SEVENTH EDITION

Invitation to Psychology

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Seventh Edition

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Pearson

For Howard
–Carole Wade

For Ronan
–Carol Tavris

For Abby & Sophie
–Sam Sommers

For Gianna
–Lisa Shin

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Contents at a Glance

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From the Authors

From Carole Wade and Carol Tavris:

From the very first edition of this book, our primary goal has been to weave critical and scientific thinking into the fabric of our writing, and today, in this era of fake news and "alternative facts," this goal is more important than ever. Students must negotiate the Internet and social media, which contain vast amounts of information but which are also full of conspiracy theories and nonsense. Psychological science can offer students the tools they need to separate fact from fiction and pseudoscience—and to distinguish wishful thinking from thinking wisely. Therefore, a good textbook should not be a laundry list of definitions and studies, and its writers cannot simply be reporters. For us, the most important job of any textbook is to help students learn to think like psychologists, and to motivate them to enjoy the process.

That is why we could not be happier to welcome Sam Sommers and Lisa Shin to this book. They are consummate scientists; their particular areas of expertise (social, cognitive, and applied for him; neuroscience, emotion, and clinical psychology for her) provide a perfect balance across the spectrum of psychological research; and they are gifted teachers and writers who know how to inspire and connect with students. We are grateful to them for bringing our vision of psychology forward, along with incorporating new teaching methods and learning dynamics for today's classrooms. They have retained what loyal users have cared about for so many editions while spearheading the book's evolution into the future. We hope you will enjoy this new and exciting incarnation of our book.

From Sam Sommers and Lisa Shin:

In our department, Introduction to Psychology is a team-taught course. Given that psychology is such a diverse field, a team-based approach is an ideal way to introduce students to a wide range of perspectives with expertise as well as balance. In fact, the two of us have taught this course together on several occasions. And now we are so very excited to be joining a new team, the textbook team that Carole Wade and Carol Tavris have created. The Carol(e)s have written a book long known for making science accessible. Its hallmarks have always been to maintain a solid research base and promote critical thinking, all the while offering engaging prose and analysis of contemporary events. This book is designed to be accessible to students learning psychology at any institution. It is a book intended to reveal to readers that psychology is the scientific study of their daily lives. These, too, have been our objectives in our years as a teaching team.

For those of you who have used the Wade and Tavris text in the past, we trust that you will find its calling cards still intact: detailed reviews of study design and findings; an emphasis on critical thinking and active learning; the willingness to confront controversial topics; and themes of culture and gender infused throughout. We're confident that returning as well as new users will also find benefit in our additional strategies for making science accessible. Each chapter in our interactive Revel text opens with a survey question that prompts students to explore the applicability of the topic at hand to their own lives. We've punched up the popular culture analyses, enabling readers to consider the ways in which broader cultural forces both shape and reflect individual cognitive and behavioral tendencies. We've created a new video series—embedded directly into the Revel text—in which we try to bring the details of research to life through study reenactments, clinical interviews, and engaging demonstrations. And we've tried to capitalize on the expertise born of our mutual decades of active research in the field—it has always been our belief that teaching makes us better researchers and research makes us better teachers. We're thrilled to be on board, and we look forward to sharing the coming semester with you.

Changes in the 7th Edition

In the 7th edition of *Invitation to Psychology*, we have retained the core concepts that characterized previous editions—an emphasis on critical thinking, applications to culture and human diversity, insights from research ranging from the biological and neuroscientific to the more clinically and social science oriented—and added opportunities for students to test themselves on the material as they're learning it. Each chapter also ends with a "Taking Psychology With You" section, devoted to various lessons that we hope readers will be able to apply to their own lives, whether in terms of how to improve critical-thinking skills, how to get better (and more) sleep, how to become a more conscientiously engaged member of social groups, or how to think more clearly about mental disorders. We reordered the chapters of the 7th edition to be more in line with the most common course syllabi; however, we've also taken care to present them in such a way that they can be easily reordered in REVEL or however you teach your course.

As always, in every chapter, we have updated the research to reflect progress in the field and cutting-edge discoveries. Here are a few highlights:

- Discussion of psychology as a "hub science."
- Research regarding the cognitive advantages of taking notes by hand rather than with a laptop, as well as the consequences of multitasking in the classroom.
- Emerging techniques for manipulating brain function, such as transcranial direct current stimulation (tDCS), transcranial magnetic stimulation (TMS), and deep brain stimulation (DBS).

- Critical analysis of the notion of a "hook-up culture" among young adults, as well as new data on the use of speed dating to study the science of relationships.

- New discussion of sexual orientation and the experiences (and popular culture depictions of) transgender individuals.

- Research on multiracial identity, including its relationship to cognitive outcomes.

- New coverage of potential diagnostic inaccuracy of the DSM and the shift to study psychopathology dimensionally.

- Expanded focus on recent real-world events and popular culture to illustrate psychological principles and spark students' curiosity.

In addition, all content is mapped to revised **learning objectives**, which highlight the major concepts throughout each chapter. The complete list of learning objectives for each chapter can be found in the *Instructor's Resource Manual*. The Test Bank items are also keyed to these learning objectives.

Goals and Principles

Five goals and principles have guided the writing of this book from the first edition. Here they are:

1. Thinking Critically About Critical Thinking

In a textbook, true critical thinking cannot be reduced to a set of rhetorical questions or a formula for analyzing studies; it is a process that must be woven seamlessly into the narrative. The primary way we "do" critical and creative thinking is by applying a three-pronged approach: We *define* it, we *model* it, and we give students a chance to *practice* it.

The first step is to define what critical thinking is and what it is not. Chapter 1 introduces **Eight Guidelines to Critical Thinking**, which we draw on throughout the text as we evaluate research and popular ideas.

The second step is to model these guidelines in our evaluations of research and popular ideas. Throughout the textbook you'll find discussions of these critical-thinking guidelines as we challenge the reader to evaluate what the evidence reveals—and importantly, does not reveal—about a particular phenomenon. Photo captions, writing prompts, and of course the narrative itself offer opportunities for students to sharpen their critical-thinking skills to become active readers (and active learners) of psychology.

The third step is to give students opportunities to practice what we've preached in the form of end-of-module and end-of-chapter assessments. These tests require more than memorization of definitions; they help students check their progress, measure their understanding of the material, and encourage them to go back and review what they don't recall or comprehend. Many quiz questions include critical-thinking items that invite the students to reflect on the implications of findings and consider how psychological principles might illuminate real-life issues.

2. Exploring New Research in Biology and Neuroscience

Findings from the Human Genome Project, studies of behavioral genetics and epigenetics, discoveries about the brain, technologies such as fMRI, and the proliferation of medications for psychological disorders—all of these developments have had a profound influence on our understanding of human behavior and on interventions to help people with chronic problems. We report new findings from biology and neuroscience wherever they are relevant throughout the book: in discussions of neurogenesis in the brain, memory, emotion, stress, child development, aging, mental illness, personality, and many other topics.

Although we caution students about the dangers of ignoring biological research, we also caution them about the dangers of reducing complex behaviors solely to biology by overgeneralizing from limited data, failing to consider other explanations, and oversimplifying solutions. Our goal is to provide students with a structure for interpreting research they will hear or read about to an even increasing degree in the future.

3. Focus on Culture and Gender

At the time of this book's first edition, some considered the goal of incorporating research on gender and culture into introductory psychology to be quite radical, either a bow to political correctness or a fluffy fad. Today, the issue is no longer whether to include these topics, but how best to do it. From the beginning, our own answer has been to include studies of gender and culture throughout the text. We discuss gender differences—and similarities—in many areas, from the brain, emotion, and motivation to heroism, sexuality, love, and eating disorders.

Over the years, most psychologists have come to appreciate the influence of culture on all aspects of life, from nonverbal behavior to the deepest attitudes about how the world should be. We present empirical findings about culture and ethnicity throughout the book. In addition, Chapter 11 highlights the sociocultural perspective in psychology and includes extended discussions of intergroup conflict, prejudice, and cross-cultural relations.

4. Facing the Controversies

Psychology has always been full of lively, sometimes angry, debates, and we feel that students should not be sheltered from them. They are what make psychology so interesting! In this book, we candidly address controversies in the field of psychology, try to show why they are occurring, and suggest the kinds of questions that might lead to useful answers in each case. For example, we discuss the controversies about oversimplification of brain-scan technology (Chapter 2); the disease versus learning models of addiction (Chapter 13); the extent of parents' influence on their children's personality development (Chapter 10); and conflicts of interest in research on medication for psychological disorders (Chapter 14).

5. Applications and Active Learning

Finally, throughout this book, we have kept in mind one of the soundest findings about learning: It requires the active encoding of material. Several pedagogical features in particular encourage students to become actively involved in what they are reading, including **chapter opening survey questions** that allow students to compare their own perceptions about psychological topics with those of other students taking the course; **interactive review tables**; a **running glossary** that defines boldfaced technical terms where they occur for handy reference and study; carefully selected **videos** in each chapter, including a new series created by the authors; **chapter outlines**; and **chapter summaries** in paragraph form to help students review. And as noted above, **Taking Psychology With You** is a feature that concludes each chapter by illustrating the practical implications of psychological research for individuals, groups, institutions, and society.

The Importance of Testing Yourself on What You've Studied

In our years of teaching, we have found that certain study strategies can greatly improve learning, and so we'd like to offer you, our reader, the following suggestions. Do not try to read this textbook the way you might read a novel, taking in large chunks at a sitting. If you are like most students, your favorite strategy is to read the textbook and your notes, and then simply read them again, but this is not really the best way to learn.

If you could do just one thing that would improve your learning and improve your grades it is this: Test yourself on what you've studied early, often, and repeatedly. Ask yourself questions, answer them, and then go back and restudy what you didn't know. Test yourself again and again until you learn the material. Even when you have learned it, you need to keep testing yourself regularly over the semester so that what you've learned stays learned. Within Chapter 1, we provide you with some other proven techniques to help you learn.

To get the most from your studying, we recommend that you read only a part of each chapter at a time. Instead of simply reading silently, nodding along saying "hmmmmm" to yourself, try to restate what you have read in your own words at the end of each section. At specific points in each chapter, you will find several **Journal Writing Prompts** that challenge you to not just recall what you've learned, but actively develop your understanding of the material. These exercises will help you to discover what you know or still don't understand.

We have never gotten over our own initial excitement about psychology, and we have done everything we can think of to make the field as lively and absorbing for you as it is for us. However, what you bring to your studies is as important as what we have written. This text will remain only a collection of paragraphs unless you choose to read actively, using the many active-learning and critical-thinking features we have provided.

Psychology can make a real difference in your own life, and we hope you will enjoy studying it in this book. Welcome to psychology!

Carole Wade
Carol Tavris
Sam Sommers
Lisa Shin

Overview of Critical Thinking

One of the greatest benefits of studying psychology is that you learn not only about the findings of the field but also how to think critically. The following eight guidelines, which are emphasized throughout this book, will help you separate good psychology from pseudoscience. (For a full description, see Chapter 1.)

Eight Essential Guidelines to Critical and Creative Thinking

1. Ask questions; be willing to wonder.

   - Why has obesity reached epidemic proportions all over the world? (Chapter 8)
   - Do most adolescents really go through adolescent turmoil? (Chapter 10)

2. Define your terms.

   - How should we define "prejudice"? Is feeling uncomfortable around unfamiliar members of another group the same as being prejudiced against them? Is having an unconscious negative association with a stereotyped group the same as being overtly bigoted? (Chapter 11)
   - In general, it's good to feel "in control" of your life, but what does control mean, exactly? Is it good to believe that you can control everything? (Chapter 9)

3. Examine the evidence.

   - After disasters such as hurricanes and acts of terrorism, survivors are often offered "posttraumatic therapy" sessions. Do these interventions help, make no difference, or sometimes make matters worse? (Chapter 14)
   - Under hypnosis, Jim remembers that he was a fourteenth-century French prince in a former life. Does the evidence support his memory? Can Jim speak fourteenth-century French and report accurate details of a life in a Parisian palace? (Chapter 4)

4. Analyze assumptions and biases.

   - How do psychological scientists and psychotherapists differ in their assumptions about the relevance of research to clinical practice? (Chapter 14)

- Many people assume that women are the more "emotional" sex. Are they right? (Chapter 9)

5. Avoid emotional reasoning.

- Most people have strong beliefs about religious and political issues. How might their emotions and differing values affect their ability to assess the evidence for or against those beliefs? (Chapter 11)

- Many people are emotionally committed to their beliefs in psychic powers and ESP. Are they kidding themselves? (Chapter 3)

6. Don't oversimplify.

- Many people are enthusiastic about using brain scans as windows into the brain's workings. But if a scan shows that a brain area is active when a person is doodling, does that mean we've found the brain's "doodling center"? (Chapter 2)

- What's wrong with asking "Do children always lie (or always tell the truth) about sexual abuse?" (Chapter 6)

7. Consider other interpretations.

- Many people believe that brain abnormalities cause alcoholism. But might excessive alcohol cause brain abnormalities? (Chapter 13)

- Does watching TV make kids aggressive, or do aggressive kids watch more TV? Or could a third factor be involved? (Chapter 5)

8. Tolerate uncertainty.

- What do dreams mean? Do they have deep hidden meanings or are they random signals of a sleeping brain? (Chapter 4)

- If you think you remember your fourth birthday party perfectly, can you ever really be sure your memory is right? (Chapter 6)

From the Publisher

Teaching and Learning:

Integrated, Meaningful, Easy-to-Use Activities

As valuable as a good textbook is, it is one element of a comprehensive learning package. We at Pearson Publishers have made every effort to provide high-quality instructor and student supplements that will save you preparation time and will enhance the classroom experience.

For access to all instructor supplements for Wade, Tavris, Sommers, and Shin's *Invitation to Psychology*, 7th edition, simply go to **www.pearsonhighered.com/irc** and follow the directions to register (or log in if you already have a Pearson user name and password). After you have registered and your status as an instructor is verified, you will be emailed a login name and password. Use your login name and password to access the catalogue. Click on *online catalog* and then > Psychology > General Psychology > Introductory Psychology > Wade/Tavris/Sommers/Shin Invitation to Psychology 7th edition. Under the description of each supplement is a link that allows you to download and save it to your computer.

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Wade/Tavris/Sommers/Shin Invitation to Psychology, 7th edition, is available in these formats:

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Presentation and Teaching Resources

The Instructor's Resource Center (**www.pearsonhighered.com/irc**) provides information and the following downloadable supplements:

Test Bank (ISBN 0134635965)

This test bank contains approximately 2,700 multiple-choice, true/false, matching, short-answer, and essay questions, each referenced to the relevant page in the textbook. An additional feature for the test bank is the inclusion of *rationales for the conceptual and applied multiple-choice questions*. The rationales help instructors to evaluate the questions they are choosing for their tests and give instructors the option to use the rationales as an answer key for their students.

A Total Assessment Guide chapter overview makes creating tests easier by listing all of the test items in an easy-to-reference grid. All multiple-choice questions are categorized as factual, conceptual, or applied, and are correlated to each of the chapter's **learning objectives**. The Test Bank is available for download from the Instructor's Resource Center at www.pearsonhighered.com/irc.

Pearson MyTest (ISBN 0134625714)

The 7th edition test bank is also available through Pearson MyTest (**www.pearsonmytest.com**), a powerful assessment-generation program that helps instructors easily create and print quizzes and exams. Instructors can write questions and tests online, allowing them flexibility and the ability to efficiently manage assessments at any time, anywhere. Instructors can easily access existing questions and edit, create, and store using simple drag-and-drop and Word-like controls. Data on each question provide answers, textbook page number, and question types, mapped to the appropriate learning objective.

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Psychobabble and Biobunk Using psychological science to think critically about popular psychology, 3rd edition (ISBN 978-0-205-01591-7)

By Carol Tavris: This updated collection of book reviews and essays is tailored to the critical-thinking guidelines described in the 7th edition.

About the Authors

Carole Wade earned her Ph.D. in cognitive psychology at Stanford University. She began her academic career at the University of New Mexico, where she taught courses in psycholinguistics and developed the first course at the university on the psychology of gender. She was professor of psychology for 10 years at San Diego Mesa College and then taught at College of Marin and Dominican University of California. Dr. Wade has written and lectured widely on critical thinking and the enhancement of psychology education. In addition to this text, she and Carol Tavris have written *Psychology; Psychology in Perspective*; and *The Longest War: Sex Differences in Perspective*.

Carol Tavris earned her Ph.D. in the interdisciplinary program in social psychology at the University of Michigan. She writes and lectures extensively on diverse topics in psychological science and critical thinking. Dr. Tavris is coauthor with Elliot Aronson of *Mistakes Were Made (But Not by Me): Why We Justify Foolish Beliefs, Bad Decisions, and Hurtful Acts*. She is also author of *The Mismeasure of Woman* and *Anger: The Misunderstood Emotion*. Many of her book reviews and opinion essays have been collected in *Psychobabble and Biobunk: Using Psychology to Think Critically About Issues in the News*.

Samuel R. Sommers earned his Ph.D. in psychology at the University of Michigan and has been a professor of psychology at Tufts University since 2003. He is a social psychologist whose research examines issues related to intergroup relations, group composition and diversity, stereotyping and bias, and the intersection of psychology and law. Dr. Sommers teaches courses in Experimental Psychology, Social Psychology, and Psychology and Law, and also team-teaches Introduction to Psychology with Dr. Shin. In addition to this text, he is a co-author of the Aronson et al. *Social Psychology* textbook and has written two general-audience books, *Situations Matter: Understanding How Context Transforms Your World*, and *This Is Your Brain on Sports: The Science of Underdogs, the Value of Rivalry, and What We Can Learn from the T-Shirt Cannon*.

Lisa M. Shin earned her Ph.D. in psychology at Harvard University, and completed a postdoctoral fellowship in the Department of Psychiatry at The Massachusetts General Hospital/Harvard Medical School. She has been on the faculty at Tufts University since 1998, where she is currently Chair of the Psychology Department. Dr. Shin's research involves examining brain function and cognitive processing in patients with anxiety disorders, particularly posttraumatic stress disorder (PTSD). Dr. Shin teaches courses in Research Methods in Clinical Psychology, Biological Bases of Psychopathology, and Emotion and Memory, and also team-teaches Introduction to Psychology with Dr. Sommers.

Authors' Acknowledgments

Learning Outcomes and Assessment

Goals and Standards

In recent years many psychology departments have been focusing on core competencies and how methods of assessment can better enhance students' learning. In response to this need, in 2008, the American Psychological Association (APA) established 10 recommended goals for the undergraduate psychology major. These goals were revised in 2013 and currently cover five goals. Specific learning outcomes have been established for each goal and suggestions are provided on how best to tie assessment practices to these goals. In writing this text, we have used the APA goals and assessment recommendations as guidelines for structuring content and integrating the teaching and homework materials. For details on the APA learning goals and assessment guidelines, please see www.apa.org/.

Based on APA recommendations, each chapter is structured around detailed learning objectives. All of the instructor and student resources are also organized around these objectives, making the text and resources a fully integrated system of study. The flexibility of these resources allows instructors to choose which learning objectives are important in their courses as well as which content they want their students to focus on.

APA Correlation for Wade, Tavris, Sommers, Shin 7e

The APA Guidelines for the Undergraduate Psychology Major, Version 2.0

APA Learning Outcomes and Objectives	Text Learning Objectives and Features
Goal 1: Knowledge Base in Psychology	
Demonstrate fundamental knowledge and comprehension of major concepts, theoretical perspectives, historical trends, and empirical findings to discuss how psychological principles apply to behavioral problems.	
1.1 Describe key concepts, principles, and overarching themes in psychology.	
1.1a Use basic psychological terminology, concepts, and theories in psychology to explain behavior and mental processes	*Learning Objectives: 1.1b, 1.1c, 2.1a, 2.1b, 2.4a, 2.4b, 2.4c, 2.4d, 2.4e, 2.4f, 2.4g, 3.1a, 3.1b, 3.2b, 3.3b, 3.4a, 3.4b, 3.4c, 3.4e, 4.1a, 4.3a, 4.4a, 4.5a, 5.1a, 5.1b, 5.1c, 5.2a, 5.2b, 5.2c, 5.2d, 5.3b, 5.4a, 5.5a, 5.6a, 5.6b, 6.1b, 6.2a, 6.2b, 6.2c, 6.4a, 6.5a, 6.6a, 7.1a, 7.1d, 7.2d, 7.3a, 7.3b, 7.3c, 8.1a, 8.2b, 8.3b, 8.4a, 9.1a, 9.2a, 9.3a, 10.1b, 10.1c, 10.2a, 10.3a, 10.4a, 10.6a, 11.1b, 11.1c, 11.2a, 11.2c, 11.3a, 11.3b, 11.3c, 11.3d, 11.4a, 11.4b, 11.5a, 12.1a, 12.1b, 12.1c, 12.2b, 12.3a, 12.3b, 12.4a, 12.5a, 12.6a, 12.6c, 13.1a, 13.1b, 13.2a, 13.2b, 13.2c, 13.3a, 13.3b, 13.4a, 13.4b, 13.5c, 13.6a, 13.6b, 13.8a, 13.8b, 14.1a, 14.1b, 14.2a, 14.2b, 14.2c, 14.2d, 14.3a, 14.3b*
1.1b Explain why psychology is a science with the primary objectives of describing, understanding, predicting, and controlling behavior and mental processes	*Learning Objectives: 1.1a, 1.1b, 1.1c, 4.3b, 4.4b, 5.4b, 12.1c, 12.6c*
1.1c Interpret behavior and mental processes at an appropriate level of complexity	*Learning Objectives: 1.2a, 3.1c, 3.1d, 3.2c, 4.5a, 4.5b, 4.5c, 5.1a, 5.1b, 5.3b, 5.4a, 5.6a, 5.6b, 6.3a, 6.3b, 6.5b, 6.5c, 6.6b, 6.6c, 7.3b, 8.1d, 8.3a, 8.3b, 8.3c, 8.3d, 9.1b, 9.3a, 10.1b, 10.4a, 10.4b, 11.1a, 11.1d, 11.2b, 11.2d, 12.1a, 12.2a, 12.4a, 12.5b, 12.6c, 13.1a, 1.36a, 13.6b, 13.7a, 13.7b*
1.1d Recognize the power of the context in shaping conclusions about individual behavior	*Learning Objectives: 1.2a, 2.2d, 2.2e, 6.5c, 6.6a, 6.6b, 6.6c, 7.3b, 8.3d, 9.2b, 11.1b, 11.1c, 11.1d, 11.2a, 11.3a, 11.4b, 11.4c, 11.5a, 11.5c, 12.4a, 12.4b, 12.4c, 12.5a, 12.5b, 14.3d*
1.1e Identify fields other than psychology that address behavioral concerns	*Learning Objectives: 1.1d, 2.2c, 4.2b, 5.2a, 5.2b, 5.2c, 5.2d, 5.5a, 5.5b, 5.6b, 6.5c, 6.6b, 6.6c, 7.3d, 7.4a, 7.4b, 7.4c, 8.1b, 8.1c, 8.1d, 9.3b, 9.4a, 9.4b, 9.4c, 9.5a, 9.5b, 10.1a, 10.2b, 10.3b, 10.5a, 10.5b, 14.1a, 14.1b*
1.2 Develop a working knowledge of the content domains of psychology	
1.2a Identify key characteristics of major content domains in psychology (e.g., cognition and learning, developmental, biological, and sociocultural)	*Learning Objectives: 1.1b, 1.1c, 2.1a, 2.1b, 3.2a, 3.2b, 3.2d, 3.2e, 3.3a, 3.3b, 3.3c, 3.4a, 3.4b, 3.4c, 3.4d, 3.4e, 4.2a, 4.4a, 4.5a, 5.1a, 5.1b, 5.3b, 5.4a, 5.5a, 5.6a, 5.6b, 6.1a, 6.1b, 6.2a, 6.2b, 6.2c, 6.4a, 7.1a, 7.1b, 7.1c, 7.1d, 8.1a, 8.4a, 9.1a, 9.2a, 10.1c, 10.2a, 10.4b, 11.1a, 11.2a, 11.2c, 11.3a, 11.5a, 12.1a, 12.2b, 12.3b, 12.4a, 12.6a, 13.2a, 13.2b, 13.2c, 13.3a, 13.3b, 13.4a, 13.4b, 13.5c, 13.8a, 13.8b, 14.1a, 14.1b, 14.2a, 14.2b, 14.2c, 14.2d, 14.3a, 14.3b*
1.2b Identify principle research methods and types of questions that emerge in specific content domains	*Learning Objectives: 1.3b, 1.4a, 1.5c, 1.6b, 2.3a, 2.3b, 2.5a, 3.1b, 3.1c, 3.1d, 5.3a, 5.4b, 6.5c, 8.3a, 9.1a, 9.2a, 9.2b, 10.2a, 11.5b, 12.2a, 13.1c*
1.2c Recognize major historical events, theoretical perspectives, and figures in psychology and their link to trends in contemporary research	*Learning Objectives: 1.1b, 1.1c, 2.2c, 2.3a, 2.3b, 2.6a, 3.1b, 3.2d, 3.3c, 4.3a, 5.3a, 5.4b, 7.3b, 8.3a, 9.1a, 10.2a, 11.1b, 11.1c, 11.3a, 12.1a, 12.1b, 12.6a, 13.1b, 14.1a, 14.1b, 14.2a*

APA Learning Outcomes and Objectives	Text Learning Objectives and Features
1.2d Provide examples of unique contributions of content domain to the understanding of complex behavioral issues	*Learning Objectives: 1.2b, 2.5a, 2.5b, 2.6a, 2.6b, 2.6c, 4.4b, 4.5a, 5.2a, 5.2b, 5.2c, 5.2d, 6.5c, 6.6c, 7.3c, 8.3b, 9.3a, 10.4a, 10.4b, 11.1b, 11.1c, 11.2c, 11.3a*
1.2e Recognize content domains as having distinctive socio-cultural origins and development	*Learning Objectives: 2.6b, 4.1b, 6.5c, 7.3b, 9.2b, 9.2c, 10.4b, 11.4a, 11.4b, 11.4c, 12.5a, 12.5b, 13.7a, 13.7b, 14.3d*

1.3 Describe applications that employ discipline-based problem solving

1.3a Describe examples of relevant and practical applications of psychological principles to everyday life	*Learning Objectives: 1.2a, 1.2b, 2.2c, 2.2e, 2.3a, 2.3b, 2.6a, 2.6b, 2.6c, 3.1d, 3.2c, 3.2e, 3.3c, 3.4d, 4.2b, 4.4a, 4.5a, 4.5c, 5.1c, 5.2a, 5.2b, 5.2c, 5.2d, 5.4b, 5.5a, 5.5b, 5.6a, 5.6b, 6.3c, 6.4a, 6.6b, 6.6c, 7.1c, 7.2b, 7.3c, 8.1b, 8.1c, 8.1d, 8.2a, 8.2c, 8.4b, 8.4c, 9.1c, 9.3b, 9.4a, 9.4b, 9.4cc, 9.5a, 9.5b, 9.5c, 10.3b, 10.6b, 10.6c, 11.1d, 11.2a, 11.2b, 11.2d, 11.3a, 11.3b, 11.3c, 11.3d, 11.4b, 11.4c, 11.5a, 11.5c, 12.2a, 12.3b, 12.4b, 12.4c, 13.2c, 13.3a, 13.3b, 13.4a, 13.4b, 13.6a, 13.6b, 13.8b, 14.1a, 14.2b, 14.2d, 14.3b, 14.3c, 14.3d*
1.3b Summarize psychological factors that can influence the pursuit of a healthy lifestyle	*Learning Objectives: 4.1a, 4.2b, 4.5a, 8.1b, 8.1c, 8.1d, 9.3a, 9.3b, 9.4a, 9.4b, 9.4c, 9.5a, 9.5b, 9.5c*
1.3c Correctly identify antecedents and consequences of behavior and mental processes	*Learning Objectives: 4.3b, 4.4b, 6.5b, 6.5c, 6.6a, 7.3d, 8.3c, 8.4c, 9.3a, 11.1b, 11.2c, 12.1a, 12.4a, 12.6a, 13.7a, 13.7b, 14.3a, 14.3b, 14.3c*
1.3d Predict how individual differences influence beliefs, values, and interactions with others, including the potential for prejudicial and discriminatory behavior in oneself and others	*Learning Objectives: 11.4a, 11.4b, 11.4c, 11.5a, 11.5b, 11.5c, 12.5a*

Major concepts are reinforced with learning tools: Writing Space, Experimental Simulations, MyPsychLab Video Series, Visual Brain, and instructor's teaching and assessment package. Text features such as Evaluating Claims and Fact Versus Fiction also reinforce learning objectives.

Goal 2: Scientific Inquiry and Critical Thinking

Understand scientific reasoning and problem solving, including effective research methods.

2.1 Use scientific reasoning to interpret behavior

2.1a Identify basic biological, psychological, and social components of behavioral explanations (e.g., inferences, observations, operational definitions, interpretations)	*Learning Objectives: 1.6a, 2.2a, 2.2b, 4.1b, 5.1c, 5.3a, 6.3a, 6.3b, 7.3b, 7.4c, 8.1d, 8.3a, 8.3b, 9.1a, 10.1a, 10.1c, 11.1a, 12.1c, 12.6c, 13.2c, 13.5b, 13.5c, 13.6a, 13.6b, 13.8b, 14.1a, 14.1b*
2.1b Use psychology concepts to explain personal experiences and recognize the potential for flaws in behavioral explanations based on simplistic, personal theories	*Learning Objectives: 1.2a, 1.5a, 1.5b, 5.5b, 7.2a, 7.2b*
2.1c Use an appropriate level of complexity to interpret behavior and mental processes	*Learning Objectives: 1.2a, 1.3a, 4.4a, 5.6a, 5.6b, 7.3d, 8.3b, 9.2a, 10.4b, 11.2d, 12.1c, 12.4a, 12.6c, 13.7b, 14.1a, 14.1b, 14.3a, 14.3c*
2.1d Ask relevant questions to gather more information about behavioral claims	*Learning Objectives: 1.2a, 4.1b, 4.4a, 13.4a, 13.7a, 13.7b, 14.3c*
2.1e Describe common fallacies in thinking (e.g., confirmation bias, post hoc explanations, implying causation from correlation) that impair accurate conclusions and predictions	*Learning Objectives: 1.2a, 1.4b, 3.2c, 7.2a, 7.2b, 7.2c, 7.2d, 11.2a*

2.2 Demonstrate psychology information literacy

2.2a Read and summarize general ideas and conclusions from psychological sources accurately	
2.2b Describe what kinds of additional information beyond personal experience are acceptable in developing behavioral explanations (i.e., popular press reports vs. scientific findings)	
2.2c Identify and navigate psychology databases and other legitimate sources of psychology information	
2.2d Articulate criteria for identifying objective sources of psychology information	
2.2e Interpret simple graphs and statistical findings	*Learning Objectives: 1.6a, 1.6b*

2.3 Engage in innovative and integrative thinking and problem-solving

2.3a Recognize and describe well-defined problems	*Learning Objectives: 1.2a*
2.3b Apply simple problem-solving strategies to improve efficiency and effectiveness	
2.3c Describe the consequences of problem-solving attempts	

2.4 Interpret, design and conduct basic psychological research

2.4a Describe research methods used by psychologists including their respective advantages and disadvantages	*Learning Objectives: 1.3b, 1.4a, 1.4b, 1.5c, 1.6b, 2.3a, 2.3b, 3.1b, 7.3b, 9.1a, 10.2a, 12.2a, 14.3a, 14.3b, 14.3c*
2.4b Discuss the value of experimental design (i.e., controlled comparisons) in justifying cause-effect relationships	*Learning Objectives: 1.3a, 1.5a, 1.5b, 1.5c, 14.3c*

APA Learning Outcomes and Objectives	Text Learning Objectives and Features
2.4c Define and explain the purpose of key research concepts that characterize psychological research (e.g., hypothesis, operational definition)	
2.4d Replicate or design and conduct simple scientific studies (e.g., correlational or two-factor) to confirm a hypothesis based on operational definitions	
2.4e Explain why conclusions in psychological projects must be both reliable and valid	*Learning Objectives: 1.6a, 1.6b, 13.1a, 13.1b, 13.1c, 12.2a, 14.3a, 14.3c*
2.4f Explain why quantitative analysis is relevant for scientific problem solving	
2.4g Describe the fundamental principles of research design	*Learning Objectives: 1.3a, 1.3b, 1.4a, 1.4b, .15a, 1.5b, 1.5c, 1.6a, 1.6b*
2.5 Incorporate sociocultural factors in scientific inquiry	
2.5a Relate examples of how a researcher's value system, sociocultural characteristics, and historical context influence the development of scientific inquiry on psychological questions	*Learning Objectives: 4.1b, 5.4b, 6.5c, 7.3b, 8.3a, 10.3a, 12.1a, 12.1b, 12.1c, 12.6a, 12.6c, 13.6a, 13.6b, 13.7a, 13.7b, 14.3d*
2.5b Analyze potential challenges related to sociocultural factors in a given research study	*Learning Objectives: 2.6b, 4.1b, 12.5a, 12.5b, 14.3d*
2.5c Describe how individual and sociocultural differences can influence the applicability/generalizability of research findings	*Learning Objectives: 4.1b, 6.3c, 7.3b, 10.3a, 10.6b, 12.5a, 12.5b, 14.3d*
2.5d Identify under what conditions research findings can be appropriately generalized	*Learning Objectives: 1.6b*
Scientific inquiry is reinforced with learning tools: Writing Space, Experimental Simulations, MyPsychLab Video Series, Visual Brain, and instructor's teaching and assessment package. Text features such as Evaluating Claims and Fact Versus Fiction also reinforce learning objectives.	
Goal 3: Ethical and Social Responsibility	
Develop ethically and socially responsible behaviors for professional and personal settings.	
3.1 Apply ethical standards to psychological science and practice	
3.1a Describe key regulations in the APA Ethics Code for protection of human or nonhuman research participants	*Learning Objectives: 11.1b, 11.1c, 14.3c*
3.1b Identify obvious violations of ethical standards in psychological contexts	*Learning Objectives: 6.5c, 14.3c*
3.1c Discuss relevant ethical issues that reflect principles in the APA Code of Ethics	*Learning Objectives: 11.1b, 11.1c, 14.3c*
3.1d Define the role of the institutional review board	
3.2 Promote values that build trust and enhance interpersonal relationships	
3.2a Describe the need for positive personal values (e.g., integrity, benevolence, honesty, respect for human dignity) in building strong relationships with others	*Learning Objectives: 12.6a*
3.2b Treat others with civility	
3.2c Explain how individual differences, social identity, and world view may influence beliefs, values, and interaction with others and vice versa	*Learning Objectives: 11.4a, 11.4b, 12.5a, 14.3d*
3.2d Maintain high standards for academic integrity, including honor code requirements	
3.3 Adopt values that build community at local, national, and global levels	
3.3a Identify human diversity in its many forms and the interpersonal challenges that often result from the diversity	*Learning Objectives: 2.6b, 9.2a, 9.2b, 11.4a, 11.4b, 11.4c, 11.5a, 11.5b, 11.5c, 12.5a, 13.1a, 14.3d*
3.3b Recognize potential for prejudice and discrimination in oneself and others	*Learning Objectives: 11.4c, 11.5a, 11.5b, 11.5c*
3.3c Explain how psychology can promote civic, social, and global outcomes that benefit others	*Learning Objectives: 1.1d, 6.6b, 6.6c, 10.4a, 10.4b, 11.5c*
3.3d Describe psychology-related issues of global concern (e.g., poverty, health, migration, human rights, international conflict, sustainability)	*Learning Objectives: 8.1b, 8.1c, 8.1d, 9.3a, 9.4a, 9.4b, 9.4c, 9.5a, 9.5b, 11.4a, 11.4b, 11.4c, 13.1b*
3.3e Articulate psychology's role in developing, designing, and disseminating public policy	*Learning Objectives: 1.1d, 6.5c, 6.6c, 8.1c, 13.1b*
3.3f Accept the opportunity to serve others through civic engagement, including volunteer service	
Ethics and social responsibility are reinforced with learning tools: Writing Space, Experimental Simulations, MyPsychLab Video Series, Visual Brain, and instructor's teaching and assessment package. Text features such as Evaluating Claims and Fact Versus Fiction also reinforce learning objectives.	

APA Learning Outcomes and Objectives	Text Learning Objectives and Features
Goal 4: Communication	
Demonstrate competence in written, oral, and interpersonal communication skills and be able to develop and present a scientific argument.	
4.1 Demonstrate effective writing in multiple formats	
4.1a Express ideas in written formats that reflect basic psychological concepts and principles	
4.1b Recognize writing content and format differ based on purpose (e.g., blogs, memos, journal articles) and audience	
4.1c Use generally accepted grammar	
4.1d Describe how writing using APA writing style is different from regular writing or writing in other conventions	
4.1e Recognize and develop overall organization (e.g., beginning, development, ending) that fits the purpose	
4.1f Interpret quantitative data displayed in statistics, graphs, and tables, including statistical symbols in research reports	*Learning Objectives: 1.6a, 1.6b*
4.1g Use expert feedback to revise writing of a single draft	
4.2 Exhibit effective presentation skills in multiple formats	
4.2a Construct plausible oral argument based on a psychological study	
4.2b Deliver brief presentations within appropriate constraints (e.g., time limit, appropriate to audience)	
4.2c Describe effective delivery characteristics of professional oral performance	
4.2d Incorporate appropriate visual support	
4.2e Pose questions about psychological content	
4.3 Interact Effectively with Others	
4.3a Identify key message elements in communication through careful listening	
4.3b Recognize that culture, values, and biases may produce misunderstandings in communication	
4.3c Attend to language and nonverbal cues to interpret meaning	
4.3d Ask questions to capture additional detail	
4.3e Respond appropriately to electronic communications	
Communication goals are reinforced with learning tools: Writing Space, Experimental Simulations, MyPsychLab Video Series, Visual Brain, and instructor's teaching and assessment package. Text features such as Evaluating Claims and Fact Versus Fiction also reinforce learning objectives.	
Goal 5: Professional Development	
Apply psychology-specific content and skills, effective self-reflection, project management skills, teamwork skills and career preparation to support occupational planning and pursuit.	
5.1 Apply psychological content and skills to professional work	
5.1a Recognize the value and application of research and problem-solving skills in providing evidence beyond personal opinion to support proposed solutions	*Learning Objectives: 1.2a, 1.3a, 1.3b, 1.4a, 1.4b, .15a, 1.5b, 1.5c, 1.6a, 1.6b, 6.5c, 6.6a, 10.4a, 12.1c, 12.6c, 14.3a, 14.3b, 14.3c*
5.1b Identify a range of possible factors that influence beliefs and conclusions	*Learning Objectives: 1.2a, 4.4a, 6.6b, 7.4c, 10.4b, 11.4b, 11.4c, 11.5a, 11.5b*
5.1c Expect to deal with differing opinions and personalities in the college environment	*Learning Objectives: 11.4a, 11.4b, 11.4c, 11.5a, 11.5b, 11.5c*
5.1d Describe how psychology's content applies to business, healthcare, educational, and other workplace settings	*Learning Objectives: 1.1d, 4.1a, 4.2b, 5.1b, 5.2a, 5.2b, 5.2c, 5.2d, 5.3b, 5.4a, 5.5b, 6.6c, 7.3c, 8.1b, 8.1c, 8.1d, 8.4b, 8.4c, 9.3a, 9.3b, 9.4a, 9.4b, 9.4c, 9.5a, 9.5b, 9.5c, 14.3a, 14.3b*
5.1e Recognize and describe broad applications of information literacy skills obtained in the psychology major	
5.1f Describe how ethical principles of psychology have relevance to non-psychology settings	

APA Learning Outcomes and Objectives	Text Learning Objectives and Features
5.2 Exhibit self-efficacy and self-regulation	
5.2a Recognize the link between effort and achievement	*Learning Objectives: 7.3d, 8.4a, 8.4b*
5.2b Accurately self-assess performance quality by adhering to external standards (e.g., rubric criteria, teacher expectations)	
5.2c Incorporate feedback from educators and mentors to change performance	
5.2d Describe self-regulation strategies (e.g., reflection, time management)	*Learning Objectives: 9.4c, 9.5a, 9.5b*
5.3 Refine project management skills	
5.3a Follow instructions, including timely delivery, in response to project criteria	
5.3b Identify appropriate resources and constraints that may influence project completion	
5.3c Anticipate where potential problems can hinder successful project completion	*Learning Objectives: 11.3b*
5.3d Describe the processes and strategies necessary to develop a project to fulfill its intended purpose	
5.4 Enhance teamwork capacity	
5.4a Collaborate successfully on small group classroom assignments	*Learning Objectives: 11.3b*
5.4b Recognize the potential for developing stronger solutions through shared problem-solving	*Learning Objectives: 11.3b*
5.4c Articulate problems that develop when working with teams	*Learning Objectives: 11.3b*
5.4d Assess one's strengths and weaknesses in performance as a project team member	
5.4e Describe strategies used by effective group leaders	*Learning Objectives: 11.3b*
5.4f Describe the importance of working effectively in diverse environments	
5.5 Develop meaningful professional direction for life after graduation	
5.5a Describe the types of academic experiences and advanced course choices that will best shape career readiness	
5.5b Articulate the skills sets desired by employers who hire people with psychology backgrounds	
5.5c Recognize the importance of having a mentor	
5.5d Describe how a curriculum vitae or resume is used to document the skills expected by employers	
5.5e Recognize how rapid social change influences behavior and affects one's value in the workplace	
Professional development goals are reinforced with learning tools: Writing Space, Experimental Simulations, MyPsychLab Video Series, Visual Brain, and instructor's teaching and assessment package. Text features such as Evaluating Claims and Fact Versus Fiction also reinforce learning objectives.	

Chapter 1
What Is Psychology?

⌄ Learning Objectives

LO 1.1.A Define psychology, describe how it addresses topics from a scientific perspective, and differentiate it from pseudoscience and common sense.

LO 1.1.B Discuss some of the early perspectives and individuals that were influential forerunners of modern psychology.

LO 1.1.C List and describe four major perspectives in modern psychology.

LO 1.1.D Describe the roles that psychologists play in research, practice, and the community.

LO 1.2.A Explain what critical thinking is, discuss important critical-thinking guidelines, and give an example of how each applies to the science of psychology.

LO 1.2.B Discuss how students can use the principles and methods of psychology to more effectively study psychology.

LO 1.3.A Describe the major ways participants are selected for psychological studies and how the method of selection might influence interpretations of a study's outcomes.

LO 1.3.B Discuss the advantages and disadvantages of using different descriptive methods such as case studies, observational methods, tests, and surveys.

LO 1.4.A Illustrate with an example how a correlation coefficient gives both the size and direction of the relationship between two variables.

LO 1.4.B Explain why a correlation between two variables does not establish a causal relationship between those variables.

LO 1.5.A Distinguish an independent variable from a dependent variable and give an example of each.

LO 1.5.B Explain how random assignment helps create conditions in an experiment, and explain the difference between an experimental group and a control group.

LO 1.5.C Discuss the methodological advantages, limitations, and ethical considerations related to experimental research design.

LO 1.6.A Explain how descriptive statistics can be used to compare the performance of groups of research participants.

LO 1.6.B Explain what a statistically significant research result does and does not mean.

Ask questions . . . be willing to wonder

- How does "pop psychology" and "self-help" as seen on TV and online differ from the psychological science described in this book?
- What's the difference between a psychologist, a clinical psychologist, and a psychiatrist?
- If you want to be a psychologist so that you can help people, why do you need to study statistics and research methods?
- If you wanted to test a research question related to human behavior—say, something like "Does too much time on a smartphone impair the quality of the social interactions you have with others?"—what different study types might you consider using?

Interactive

Do you consider youself good at predicting how people around you will behave and react under different circumstances?

○ YES

○ NO

Every day, the world witnesses tales of cowardice and heroism, triumph and failure, playfulness and terror, creativity and folly, love and hate. Human nature runs a broad continuum, from the terrific to the horrific. And the scientific study of why we think, feel, and act the way we do?

That's psychology.

When your authors tell people that we are psychologists, the first response is usually a variation on, "Ooh, are you analyzing me right now?" (We always say yes.) Sometimes this is followed by, "Are you reading my mind?" (Again, just for fun, we always say yes.) While it is true that some psychologists see patients (and only a fraction of these professionals make use of psychoanalysis), many of us do not. And when we're being honest, we ultimately have to admit that we can't read minds either.

Even though people often associate psychology with mental disorders, personal problems, and psychotherapy, psychologists take as their subject the entire spectrum of beautiful and brutish things that human beings do—the kinds of things you see and read and hear about every day. Psychologists want to know why some people seem to be outgoing extraverts, whereas others prefer to blend in quietly. They ask why some people cheat and lie in the pursuit of success, and how those who do so rationalize their dishonesty to themselves and others. They explore the reasons that nations and ethnic groups so often see the world in terms of "us versus them" and resort to armed conflict to settle their differences. They investigate the mysteries of human memory, from people who can learn in mere minutes the sequence of an entire deck of playing cards to why it is that some of us can't remember the four things we need to buy at the grocery store.

In short: Psychologists are interested in how ordinary human beings learn, remember, solve problems, perceive, feel, and get along or fail to get along with friends and family members. They are therefore as likely to study commonplace experiences—rearing children, gossiping, the stress of rush hour traffic, daydreaming, making love, and making a living—as exceptional ones.

If you have ever wondered what makes people tick, or if you want to gain insight into your own behavior, then you are in the right course. As demonstrated by the survey question we began this chapter with, most of you already believe you are good at predicting how people around you will behave. That's great. But we promise that after taking this course, you'll be even better at it. And we also promise that at least one—and probably more!—assumptions about human nature that you've previously relied upon will be proven to be more myth than truth by the end of this text.

Without further ado, we invite you now to step into the world of psychology, the discipline that dares to explore the most complex topic on earth: you.

The Greek letter psi (pronounced like the word *sigh*) is often used to represent the discipline of psychology.

1.1 Psychology, Pseudoscience, and Popular Opinion

To get a clear picture of the field, you need to know about its methods, its findings, and its ways of interpreting information. We will get to all this; we promise. But first, let's look more closely at what psychology is, and equally importantly, what it is *not*.

What Psychology Is and Is Not

LO 1.1.A **Define psychology, describe how it addresses topics from a scientific perspective, and differentiate it from pseudoscience and common sense.**

Psychology can be defined generally as the discipline concerned with behavior and mental processes and how they are affected by an organism's physical state, mental state, and external environment. Perhaps just as informatively, let's consider what psychology is *not*. First, the psychology that you are about to study bears little relation to the popular psychology ("pop psych") often found in self-help books or on talk shows. In recent decades, the public's appetite for psychological information has created a huge market for "psychobabble": pseudoscience covered by a veneer of psychological language. Pseudoscience (*pseudo* means "false") promises quick fixes to life's problems, such as resolving your unhappiness as an adult by "reliving" the supposed trauma of your birth, or becoming more creative on the job by "reprogramming" your brain. Serious psychology is more complex, more informative, and far more helpful than such psychobabble because it is based on rigorous research and **empirical** evidence—evidence gathered by careful observation, experimentation, or measurement.

Second, serious psychology differs radically from nonscientific competitors such as fortune-telling, numerology, and astrology. Yes, promoters of these systems—like psychologists—try to explain people's problems and predict their behavior: If you are having romantic problems, an astrologer may advise you to choose an Aries instead of an Aquarius as your next love. Yet whenever the predictions of psychics, astrologers, and the like are put to the test, they turn out to be so vague as to be meaningless (for example, "Your spirituality will increase next year") or just plain wrong, as in the case of all the doomsday predictions that have occurred for centuries, especially during times of great social change and anxiety (Shaffer & Jadwiszczok, 2010). Contrary to what you might think from watching TV shows or going to psychic websites, psychics don't regularly find missing children, identify serial killers, or help police solve any other crime by using "psychic powers" (Radford, 2011). Usually, their "help" merely adds to the heartbreak felt by the victim's family.

Third, psychology is not just another name for common sense. Often, psychological research produces findings that directly contradict prevailing beliefs, and throughout this book you will be discovering many of them. Are unhappy memories really repressed and then accurately recalled years later, as if they had been recorded in perfect detail in the brain? Do policies of abstinence from alcohol reduce rates of alcoholism? If you play Beethoven to your infant, will your child become smarter? Can hypnosis help you accurately remember your third birthday or allow you to perform feats that would otherwise be impossible? Many people would answer these questions with a "yes," but they would be wrong. Watch the video *Debunking Myths 1* to see other common but mistaken beliefs.

psychology

The discipline concerned with behavior and mental processes and how they are affected by an organism's physical state, mental state, and external environment.

empirical

Relying on or derived from observation, experimentation, or measurement.

Figure 1.1 Psychology: It's Not Just "Common Sense"

On the first day of class, students in an introductory psychology course actually did worse than chance on a true–false psychological information questionnaire. But by the end of the semester, after they had learned to examine the scientific evidence for their beliefs, their performance had greatly improved (Taylor & Kowalski, 2004).
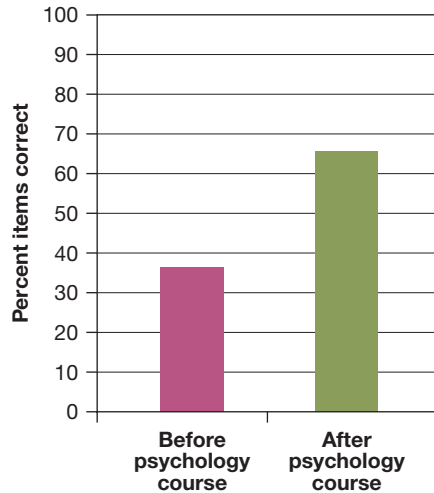
Indeed, at the start of an introductory psychology course, many students hold beliefs that have been promoted in the popular culture, or are based on "common sense," but that are not scientifically supported. When two instructors gave their 90 introductory psychology students a true/false "Psychological Information" questionnaire on the first day of class—a questionnaire consisting entirely of false statements—the students were accurate only 38.5 percent of the time, which is actually worse than chance (Taylor & Kowalski, 2004). By the last week of class, however, when the students took a test containing all of the earlier items, their overall accuracy was much better: 66.3 percent (see Figure 1.1). Although there was still room for improvement, the students had lost confidence in their remaining misconceptions, suggesting that they had learned one of the most important lessons in science: Uncertainty about untested assumptions and beliefs is a good thing.

Psychological findings need not be surprising to be important. Sometimes they validate common beliefs and then explain or extend them. Like all scientists, psychological researchers strive not only to discover new phenomena and correct mistaken ideas but also to deepen our understanding of an already familiar world—for example, by identifying the varieties of love, the origins of violence, or the reasons that a great song can lift our hearts. Fully understanding basic human processes that most people take for granted often involves examining them in a new light; turning common wisdom on its head for a different perspective, or shaking up cherished beliefs to see why and when they hold true. In fact, psychology not only has this potential to shape how ordinary people view human nature, but also to influence the thinking of researchers in other fields. We learn from analyses of how often scientists in one discipline cite the work of scientists in other disciplines, that psychology is a "hub science," in that it serves as central link to surrounding research in many other fields (Cacioppo, 2013).

If you don't want to take our word for the importance and potential influence of psychology—after all, we're psychologists ourselves, so we might be just a tad biased here—maybe you'll be more persuaded by former U.S. president Barack Obama, who wrote in an executive order in 2015 that "research findings from fields such as behavioral economics and psychology . . . can be used to design government policies to better serve the American people." You can learn more about the many ways psychology impacts daily lives in the following video, *Asking the Tough Questions*.

The Birth of Modern Psychology

LO 1.1.B   **Discuss some of the early perspectives and individuals that were influential forerunners of modern psychology.**

Many of the great thinkers of history, from Aristotle to Zoroaster, raised questions that today would be called psychological. They wanted to know how people take in information through their senses, use information to solve problems, and become motivated to act

in brave or villainous ways. They wondered about the elusive nature of emotion, and whether it controls us or is something we can control. Like today's psychologists, they wanted to *describe, predict, understand*, and *modify* behavior to add to human knowledge. But unlike modern psychologists, scholars of the past did not rely heavily on empirical evidence. Often, their observations were based on anecdotes or descriptions of individual cases.

This does not mean that psychology's forerunners were always wrong. Hippocrates (c. 460–377 B.C.E.), the Greek physician known as the founder of modern medicine, observed patients with head injuries and inferred that the brain must be the ultimate source of "our pleasures, joys, laughter, and jests as well as our sorrows, pains, griefs, and tears." And so it is. In the seventeenth century, the English philosopher John Locke (1643–1704) argued that the mind works by associating ideas arising from experience, and this notion continues to influence many psychologists today.

But without empirical methods, the forerunners of psychology also committed terrible blunders. One was **phrenology** (Greek for "study of the mind"), which became wildly popular in Europe and the United States in the early 1800s. Phrenologists argued that different brain areas accounted for specific personality traits, such as stinginess and religiosity, and that such traits could be read from bumps on the skull. Thieves, for example, supposedly had large bumps above the ears. So how to account for people who had these "stealing bumps" but who were not thieves? Phrenologists explained this away by saying that the person's thieving impulses were being held in check by *other* bumps representing positive traits. In the United States, parents, teachers, and employers flocked to phrenologists for advice and self-improvement (Benjamin, 1998). But phrenology was a classic pseudoscience—sheer nonsense.

At about the time that phrenology was peaking in popularity, several pioneering men and women in Europe and the United States were starting to study psychological issues using scientific methods. In 1879, Wilhelm Wundt (VIL-helm Voont) officially established the first psychological laboratory in Leipzig, Germany. Wundt (1832–1920), who was trained in medicine and philosophy, promoted a method called *trained introspection*, in which volunteers were taught to carefully observe, analyze, and describe their own sensations and emotional reactions. Wundt's introspectors might take as long as 20 minutes to report their inner experiences during a 1.5-second experiment. The goal was to reduce behavior into its most basic elements, much as a chemist might break down water into hydrogen plus oxygen. Most psychologists eventually rejected trained introspection as too subjective, but Wundt is still usually credited for formally initiating the movement to make psychology a science.

Another early approach to scientific psychology, called **functionalism**, emphasized the purpose (or function) of behavior, as opposed to its description. One of its leaders was William James (1842–1910), an American philosopher, physician, and psychologist. Attempting to grasp the nature of the mind through introspection, wrote James (1890–1950), is "like seizing a spinning top to catch its motion." Inspired in part by the evolutionary theories of British naturalist Charles Darwin (1809–1882), James and other functionalists instead asked how various actions help a person or animal adapt to the environment. This emphasis on the causes and consequences of behavior was to set the course of psychological science.

The nineteenth century also saw the development of psychological therapies. The one that would have the greatest impact for much of the twentieth century had roots in Vienna, Austria. While researchers were at work in their laboratories, struggling to establish psychology as a science, Sigmund Freud (1856–1939), an obscure physician, was in his office listening to his patients' reports of depression, nervousness, and obsessive habits. Freud became convinced that many of these symptoms had mental, not bodily, causes. His patients' distress, he concluded, stemmed from childhood conflicts and traumas that were too threatening to be remembered consciously, such as forbidden sexual feelings for a parent. Freud's ideas eventually evolved into a broad theory of personality,

What stands out to you about this nineteenth-century phrenology "map"? Are you surprised by any of the aptitudes, emotions, and characteristics included here? Surprised by anything major that seems to be missing? Does there seem to be any rhyme or reason to which labels are assigned to which regions of the skull? Sure, phrenology has long since been debunked, but as you read the rest of this chapter, consider whether there might be any ways in which the same motivations and assumptions that can be seen in this diagram continue to influence contemporary ways of thinking about human nature.

phrenology

The now-discredited theory that different brain areas account for specific character and personality traits, which can be "read" from bumps on the skull.

functionalism

An early psychological approach that emphasized the purpose of behavior and consciousness.

Sigmund Freud (1856–1939).

psychoanalysis

A theory of personality and a method of psychotherapy, originally formulated by Sigmund Freud, that emphasizes unconscious motives and conflicts.

and both his theory and his method of treating people with emotional problems became known as **psychoanalysis**. Today, the majority of empirically oriented psychologists reject many Freudian concepts, but some schools of psychotherapy still draw on psychoanalytic ideas, and Freud's more general emphasis on the importance of the unconscious remains influential in many research areas in contemporary psychology.

Major Perspectives in Psychology

LO 1.1.C **List and describe four major perspectives in modern psychology.**

If you had a noisy and rude neighbor, and you asked a group of psychologists to explain why he was such a miserable jerk, you would likely get different answers: It's because of his biological makeup, his belligerent attitude toward the world, the way he has learned to use his nasty temper to get his way, an unhappy family situation, or the customs of his culture. Modern psychological scientists typically approach their investigations from one of four different, although overlapping, approaches: *biological, learning, cognitive*, and *sociocultural*. Each perspective reflects different questions about human behavior, different assumptions about how the mind works, and, most important, different ways of explaining why people do what they do. You can learn more about these approaches in the video *Diverse Perspectives*.

biological perspective

A psychological approach that emphasizes bodily events and changes associated with actions, feelings, and thoughts.

The **biological perspective** focuses on how bodily events affect behavior, feelings, and thoughts. Electrical impulses shoot along the intricate pathways of the nervous system. Hormones course through the bloodstream, telling internal organs to slow down or speed up. Chemical substances flow across the tiny gaps that separate one microscopic brain cell from another. Psychologists who take a biological perspective study how these physical events interact with events in the external environment to produce perceptions, memories, emotions, and vulnerability to mental disorder. They also investigate the contribution of genes and other biological factors to the development of abilities and personality traits. One popular specialty, **evolutionary psychology**, follows in the footsteps of functionalism by focusing on how genetically influenced behavior that was functional or adaptive during our evolutionary past may be reflected in many of our present behaviors, mental processes, and traits. The message of the biological approach is that we cannot really know ourselves if we do not know our bodies.

evolutionary psychology

A field of psychology emphasizing evolutionary mechanisms that may help explain human commonalities in cognition, development, emotion, social practices, and other areas of behavior.

learning perspective

A psychological approach that emphasizes how the environment and experience affect an individual's actions.

The **learning perspective** is concerned with how the environment and experience affect an individual's actions. Within this perspective, *behaviorists* focus on the environmental rewards and punishments that maintain or discourage specific behaviors. Behaviorists do not invoke the mind to explain behavior; they prefer to stick to what they can observe and measure directly: acts and events taking place in the environment. Do you have trouble sticking to a schedule for studying? A behaviorist would analyze the environmental

Psychologists study many puzzles of human behavior and mental processes. What could motivate ordinary individuals to torture and humiliate prisoners, as soldiers did at the notorious Abu Ghraib prison in Iraq?

Why do other people bravely come to the aid of their fellow human beings, even when it's not their official duty?

How do some people become champion athletes despite having physical disabilities?

What causes someone to become anorexic, willing even to starve to death? Psychologists approach these and other questions from four major perspectives: biological, learning, cognitive, and sociocultural.

factors that might account for this common problem, such as the pleasure you get from hanging out with your friends instead of hitting the books. *Social-cognitive learning theorists* combine elements of behaviorism with research on thoughts, values, and intentions. They believe that people learn not only by adapting their behavior to the environment, but also by imitating others and by thinking about the events happening around them.

The **cognitive perspective** emphasizes what goes on in people's heads—how people reason, remember, understand language, solve problems, explain experiences, and acquire moral standards. (The word *cognitive* comes from the Latin for "to know.") Using clever methods to infer mental processes from observable behavior, cognitive researchers have been able to study phenomena that were once only the stuff of speculation, such as emotions, motivations, insight, and the kind of "thinking" that goes on without awareness. They are designing computer programs that model how humans perform complex tasks, discovering what goes on in the mind of an infant, and identifying types of intelligence not measured by conventional IQ tests. The cognitive approach is one of the strongest forces in psychology and has inspired an explosion of research on the intricate workings of the mind.

The **sociocultural perspective** focuses on social and cultural forces outside the individual, forces that shape every aspect of behavior. Most of us underestimate the impact of other people, the social context, and cultural rules on nearly everything we do: how we perceive the world, express joy or grief, manage our households, and treat our friends

cognitive perspective

A psychological approach that emphasizes mental processes in perception, memory, language, problem solving, and other areas of behavior.

sociocultural perspective

A psychological approach that emphasizes social and cultural influences on behavior.

and enemies. We are like fish that are unaware they live in water, so obvious is water in their lives. Sociocultural psychologists study the water—the social and cultural environments that people "swim" in every day. Because human beings are social animals who are profoundly affected by their different cultural worlds, the sociocultural perspective has made psychology a more representative and rigorous discipline.

Of course, not all psychologists feel they must swear allegiance to one approach or another; many draw on what they take to be the best features of diverse schools of thought. In addition, many psychologists have been affected by social movements and intellectual trends, such as humanism and feminism, that do not fit neatly into any of the major perspectives or that cut across all of them. Moreover, despite the diversity of psychological approaches, most psychological scientists agree on basic guidelines about what is and what is not acceptable in their discipline. Nearly all reject supernatural explanations of events—evil spirits, psychic forces, miracles, and so forth. Most believe in the importance of gathering empirical evidence and not relying on hunches or personal belief. This insistence on rigorous standards of proof is what sets psychology apart from nonscientific explanations of human experience.

What Psychologists Do

LO 1.1.D **Describe the roles that psychologists play in research, practice, and the community.**

The professional activities of psychologists generally fall into three broad categories: (1) teaching and doing research in colleges and universities; (2) providing mental health services, often referred to as *psychological practice*; and (3) conducting research or applying its findings in nonacademic settings such as business, sports, government, law, and the military (see Table 1.1). Some psychologists move flexibly across these areas. A researcher might also provide counseling services in a mental health setting, such as a clinic or a hospital; a university professor might teach, do research, and serve as a consultant in legal cases.

Most people who do psychological research have doctoral degrees (Ph.D., Ed.D.). Some, seeking knowledge for its own sake, work in **basic psychology**; others, concerned with the practical uses of knowledge, work in **applied psychology**. A psychologist doing basic research might ask, "How does peer pressure influence people's attitudes and

basic psychology

The study of psychological issues for the sake of knowledge rather than with a particular practical application in mind.

applied psychology

The study of psychological issues intended to have direct practical significance or application.

Interactive

Table 1.1 What Is a Psychologist?

Not all psychologists do clinical work. Many do research, teach, work in business, or consult. The professional activities of psychologists fall into three general categories.

Academic/Research Psychologists	Clinical Psychologists	Psychologists in Industry, Law, or Other Settings
Specialize in areas of basic or applied research, such as:	*Do psychotherapy and sometimes research; may work in any of these settings:*	*Do research or serve as consultants to institutions on such issues as:*
Human development	Private practice	Sports
Cognition	Mental health clinics	Consumer issues
Health psychology	General hospitals	Advertising
Education	Mental hospitals	Organizational problems
Industrial/organizational psychology	Research laboratories	Environmental issues
Physiological psychology/neuroscience	Colleges and universities	Public policy
Sensation and perception	Criminal justice system	Opinion polls
Social psychology		Military training
Design and use of technology		Legal issues
		Animal behavior

behavior?" An applied psychologist might ask, "How can knowledge about peer pressure be used to reduce binge drinking by college students?" Of course, a researcher or research program can have both basic and applied objectives: Most basic psychology has the potential for application, and applied research is often most effective when grounded in basic psychological principles. Psychologists doing basic and applied research have made important scientific contributions in areas as diverse as health, education, child development, criminal justice, conflict resolution, marketing, industrial design, and urban planning.

Psychological practitioners, whose goal is to understand and improve people's physical and mental health, work in mental hospitals, general hospitals, clinics, schools, counseling centers, the criminal justice system, and private practice. Since the late 1970s, the proportion of psychologists who are practitioners has steadily increased; practitioners now account for more than two-thirds of new psychology doctorates and members of the American Psychological Association. (The APA, despite its name, is international.)

Some practitioners are *counseling psychologists*, who generally help people deal with problems of everyday life, such as test anxiety, family conflicts, or low job motivation. Others are *school psychologists*, who work with parents, teachers, and students to enhance academic performance and resolve emotional difficulties. The majority, however, are *clinical psychologists* who diagnose, treat, and study mental or emotional problems. Clinical psychologists are trained to do psychotherapy with severely disturbed people, as well as with those who are simply troubled or unhappy and want to learn to handle their problems better.

In almost all states, a license to practice clinical psychology requires a doctorate. Most clinical psychologists have a Ph.D., but some have an Ed.D. or a Psy.D. (doctorate in professional psychology, pronounced *sy-dee*). Clinical psychologists typically do four or five years of graduate work in psychology, plus at least a year's internship under the direction of a licensed psychologist. Clinical programs leading to a Ph.D. or Ed.D. are usually designed to prepare a person both as a scientist and as a practitioner; they require a *dissertation*, a major research project that contributes to knowledge in the field. Programs leading to a Psy.D. do not usually require a dissertation, although they typically require the student to complete an extensive theoretical paper or literature review.

People often confuse *clinical psychologist* with three other terms: *psychotherapist, psychoanalyst*, and *psychiatrist*. But these terms mean different things:

- **A psychotherapist is someone who does any kind of psychotherapy.** The term is not legally regulated; in fact, in most states, anyone can say that he or she is a therapist without having any training at all.

- **A psychoanalyst is a person who practices one particular form of therapy, psychoanalysis.** To call yourself a psychoanalyst, you must have an advanced degree, get specialized training at a psychoanalytic institute, and undergo extensive psychoanalysis yourself.

- **A psychiatrist is a medical doctor (M.D.) trained to diagnose and treat mental disorders.** Like some clinical psychologists, some psychiatrists do research on mental problems, such as depression or schizophrenia, instead of, or in addition to, working with patients. Psychiatrists and clinical psychologists do similar work, but psychiatrists are more likely to focus on possible biological causes of mental disorders and to treat these problems with medication. (Unlike psychiatrists, most clinical psychologists at present cannot write prescriptions.)

Other mental health professionals include licensed clinical social workers (LCSWs) and marriage, family, and child counselors (MFCCs). These professionals ordinarily treat general problems in adjustment and family conflicts rather than severe mental disturbance, although their work may bring them into contact with people who have serious problems, such as victims of domestic violence or those with drug addictions. Licensing