook of *Psychology,* Sixth Edition** Worth's eBooks integrate the complete text, a rich assortment of media-powered learning opportunities, and a variety of customization features for students and instructors. The platform was developed by Pepper Williams, a cognitive psychologist (Ph.D., Yale University) who taught undergraduate psychology at the University of Massachusetts. The eBook is also available as a stand-alone resource, giving students a low-cost alternative to purchasing the printed textbook. An eBook is also available through *CourseSmart.*
  - **Concepts in Action** Created by award-winning multimedia author Tom Ludwig and embedded throughout the eBook, these Flash-based activities help students solidify their understanding of key concepts as they encounter them in the text.
  - **An Assignment Center** PsychPortal's Assignment Center makes it easy for instructors to construct and administer tests and quizzes based on the book's Test Bank or their own questions. Instructors can use pre-created assignments or create their own, choosing from a question bank that includes every exercise from the textbook, along with hundreds of additional questions. Quizzes are randomized and timed, and instructors can receive summaries of student results in reports that follow the section order of the chapters.
  - **Course Materials** With more of Worth's premium resources than ever, this one-stop location provides quick access to all student and instructor media associated with the book—an extraordinary range of outstanding resources, including:
    - **Video Tool Kit Activities—Expanded!**

  - **PsychInvestigator—New to PsychPortal!**
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  - **PsychInquiry**
  - **New! Worth Introductory Psychology Video Series, produced by Scientific American and Nature—30 clips!**
- **Complete customization** Every element of PsychPortal is customizable, from the arrangement of the home page to the assignment of eBook sections, to all forms of assessment. Instructors can:
  - Rearrange chapters or sections of the eBook—or replace chapters or sections with their own content.
  - Insert quizzes, discussion forums, uploaded files, or any content into eBook sections, Launch Pad units, or lessons of their own making.
  - Replace, supplement, or delete questions from the pre-made quizzes and homework assignments that come pre-packaged in the portal.

- **PsychInvestigator: Laboratory Learning in Introductory Psychology** by Arthur Kohn, Ph.D. Available within PsychPortal or as a stand-alone resource, this exciting Web-based product is a virtual laboratory environment that enables students to participate in real experiments that reinforce the most important concepts of the introductory psychology course. Students are introduced to psychological experiments in a dynamic environment featuring hosts video-streamed for the most realistic portrayal possible. In **PsychInvestigator,** students participate in classic psychology experiments, generate real data, and review the broader implications of those findings in psychological science. In each experiment, students participate in compelling video tutorials that are displayed before *and* after the actual experiment. PsychInvestigator requires no additional faculty time. Students' quiz scores can be automatically uploaded into an online grade book if instructors wish to monitor students' progress.
- The **Companion Web Site at** www.worthpublishers.com/hockenbury6e provides students with a free online study guide. Features include learning objectives, crossword puzzles, critical thinking activities, online quizzes, a Spanish/English glossary, and interactive Web activities. Instructors can access a wealth of teaching materials from PowerPoint slides to Clicker questions.
- **Instructor's CD-ROM** This CD-ROM includes pre-built PowerPoint presentations for each chapter, a digital library of photographs, figures, and tables from the text, and an electronic version of the Instructor's Resources and Lecture Guides.

The Teaching Package: Video Supplements

- **Worth Video Anthology for Introductory Psychology** Instructors can now access a "best of" collection that showcases the video series listed below. The Worth Video Anthology for Introductory Psychology is available on flash drive and closed-captioned DVD.
- **New! Worth Introductory Psychology Video Series** Produced by Worth Publishers, in conjunction with sister companies Scientific American and Nature, this breakthrough collection of new modular tutorial videos explores core psychology topics. It includes 30 short films, each approximately 8 minutes in length. Authoritative, engaging, and beautifully realized, the collection includes animations, interviews with top scientists, and carefully selected archival footage, all focused on helping students understand everything from classical conditioning to cognitive dissonance. Although it is housed primarily in the Worth Video

Anthology, instructors may also request this collection on its own, either on a flash drive or closed-captioned DVD.

- **Worth Publishers Video Tool Kit for Introductory Psychology** With its superb collection of 160 brief (1 to 13 minutes) clips, the Video Tool Kit for Introductory Psychology gives students a fresh new way to experience both the classic experiments at the heart of psychological science and cutting-edge research conducted by the field's most influential investigators. Available at www.worthvideotoolkit.com, the site enables you to create gradable, reportable video assignments for your students that you can customize by adding notes and open-ended questions, and assigning star ratings. These videos are also available to instructors on CD-ROM and closed-captioned DVD. Instructors using the CD can easily import videos into their interactive presentation slides and the accompanying faculty guide includes step-by-step importation instructions for users of different platforms. The accompanying faculty guide is by Martin Bolt, Calvin College. A subset of the videos (110) is available on a non-reportable DVD for students who lack Internet connectivity or have bandwidth issues.
- **Scientific American Frontiers Teaching Modules, Third Edition** Edited by Martin Bolt, this collection offers 15 clips from *Scientific American Frontiers* segments produced between 2003 and 2005. Footage includes Phineas Gage Revisited, Understanding Autism, and Therapeutic Effectiveness.
- **Worth Digital Media Archive First and Second Editions (CD-ROM, DVD)** contains a rich collection of 75 digitized video clips of classic experiments and research. Footage includes Albert Bandura's Bobo doll experiment, Harold Takooshian's bystander studies, Piaget's conservation experiment, electrical brain stimulation, Harry Harlow's monkey experiments, Stanley Milgram's obedience study, and Ulric Neisser's selective attention studies.

Presentation

- **Interactive Presentation Slides for Introductory Psychology** This extraordinary series of "next-generation" Interactive Presentation Lectures give instructors a dynamic, yet easy-to-use new way to engage students during classroom presentations of core psychology topics. Each lecture provides opportunities for discussion and interaction, and enlivens the psychology classroom with an unprecedented number of embedded video clips and animations (including activities from Worth's ActivePsych). Each Interactive Presentation Lecture features:
  - Embedded videos
  - A number of activities
  - Ready-to-use clicker questions
  - Vivid images
- Worth's Interactive PowerPoint® Lectures for Introductory Psychology, available in two volumes on preloaded flash drives
- **ActivePsych: Classroom Activities Projects and Video Teaching Modules** offers tools to make class presentations more interactive. This set of instructor presentation CD-ROMs includes interactive flash and slides, and video clips from *Scientific American Frontiers* and various archival sources. *ActivePsych* video clips are available on CD, DVD, and VHS.

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Worth Publishers

The remarkable people who make up Worth Publishers have a well-earned reputation for producing college textbooks and supplements of the highest quality. Special thanks to our executive editor, Jessica Bayne, for her leadership, creativity, and unfailing support of our project, always with a human touch. Jessica, we couldn't have done it without you! Next up is our developmental editor, Marna Miller (aka "Wonder Woman") whose talent, dedication, and unflappable good humor are truly remarkable. Marna is more than "just" a gifted editor—she is a wonderful human being. Thanks also go to assistant editor Lukia Kliossis, who expertly and cheerfully kept track of countless details, stacks of paper, and electronic files. The incredible new design for the sixth edition reflects the creative talents of art director and artist Babs Reingold. We never cease to be impressed by designer Lee Ann McKevitt's ability to create the seamless interaction of text, graphics, boxes, and features that you see on every page of *Psychology*. The text's beautiful layout also owes a great deal to the talented efforts of Lyndall Culbertson. The stunning graphics of this edition represent the combined talents of illustrator Todd Buck, Worth photo editor Christine Buese, and photo researcher Jacqueline Wong, whose creative efforts to find just the right image are greatly appreciated.

By any standard, director of development for print and digital projects Tracey Kuehn is an unbelievably talented and dedicated person. For the last five editions, Tracey's expertise, creativity, and delightful sense of humor have kept our project — and us — on track. With the help of project editor Robert Errera, Tracey effectively tackled and resolved the inevitable problems that accompany a project of this complexity. Our heartfelt thanks also to Barbara Seixas who coordinated a bewildering array of technical details to bring the book to press.

Perhaps the greatest unsung heroes in college textbook publishing are the supplements and media editors. At Worth Publishers, those editors work tirelessly to set the standard by which all other publishers are judged. With conscientious attention to a multitude of details, Christine Burak, Stacey Alexander, Lukia Kliossis, and Betty Probert have expertly assembled the integrated program of print, video, and Internet supplements that accompanies our text. They are awesome!

Psychology marketing manager Lindsay Johnson helped launch the sixth edition with her expertly coordinated advertising, marketing, and sales support efforts. Special thanks to our longtime friend and adopted family member, Steve Patrick, Southwest Regional Manager.

A few personal acknowledgements are in order. Several friends and family members kindly allowed us to share their stories with you. Sadly, Fern, Erv, and Ken are no longer with us, but they live on in our memories, as well as in the personal stories that we continue to tell about them. We deeply miss Fern and Erv's unflagging

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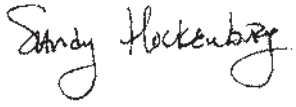
Finally, our daughter Laura has lived with this project since she was born. Laura is a senior geology major at Carleton College in Northfield, Minnesota. Like her parents, Laura has wide-ranging interests, ranging from sustainable development and climate change to alternative energy, wilderness medicine, and the arts. An accomplished classical and improvisational pianist, she is also co-director of Lenny Dee, Carleton's sketch comedy troupe and a member of Eclipse, the 2011 Division III National Ultimate Frisbee champions. Thank you for your idealism, your generous spirit, and for being true to yourself. Wherever you go, Laura, go with all your heart!

An Invitation

We hope that you will let us know how you and your students like the sixth edition of *Psychology*. And, as always, we welcome your thoughts, comments, and suggestions. You can write to us in care of Worth Publishers, 41 Madison Avenue, 35th Floor, New York, NY 10010, or contact us via e-mail at: **Hockenbury.Psychology@gmail.com.**

Above all, we hope that your class is an enjoyable and successful one as you introduce your students to the most fascinating and personally relevant science that exists.

With best wishes to you and your students,



To the Student

Learning from *Psychology*

Welcome to psychology! Our names are **Don and Sandy Hockenbury,** and we're the authors of your textbook. Every semester we teach several sections of introductory psychology. We wrote this text to help you succeed in the class you are taking. Every aspect of this book has been carefully designed to help you get the most out of your introductory psychology course. Before you begin reading, you will find it well worth your time to take a few minutes to familiarize yourself with the special features and learning aids in this book.

Learning Aids in the Text

KEY THEME

› You can enhance your chances for success in psychology by using the learning aids that have been built into this textbook.

KEY QUESTIONS

› What are the functions of the Prologue, Advance Organizers, Key Terms, Key People, and Concept Reviews?

› What are the functions of the different types of boxes in this text, and why should you read them?

› Where can you go to access a virtual study guide at any time of the day or night, and what study aids are provided?

First, take a look at the **Chapter Outline** at the beginning of each chapter. The Chapter Outline provides an overview of the main topics that will be covered in the chapter. You might also want to flip through the chapter and browse a bit so you have an idea of what's to come.

Next, read the chapter **Prologue.** The Prologue is a true story about real people. Some of the stories are humorous, some dramatic. We think you will enjoy this special feature, but it will also help you to understand the material in the chapter that follows and why the topics are important and relevant to your life.

The Prologue will help you relate the new information in this book to experiences that are already familiar to you. In each chapter, we return to the people and stories introduced in the Prologue to illustrate important themes and concepts.

As you begin reading the chapter, you will notice several special elements. **Major Sections** are easy to identify because the heading is in red type. The beginning of each major section also includes an **Advance Organizer**—a short section preview that looks like the one above.

The Key Theme provides you with a preview of the material in the section to come. The **Key Questions** will help you focus on some of the most important material in the section. Keep the questions in mind as you read the section. They will help you identify important points in the chapter. After you finish reading each section, look again at the Advance Organizer. Make sure that you can confidently answer each question before you go on to the next section. If you want to maximize your understanding of the material, write out the answer to each question. You can also use the questions in the Advance Organizer to aid you in taking notes or in outlining chapter sections, both of which are effective study strategies.

Notice that some terms in the chapter are printed in **boldface,** or darker, type. Some of these **key terms** may already be familiar to you, but most will be new. The dark type signals that the term has a specialized meaning in psychology. Each key term is formally defined within a sentence or two of being introduced. The key terms are also defined in the margins, usually on the page on which they appear in the text. Some key terms include a **pronunciation guide** to help you say the word correctly.

Occasionally, we print words in *italic type* to signal either that they are boldfaced terms in another chapter or that they are specialized terms in psychology.

Certain names also appear in boldface type. These are the **key people**—the researchers or theorists who are especially important within a given area of psychological study. Typically, key people are the psychologists or other researchers whose names your instructor will expect you to know.

A Concept Review appears several times in every chapter. The Concept Reviews contain exercises that allow you to check your understanding of important information. Answer the questions by filling in the blanks or by circling the correct answer. Then check your work against the correct answers provided at the end of each chapter.

Reviewing for Examinations

The **Chapter Review** at the end of each chapter includes several elements to help you review what you have learned. The chapter's **key points** are summarized and bulleted under each major section heading. All the chapter's **key people** and **key terms** are listed, along with the pages on which they appear and are defined. The key terms are also boldfaced in the chapter summary so you can see their use in context. You can check your knowledge of the key people by describing in your own words why each scientist is important. You will also want to define each key term in your own words, then compare your definition to information on the page where it is discussed.

Special Features in the Text

Each chapter in *Psychology* has several boxes that focus on different kinds of topics. Take the time to read the boxes because they are an integral part of each chapter. They also present important information that you may be expected to know for class discussion or tests. There are five types of boxes:

- **Critical Thinking** boxes ask you to stretch your mind a bit by presenting issues that are provocative or controversial. They will help you actively question the implications of the material that you are learning.
- **Science Versus Pseudoscience** boxes examine the evidence for various popular pseudosciences—from subliminal persuasion to astrology. These discussions will help teach you how to think scientifically and critically evaluate claims.
- **Culture and Human Behavior** boxes are another special feature of this text. Many students are unaware of the importance of cross-cultural research in contemporary psychology. These boxes highlight cultural differences in thinking and behavior. They will also sensitize you to the ways in which people's behavior, including your own, has been influenced by cultural factors.
- **In Focus** boxes present interesting information or research. Think of them as sidebar discussions. They deal with topics as diverse as human pheromones, whether animals dream, and why snakes give so many people the creeps.
- **Focus on Neuroscience** sections provide clear explanations of intriguing studies that use brain-imaging techniques to study psychological processes. Among the topics that are highlighted: schizophrenic hallucinations, mental images, drug addiction, and romantic love and the brain.

The **Enhancing Well-Being with Psychology** application at the end of each chapter provides specific suggestions to help you deal with real-life concerns. These suggestions are based on psychological research, rather than opinions, anecdotes, or pop psych self-help philosophies. The Enhancing Well-Being sections show you how psychology can be applied to a wide variety of everyday concerns. We hope that these sections make a difference in your life. Because the Enhancing Well-Being sections for Chapters 5, 6, and 8 deal with setting and achieving goals and enhancing motivation and memory, you may want to skip ahead and read them after you finish this student preface.

There are two special appendices at the back of the text. The **Statistics: Understanding Data** appendix discusses how psychologists use statistics to summarize and draw conclusions from the data they have gathered. The **Industrial/Organizational Psychology** appendix describes the branch of psychology that studies human behavior in the workplace. Your instructor may assign one or both of these appendices, or you may want to read them on your own.

Also at the back of this text is a **Glossary** containing the definitions for all **key terms** in the book and the pages on which they are discussed in more detail. You can use the **Subject Index** to locate discussions of particular topics and the **Name Index** to locate particular researchers. Finally, interested students can look up the specific studies we cite in the **References** sections.

The *Psychology* Web Companion Site

The *Psychology* Web Companion site is the home of Worth's free virtual study aids and supplemental content. You can access the companion Web site at: **www.worthpublishers.com/hockenbury6e**

Below are some suggestions for how you can use those resources to your advantage.

- Print the **Learning Objectives** to provide a detailed list of the information that you should master for each chapter.
- Take the self-scoring **quizzes** and use the **flashcards** to test yourself on the key terms and key people. The Web site also offers a Spanish language version of the flashcards.
- Use the **crossword puzzles** as a fun way to test your knowledge of key terms and key people. There are two crossword puzzles for each chapter and one for each appendix.
- **Animations** will help you apply and reinforce your understanding of important chapter concepts.
- **Psych2Go** provides you with the opportunity to purchase podcasts of chapter reviews, quizzes, and flashcards in an easily downloadable format. Find out more at www.psych2go.com.

The Study Guide

Beyond the learning aids contained in each chapter and on the online resources for *Psychology,* we also highly recommend the excellent **Study Guide** that accompanies this text. The guide was written by our colleague Cornelius Rea, who taught psychology courses for many years at Simon Fraser University and Douglas College, and currently has a consulting business in West Vancouver, British Columbia, Canada. You can order a Study Guide through your bookstore or online through Worth Publishers.

That's it! We hope you enjoy reading and learning from the sixth edition of *Psychology.* If you want to share your thoughts or suggestions for the next edition of this book, you can write to us at the following address:

Don and Sandy Hockenbury
c/o Worth Publishers
41 Madison Avenue, 35th Floor
New York, NY 10010

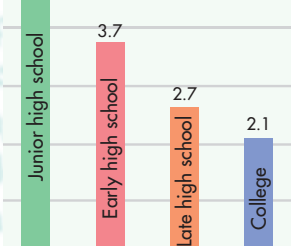
Or you can contact us at our e-mail address:

Hockenbury.Psychology@gmail.com

Have a great class!

CHAPTER 1

Introduction and Research Methods



Miracle Magnets?

PROLOGUE

YOU DON'T NEED TO BE A PSYCHOLOGIST to notice that every class has its own collective personality. In our 11 o'clock introductory psychology class during this particular semester, multiple personalities emerged as the students quickly segregated themselves by age and life experiences.

The younger students were a hodgepodge of languages, ethnic groups, hair styles, tattoos, and piercings. Best described as boisterous bordering on rowdy, this crew clustered together on the right side of the classroom and regularly asked interesting (and sometimes off-the-wall) questions.

Grouped on the left side of the class were seven middle-aged adult students. Although they occasionally spoke up in class, they were fairly reserved. Two of the guys were laid-off workers training for new jobs. And there were three women who were back in school now that their children were older. Brenda was one of them.

Lingering after class one day, Brenda asked if Don had time to talk. "Do you know anything about magnet therapy for psychological disorders?" she asked.

"I know a little about the research on transcranial magnetic stimulation, if that's what you're asking about," Don responded. Brenda looked puzzled.

"It's abbreviated TMS," Don explained. "It's a procedure that uses powerful electromagnetic fields to stimulate the brain. The device looks kind of like two big, flat donuts side by side on a wand. They set the thing on a person's skull and the magnetic coils inside generate magnetic fields."

"So it's not like a regular magnet?" Brenda asked.

"Oh, no. Not at all. The device is actually an electromagnet. It needs electricity to generate the magnetic field."

"Can it be used for schizophrenia?"

"TMS? From what I've read, TMS is used to treat depression. My understanding is that it's still experimental. I can find out more about it if you want."

"What about magnetic vests? Could something like this be used to treat schizophrenia?" Brenda asked, unfolding a piece of paper and handing it to Don. It was an ad for a cloth vest with 48 magnets sewn into the front and back lining. The ad was cluttered with quotes from people who claimed that the vest had improved their athletic ability or relieved pain or other symptoms.

"Wow, forty-eight magnets. That must be incredibly heavy to wear," Don commented as he studied the ad. "I don't mean to pry, Brenda, but can I ask why you're asking about this?"

Brenda glanced around the classroom, checking to make sure no one else was listening to the conversation. "I have a son named Adam. He was diagnosed with schizophrenia about three years ago, just after his thirteenth birthday," she explained.

IN THIS CHAPTER:

- ☐ Introduction: The Origins of Psychology
- ☐ Contemporary Psychology
- ☐ The Scientific Method
- ☐ Descriptive Research Methods
- ☐ The Experimental Method
- ☐ Ethics in Psychological Research
- ☐ ENHANCING WELL-BEING WITH PSYCHOLOGY: Psychology in the Media: Becoming an Informed Consumer

"There's a therapist who works with Adam's psychiatrist who told us to buy this magnetic vest. She said the magnets will help treat Adam's schizophrenia."

"Really? How is it supposed to help?"

"I don't understand it," Brenda admitted. "But my son has been wearing the magnetic vest for the last two weeks, even at school. It cost about $250, and he hates it! It's heavy and hot and it makes his skin itch. The therapist wants us to buy a magnetic mattress that costs about a thousand dollars. That's a lot of money in our household. Do you think it might help?"

"I've never heard of such a thing," Don replied cautiously. "Is the vest helping?"

"It doesn't seem to be," Brenda answered, frowning. "But the therapist said we need to give it time. She said she's seen the magnetic mattress work miracles with some of her patients. And my neighbor swears that his arthritis is much better since he started wearing magnetic bracelets."

"Miracles, huh? Honestly, Brenda, I'm not aware of any research about using regular magnets to treat schizophrenia or any other psychological disorder. Then again, this could be something that slipped by both me and Sandy. Let me scan the research this weekend, and we'll talk on Monday," Don said.

Later in the chapter, we'll share what we found out about magnet therapy.

Like Brenda, many of our students respond personally to the topics we cover in our introductory psychology class. As teachers and authors, we've found that building on the many links between psychological knowledge and our students' personal experiences is a very effective way to learn about psychology. Our goal is to build a conceptual bridge between your existing knowledge and new ways of understanding your experiences.

In this introductory chapter, Brenda's question will help us establish some important foundations and themes for the rest of the text. You'll see how psychology evolved into a very diverse science that studies many different areas of human and animal experience. The common theme connecting psychology's varied topics is its reliance on a solid foundation of scientific evidence. By the end of the chapter, you'll have a better appreciation of the scientific methods that psychologists use to answer questions, big and small, about behavior and mental processes.

Welcome to psychology!

Introduction: The Origins of Psychology

KEY THEME

› Today, psychology is defined as the science of behavior and mental processes, a definition that reflects psychology's origins and history.

KEY QUESTIONS

› What roles did Wundt and James play in establishing psychology?

› What were the early schools and approaches in psychology, and how did their views differ?

We begin this introductory chapter by stepping backward in time to answer several important questions: How did psychology begin? When did psychology begin? Who founded psychology as a science?

It's important to consider these historical issues for several reasons. First, students are often surprised at the wide range of topics studied by contemporary psychologists.

Those topics can range from the behavior of a single brain cell to the behavior of people in groups, from prenatal development to old age, and from normal behavior

AP Photo/Fabian Bimmer

What Do Psychologists Study?

Conformity and confrontation. Friendliness and fear. Private thoughts, public behavior. These are just a few of the wide range of topics studied in *psychology*, the science of behavior and mental processes. But whether psychologists study the behavior of a single brain cell or the behavior of a crowd of people, they rely on the scientific method to guide their investigations.

and mental processes to severely maladaptive behavior and mental processes. As you become familiar with how psychology began and developed, you'll have a better appreciation for how it has come to encompass such diverse subjects.

Second, you need to understand how the definition of **psychology** has evolved over the past 130 years to what it is today—*the scientific study of behavior and mental processes*. Indeed, the early history of psychology is the history of a field struggling to define itself as a separate and unique scientific discipline. The early psychologists struggled with such fundamental issues as:

- How should psychology be defined?
- What is the proper subject matter of psychology?
- Which areas of human experience should be studied?
- What methods should be used to investigate psychological issues?
- Should psychology include the study of nonhuman animal behavior?
- Should psychological findings be used to change or enhance human behavior?

These debates helped set the tone of the new science, define its scope, and set its limits. Over the past century, the shifting focus of these debates has influenced the topics studied and the research methods used.

psychology The scientific study of behavior and mental processes.

Ted Spiegel/Corbis

Aristotle (384–322 BCE) The first western thinker to study psychological topics, Aristotle combined the logic of philosophy with empirical observation. His best known psychological work, *De Anima*, is regarded as the first systematic treatise on psychology. Its topics included such basic psychological processes as the senses, perception, memory, thinking, and motivation. Aristotle's writings on psychology anticipated topics and theories that would be central to scientific psychology centuries later.

The Influence of Philosophy and Physiology

The earliest origins of psychology can be traced back several centuries to the writings of the great philosophers. More than 2,000 years ago, the Greek philosopher Aristotle wrote extensively about topics like sleep, dreams, the senses, and memory. He also described the traits and dispositions of different animals. Many of Aristotle's ideas remained influential until the beginnings of modern science in the seventeenth century (Kheriaty, 2007).

At that time, the French philosopher René Descartes (1596–1650) proposed a doctrine called *interactive dualism*—the idea that mind and body were separate entities that interact to produce sensations, emotions, and other conscious experiences. Today, psychologists continue to explore the relationship between mental activity and the brain.

Philosophers also laid the groundwork for another issue that would become central to psychology—the *nature–nurture issue*. For centuries, philosophers debated which was more important: the inborn *nature* of the individual or the environmental influences that *nurture* the individual. This debate was sometimes framed as nature *versus* nurture. Today, however, psychologists acknowledge the importance of both nature *and* nurture. Many psychologists still actively investigate the relative influences of *heredity versus environmental factors* on behavior (Sameroff, 2010). However, today's researchers also focus on studying the dynamic *interaction* between environmental factors and genetic heritage (Meaney, 2010).

Such philosophical discussions influenced the topics that would be considered in psychology. But the early philosophers could advance the understanding of human behavior only to a certain point. Their methods were limited to intuition, observation, and logic.

The eventual emergence of psychology as a science hinged on advances in other sciences, particularly physiology. *Physiology* is a branch of biology that studies the functions and parts of living organisms, including humans. In the 1600s, physiologists were becoming interested in the human brain and its relation to behavior. By the early 1700s, it was discovered that damage to one side of the brain produced a loss of function in the opposite side of the body. By the early 1800s, the idea that different brain areas were related to different behavioral functions was being vigorously debated. Collectively, the early scientific discoveries made by physiologists were establishing the foundation for an idea that was to prove critical to the emergence of psychology—namely, that scientific methods could be applied to answering questions about behavior and mental processes.

Blend Images/Alamy

Nature or Nurture? Both father and son are clearly enjoying the experience of drawing together. Is the child's interest in art an expression of his natural tendencies, or is it the result of his father's encouragement and teaching? Originally debated by philosophers hundreds of years ago, the relationship between heredity and environmental factors continues to interest psychologists today.

Corbis

Wilhelm Wundt (1832–1920)
German physiologist Wilhelm Wundt is generally credited as being the founder of psychology as an experimental science. In 1879, he established the first psychology research laboratory. By the early 1900s, Wundt's research had expanded to include such topics as cultural psychology and developmental psychology.

Wilhelm Wundt

The Founder of Psychology

By the second half of the 1800s, the stage had been set for the emergence of psychology as a distinct scientific discipline. The leading proponent of this idea was a German physiologist named **Wilhelm Wundt** (Gentile & Miller, 2009). Wundt used scientific methods to study fundamental psychological processes, such as mental reaction times in response to visual or auditory stimuli. For example, Wundt tried to measure precisely how long it took a person to consciously detect the sight and sound of a bell being struck.

A major turning point in psychology occurred in 1874, when Wundt published his landmark text, *Principles of Physiological Psychology* (Diamond, 2001). In this book, Wundt outlined the connections between physiology and psychology. He also promoted his belief that psychology should be established as a separate scientific discipline that would use experimental methods to study mental processes. A few years later, in 1879, Wundt realized that goal when he opened the first psychology research laboratory at the University of Leipzig. Many regard this event as marking the formal beginning of psychology as an experimental science (Kohls & Benedikter, 2010).

Wundt defined psychology as the study of consciousness and emphasized the use of experimental methods to study and measure consciousness. Later, he devoted himself to the study of social and cultural influences on mental life, which he called "Folk Psychology" (Wong, 2009). Until he died in 1920, Wundt exerted a strong influence on the development of psychology as a science. Two hundred students from around the world, including many from the United States, traveled to Leipzig to earn doctorates in experimental psychology under Wundt's direction. Over the years, some 17,000 students attended Wundt's afternoon lectures on general psychology, which often included demonstrations of devices he had developed to measure mental processes (Blumenthal, 1998).

Edward B. Titchener (1867–1927)
In contrast to the psychology programs at both Harvard and Columbia Universities at the time, Edward Titchener welcomed women into his graduate program at Cornell. In fact, more women completed their psychology doctorates under Titchener's direction than under any other male psychologist of his generation (Evans, 1991).

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Edward B. Titchener

Structuralism

One of Wundt's most devoted students was a young Englishman named **Edward B. Titchener.** After earning his psychology doctorate in Wundt's laboratory in 1892, Titchener accepted a position at Cornell University in Ithaca, New York. There he established a psychology laboratory that ultimately spanned 26 rooms.

Titchener shared many of Wundt's ideas about the nature of psychology. Eventually, however, Titchener developed his own approach, which he called *structuralism*. **Structuralism** became the first major school of thought in psychology. Structuralism held that even our most complex conscious experiences could be broken down into elemental *structures,* or component parts, of sensations and feelings. To identify these structures of conscious thought, Titchener trained subjects in a procedure called *introspection*. The subjects would view a simple stimulus, such as a book, and then try to reconstruct their sensations and feelings immediately after viewing it. (In psychology, a *stimulus* is anything perceptible to the senses, such as a sight, sound, smell, touch, or taste.) They might first report on the colors they saw, then the smells, and so on, in the attempt to create a total description of their conscious experience (Titchener, 1896/2009).

In addition to being distinguished as the first school of thought in early psychology, Titchener's structuralism holds the dubious distinction of being the first school to disappear. With Titchener's death in 1927, structuralism as an influential school of thought in psychology essentially ended. But even before Titchener's death, structuralism was often criticized for relying too heavily on the method of introspection.

As noted by Wundt and other scientists, introspection had significant limitations. First, introspection was an unreliable method of investigation. Different subjects often provided very different introspective reports about the same stimulus. Even

subjects well trained in introspection varied in their responses to the same stimulus from trial to trial.

Second, introspection could not be used to study children or animals. Third, complex topics, such as learning, development, mental disorders, and personality, could not be investigated using introspection. In the end, the methods and goals of structuralism were simply too limited to accommodate the rapidly expanding interests of the field of psychology.

structuralism Early school of psychology that emphasized studying the most basic components, or structures, of conscious experiences.

functionalism Early school of psychology that emphasized studying the purpose, or function, of behavior and mental experiences.

William James

Functionalism

By the time Titchener arrived at Cornell University, psychology was already well established in the United States. The main proponent of American psychology was one of Harvard's most outstanding teachers—**William James.** James had become intrigued by the emerging science of psychology after reading one of Wundt's articles, "Recent Advances in the Field of Physiological Psychology," in the late 1860s. But there were other influences on the development of James's thinking.

Like many other scientists and philosophers of his generation, James was fascinated by the idea that different species had evolved over time (Menand, 2001). Many nineteenth-century scientists in England, France, and the United States were evolutionists—that is, they believed that species had not been created once and for all, but had changed over time (Caton, 2007).

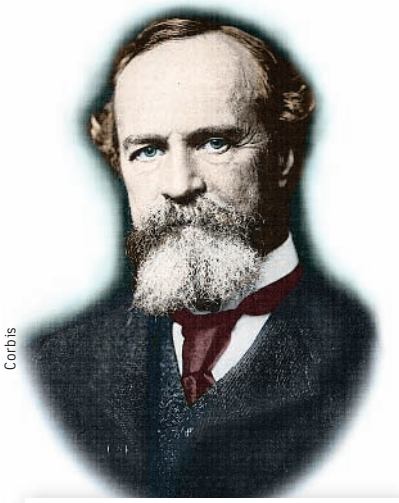
In the 1850s, British philosopher Herbert Spencer had published several works arguing that modern species, including humans, were the result of gradual evolutionary change. In 1859, **Charles Darwin's** groundbreaking work, *On the Origin of Species,* was published. James and his fellow thinkers actively debated the notion of evolution, which came to have a profound influence on James's ideas (Richardson, 2006). Like Darwin, James stressed the importance of adaptation to environmental challenges.

In the early 1870s, James began teaching a physiology and anatomy class at Harvard University. An intense, enthusiastic teacher, James was prone to changing the subject matter of his classes as his own interests changed (B. Ross, 1991). Gradually, his lectures came to focus more on psychology than on physiology. By the late 1870s, James was teaching classes devoted exclusively to the topic of psychology.

At about the same time, James began writing a comprehensive textbook of psychology, a task that would take him more than a decade. James's *Principles of Psychology* was finally published in two volumes in 1890. Despite its length of more than 1,400 pages, *Principles of Psychology* quickly became the leading psychology textbook. In it, James discussed such diverse topics as brain function, habit, memory, sensation, perception, and emotion. James's views had an enormous impact on the development of psychology in the United States.

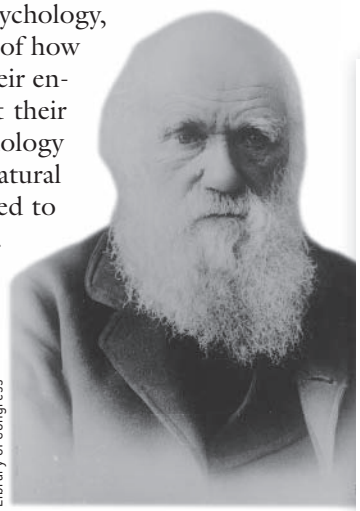
James's ideas became the basis for a new school of psychology, called functionalism. **Functionalism** stressed the importance of how behavior *functions* to allow people and animals to adapt to their environments. Unlike structuralists, functionalists did not limit their methods to introspection. They expanded the scope of psychology research to include direct observation of living creatures in natural settings. They also examined how psychology could be applied to areas like education, child rearing, and the work environment.

Both the structuralists and the functionalists thought that psychology should focus on the study of conscious experiences. But the functionalists had very different ideas about the nature of consciousness and how it should be studied. Rather than trying to identify the essential structures of consciousness at a given moment, James saw consciousness as an ongoing stream of mental activity that shifts and changes.



Corbis

William James (1842–1910)
Harvard professor William James was instrumental in establishing psychology in the United States. James's ideas became the basis of another early school of psychology, called *functionalism*, which stressed studying the adaptive and practical functions of human behavior.



Library of Congress

Charles Darwin (1809–1882)
Naturalist Charles Darwin had a profound influence on the early development of psychology. Darwin was not the first scientist to propose that complex organisms evolved from simpler species (Caton, 2007). However, Darwin's book, *On the Origin of Species*, published in 1859, gathered evidence from many different scientific fields to present a readable, compelling account of evolution through the mechanism of natural selection. Darwin's ideas have had a lasting impact on scientific thought (Dickins, 2011; Pagel, 2009).

As James wrote in *Talks to Teachers* (1899):

> Now the *immediate* fact which psychology, the science of mind, has to study is also the most general fact. It is the fact that in each of us, when awake (and often when asleep), *some kind of consciousness is always going on*. There is a stream, a succession of states, or waves, or fields (or whatever you please to call them), of knowledge, of feeling, of desire, of deliberation, etc., that constantly pass and repass, and that constitute our inner life. The existence of this is the primal fact, [and] the nature and origin of it form the essential problem, of our science.

Like structuralism, functionalism no longer exists as a distinct school of thought in contemporary psychology. Nevertheless, functionalism's twin themes of the importance of the adaptive role of behavior and the application of psychology to enhance human behavior continue to be evident in modern psychology.

William James and His Students

Like Wundt, James profoundly influenced psychology through his students, many of whom became prominent American psychologists. Two of James's most notable students were G. Stanley Hall and Mary Whiton Calkins.

In 1878, **G. Stanley Hall** received the first Ph.D. in psychology awarded in the United States. Hall founded the first psychology research laboratory in the United States at Johns Hopkins University in 1883. He also began publishing the *American Journal of Psychology*, the first U.S. journal devoted to psychology. Most important, in 1892, Hall founded the American Psychological Association and was elected its first president (Arnett & Cravens, 2006). Today, the American Psychological Association (APA) is the world's largest professional organization of psychologists, with approximately 150,000 members.

In 1890, **Mary Whiton Calkins** was assigned the task of teaching experimental psychology at a new women's college—Wellesley College. Calkins studied with James at nearby Harvard University. She completed all the requirements for a Ph.D. in psychology. However, Harvard refused to grant her the Ph.D. degree because she was a woman and at the time Harvard was not a coeducational institution (Pickren & Rutherford, 2010).

Although never awarded the degree she had earned, Calkins made several notable contributions to psychology. She conducted research in many areas, including dreams, memory, and personality. In 1891, she established a psychological laboratory at Wellesley College. At the turn of the twentieth century, she wrote a well-received textbook, titled *Introduction to Psychology*. In 1905, Calkins was elected president of the American Psychological Association—the first woman, but not the last, to hold that position.

Just for the record, the first American woman to earn an official Ph.D. in psychology was **Margaret Floy Washburn.** Washburn was Edward Titchener's first doctoral student at Cornell University. She strongly advocated the scientific study of the mental processes of different animal species. In 1908, she published an influential text, titled *The Animal Mind*. Her book summarized research on sensation, perception, learning, and other "inner experiences" of different animal species. In 1921, Washburn became the second woman elected president of the American Psychological Association (Viney & Burlingame-Lee, 2003).

Finally, one of G. Stanley Hall's notable students was **Francis C. Sumner** (1895–1954). A brilliant student, Sumner was the first African American to receive a Ph.D. in psychology, awarded by Clark University in 1920. After teaching at several southern universities, Sumner moved to Howard University in Washington, D.C. At Howard he published papers on a wide variety of topics and chaired a psychology department that produced more African American psychologists than all other American colleges and universities combined (Guthrie, 2000, 2004). One of Sumner's most famous students was Kenneth Bancroft Clark. Clark's research on the negative effects of discrimination was instrumental in the U.S. Supreme Court's 1954 decision to end segregated schools (Jackson, 2006). In 1970, Clark became the first African American president of the American Psychological Association (Belgrave & Allison, 2010).

Corbis

G. Stanley Hall (1844–1924)
G. Stanley Hall helped organize psychology in the United States. Among his many achievements was the establishment of the first psychology research laboratory in the United States. Hall also founded the American Psychological Association.

psychoanalysis Personality theory and form of psychotherapy that emphasizes the role of unconscious factors in personality and behavior.

Mary Whiton Calkins (1863–1930) Under the direction of William James, Mary Whiton Calkins completed all the requirements for a Ph.D. in psychology. Calkins had a distinguished professional career. She established a psychology laboratory at Wellesley College and became the first woman president of the American Psychological Association.

Wellesley College Archives

Margaret Floy Washburn (1871–1939) After becoming the first American woman to earn an official Ph.D. in psychology, Washburn went on to a distinguished career. Despite the discrimination against women that was widespread in higher education during the early twentieth century, Washburn made many contributions to psychology. She was the second woman to be elected president of the American Psychological Association.

Archives of the History of American Psychology, The University of Akron

Francis C. Sumner (1895–1954) Francis Sumner studied under G. Stanley Hall at Clark University. In 1920, he became the first African American to earn a Ph.D. in psychology. Sumner later joined Howard University in Washington, D.C., and helped create a strong psychology program that led the country in training African American psychologists (Belgrave & Allison, 2010; Guthrie, 2000, 2004).

Courtesy of the Moorland-Spingarn Research Center, Howard University Archives

Sigmund Freud

Psychoanalysis

Wundt, James, and other early psychologists emphasized the study of conscious experiences. But at the turn of the twentieth century, new approaches challenged the principles of both structuralism and functionalism.

In Vienna, Austria, a physician named **Sigmund Freud** was developing an intriguing theory of personality based on uncovering causes of behavior that were *unconscious,* or hidden from the person's conscious awareness. Freud's school of thought, called **psychoanalysis,** emphasized the role of unconscious conflicts in determining behavior and personality.

Freud's psychoanalytic theory of personality and behavior was based largely on his work with his patients and on insights derived from self-analysis. Freud believed that human behavior was motivated by unconscious conflicts that were almost always sexual or aggressive in nature. Past experiences, especially childhood experiences, were thought to be critical in the formation of adult personality and behavior. According to Freud (1904), glimpses of these unconscious impulses are revealed in everyday life in dreams, memory blocks, slips of the tongue, and spontaneous humor. Freud believed that when unconscious conflicts became extreme, psychological disorders could result.

Freud's psychoanalytic theory of personality also provided the basis for a distinct form of psychotherapy. Many of the fundamental ideas of psychoanalysis continue to influence psychologists and other professionals in the mental health field. We'll explore Freud's theory in more depth in Chapter 11, on personality, and Chapter 15, on psychotherapy.

Sigmund Freud (1856–1939) In 1909, Freud *(front left)* and several other psychoanalysts were invited by G. Stanley Hall *(front center)* to participate in Clark University's 20th anniversary celebration in Worcester, Massachusetts (Hogan, 2003). Freud delivered five lectures on psychoanalysis. Listening in the audience was William James, who later wrote to a friend that Freud struck him as "a man obsessed with fixed ideas" (Rosenzweig, 1997). Carl Jung *(front right),* who later developed his own theory of personality, also attended this historic conference.

Clark University

behaviorism School of psychology and theoretical viewpoint that emphasizes the study of observable behaviors, especially as they pertain to the process of learning.

humanistic psychology School of psychology and theoretical viewpoint that emphasizes each person's unique potential for psychological growth and self-direction.

John B. Watson

Behaviorism

The course of psychology changed dramatically in the early 1900s when another approach, called **behaviorism,** emerged as a dominating force. Behaviorism rejected the emphasis on consciousness promoted by structuralism and functionalism. It also flatly rejected Freudian notions about unconscious influences. Instead, behaviorism contended that psychology should focus its scientific investigations strictly on *overt behavior*—observable behaviors that could be objectively measured and verified.

Behaviorism is yet another example of the influence of physiology on psychology. Behaviorism grew out of the pioneering work of a Russian physiologist named **Ivan Pavlov.** Pavlov demonstrated that dogs could learn to associate a neutral stimulus, such as the sound of a bell, with an automatic behavior, such as reflexively salivating to food. Once an association between the sound of the bell and the food was formed, the sound of the bell alone would trigger the salivation reflex in the dog. Pavlov enthusiastically believed he had discovered the mechanism by which all behaviors were learned.

In the United States, a young, dynamic psychologist named **John B. Watson** shared Pavlov's enthusiasm. Watson (1913) championed behaviorism as a new school of psychology. Structuralism was still an influential perspective, but Watson strongly objected to both its method of introspection and its focus on conscious mental processes. As Watson (1924) wrote in his classic book, *Behaviorism:*

> Behaviorism, on the contrary, holds that the subject matter of human psychology *is the behavior of the human being.* Behaviorism claims that consciousness is neither a definite nor a usable concept. The behaviorist, who has been trained always as an experimentalist, holds, further, that belief in the existence of consciousness goes back to the ancient days of superstition and magic.

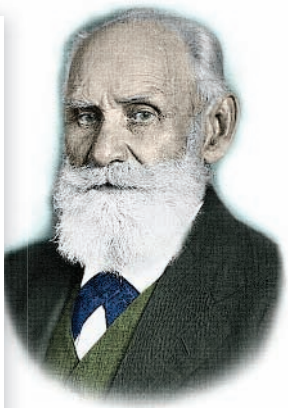
The influence of behaviorism on American psychology was enormous. The goal of the behaviorists was to discover the fundamental principles of *learning*—how behavior is acquired and modified in response to environmental influences. For the most part, the behaviorists studied animal behavior under carefully controlled laboratory conditions.

Although Watson left academic psychology in the early 1920s, behaviorism was later championed by an equally forceful proponent—the famous American psychologist **B. F. Skinner.** Like Watson, Skinner believed that psychology should restrict itself to studying outwardly observable behaviors that could be measured and verified. In compelling experimental demonstrations, Skinner systematically used reinforcement or punishment to shape the behavior of rats and pigeons.

Between Watson and Skinner, behaviorism dominated American psychology for almost half a century. During that time, the study of conscious experiences was largely ignored as a topic in psychology (Baars, 2005). In Chapter 5, on learning, we'll look at the lives and contributions of Pavlov, Watson, and Skinner in greater detail.

Three Key Scientists in the Development of Behaviorism

Building on the pioneering research of Russian physiologist Ivan Pavlov, American psychologist John B. Watson founded the school of behaviorism. Behaviorism advocated that psychology should study observable behaviors, not mental processes. Following Watson, B. F. Skinner continued to champion the ideas of behaviorism. Skinner became one of the most influential psychologists of the twentieth century. Like Watson, he strongly advocated the study of observable behaviors rather than mental processes.



Culver Pictures

Ivan Pavlov (1849–1936)

Underwood & Underwood/Corbis

John B. Watson (1878–1958)

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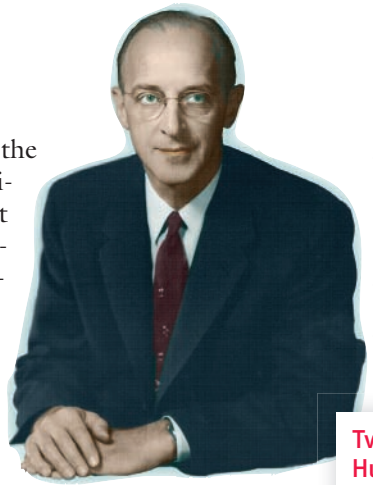
B. F. Skinner (1904–1990)

Carl Rogers

Humanistic Psychology

For several decades, behaviorism and psychoanalysis were the perspectives that most influenced the thinking of American psychologists. In the 1950s, a new school of thought emerged, called **humanistic psychology.** Because humanistic psychology was distinctly different from both psychoanalysis and behaviorism, it was sometimes referred to as the "third force" in American psychology (Watson & others, 2011).



Special Collections, Donald C. Davidson Library/ University of California, Santa Barbara

Carl Rogers (1902–1987)

Courtesy of Robert D. Farber University Archives at Brandeis University

Abraham Maslow (1908–1970)

Two Leaders in the Development of Humanistic Psychology Carl Rogers and Abraham Maslow were key figures in establishing humanistic psychology. Humanistic psychology emphasized the importance of self-determination, free will, and human potential. The ideas of Carl Rogers have been particularly influential in modern psychotherapy. Abraham Maslow's theory of motivation emphasized the importance of psychological growth.

Humanistic psychology was largely founded by American psychologist **Carl Rogers** (Elliott & Farber, 2010). Like Freud, Rogers was influenced by his experiences with his psychotherapy clients. However, rather than emphasizing unconscious conflicts, Rogers emphasized the *conscious* experiences of his patients, including each person's unique potential for psychological growth and self-direction. In contrast to the behaviorists, who saw human behavior as being shaped and maintained by external causes, Rogers emphasized self-determination, free will, and the importance of choice in human behavior (Elliott & Farber, 2010; Kirschenbaum & Jourdan, 2005).

Abraham Maslow was another advocate of humanistic psychology. Maslow developed a theory of motivation that emphasized psychological growth, which we'll discuss in Chapter 8. Like psychoanalysis, humanistic psychology included not only influential theories of personality but also a form of psychotherapy, which we'll discuss in later chapters.

By briefly stepping backward in time, you've seen how the debates among the key thinkers in psychology's history shaped the development of psychology as a whole. Each of the schools that we've described had an impact on the topics and methods of psychological research. As you'll see throughout this textbook, that impact has been a lasting one.

From the founding of Wundt's laboratory in 1879, psychology has evolved to its current status as a dynamic and multidimensional science. In the next section, we'll touch on some of the more recent developments in psychology's evolution. We'll also explore the diversity that characterizes contemporary psychology.

CONCEPT REVIEW 1.1

Major Schools in Psychology

Identify the school or approach and the founder associated with each of the following statements.

1. Psychology should study how behavior and mental processes allow organisms to adapt to their environments.
   School/Approach _____
   Founder _____
2. Psychology should emphasize each person's unique potential for psychological growth and self-directedness.
   School/Approach _____
   Founder _____
3. Psychology should focus on the elements of conscious experiences, using the method of introspection.
   School/Approach _____
   Founder _____
4. Human behavior is strongly influenced by unconscious sexual and aggressive conflicts.
   School/Approach _____
   Founder _____
5. Psychology should scientifically investigate observable behaviors that can be measured objectively and should not study consciousness or mental processes.
   School/Approach _____
   Founder _____

*__Note:__ Concept review answers can be found on the last page of the chapter.