

INVITATION TO PSYCHOLOGY

SIXTH
EDITION



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INVITATION TO PSYCHOLOGY

Sixth Edition

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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 Tavis have written *Psychology*; *Psychology in Perspective*; and *The Longest War: Sex Differences in Perspective*.

Carol Tavis earned her Ph.D. in the interdisciplinary program in social psychology at the University of Michigan. Dr. Tavis writes and lectures extensively on diverse topics in psychological science and critical thinking. In addition to working with Carole Wade, she 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*.

Maryanne Garry earned her Ph.D. at the University of Connecticut and did postdoctoral training at the University of Washington before moving to Victoria University of Wellington, New Zealand. She is best known for her research on the causes and consequences of false memories, including “imagination inflation” and its dangers as a therapeutic technique. She has served as director of the Innocence Project New Zealand and has acted as an expert witness in trials worldwide on the (un)reliability of human memory. Dr. Garry has received her university’s Merit Awards for Excellence in Research and for Excellence in Teaching.

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Preface

An Invitation to *Invitation to Psychology*: Themes and Goals

Invitation to Psychology, 6th Edition, by Carole Wade, Carol Tavis, and Maryanne Garry, shows students why scientific and critical thinking is so important in every aspect of their lives. In clear, lively, warm prose, this edition continues the book's pioneering integration of critical thinking, gender, culture, and ethnicity. By the end, readers will not only have learned the basic content, controversies, and perspectives across many fields of psychology, but they also will have learned how to interpret studies they encounter in the news and on the Internet and how to address and resolve debates about personal, social, and political issues. They will know how to think like a psychologist.

The sixth edition welcomes the addition of Maryanne Garry, professor of psychology at Victoria University of Wellington, New Zealand. Dr. Garry is an internationally recognized expert in the fields of memory, cognition, and learning, and her expertise has enhanced the book's pedagogical focus. This edition introduces the **read-recite-review (3R)** approach, which is grounded in empirical research demonstrating its benefits for learning and memory. In contrast to the usual “read and cram before tests” approach that students often rely on, this method requires students to read a section; close the book and actually recite *out loud* as much as they can about the terms and concepts they have just learned; and then go back, reread, and review that section to make sure they understood it correctly. Students learn about the 3R approach in Chapter 1, along with other important strategies for study that can improve their understanding of what they read and their performance on quizzes and exams.

As always, in every chapter the research has been updated to reflect progress in the field and important new discoveries. Here are just a few highlights:

- The latest findings from the exciting field of epigenetics.
 - New findings on how activation of the amygdala is affected by a person's psychological state and core personality traits.
 - Evidence that adolescents are more likely than children and adults to be “night owls,” which is why school schedules can be hard on them.
 - New findings on the consolidation of memories during sleep.
 - New research on the drawbacks of multitasking.
 - Recent meta-analyses showing that four early interventions can boost IQ scores.
 - Important research showing that episodic memories have a “time-travel” function, enabling people to imagine future experiences.
- Real-life research on the consequences of offering students cash rewards for achievement.
 - New methods of measuring implicit prejudice, including measures of “microaggressions” (the small insults that members of minority or stigmatized groups endure).
 - An updated discussion of gender identity, transgendered and transsexual individuals and intersex conditions, including longitudinal studies of young children who feel they are “the wrong sex.”
 - A full revision of Chapter 11 (Psychological Disorders) to reflect changes in diagnoses and controversies raised by the *DSM-5*.

Activities and Supplements to Aid Teaching and Learning

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

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

Test Bank: This test bank, prepared by Alan Swinkels, St. Edward's University, contains more than 3,000 multiple-choice, true/false, matching, short-answer, and essay questions, each referenced to the relevant page in the textbook. An additional feature 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.

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; they are correlated to each of the chapter's **learning objectives** and to the new **American Psychological Association Guidelines learning outcomes**. The Test Bank can be downloaded from the Instructor's Resource Center at www.pearsonhighered.com/irc or from the Instructor's DVD (ISBN 0-205-99488-1).

MyTest: The sixth edition test bank is also available through Pearson MyTest (www.pearsonmytest.com),

a powerful assessment-generation program that helps instructors 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 also can easily access existing questions and edit, create, and store items using simple drag-and-drop and Word-like controls. Data on each question provide answers, textbook page numbers, and question types, mapped to the appropriate learning objective.

BlackBoard Test Item File and WebCT Test Item File: For instructors who only need the test item file, we offer the complete test item file in BlackBoard and WebCT format. Go to Instructor's Resource Center at www.pearsonhighered.com/irc.

Instructor's Resource Manual, prepared by Alan Swinkels, St. Edward's University, includes a detailed Chapter Lecture Outline, learning objectives for each chapter, chapter summary, and direct links to the instructor resources in *Multimedia Library*. The instructor's manual is available for download from the Instructor's Resource Center at www.pearsonhighered.com/irc or from the Instructor's DVD (ISBN 0-205-99488-1).

Instructor's DVD (ISBN 0-205-99488-1): Bringing all of the sixth edition's instructor resources together in one place, the Instructor's DVD offers three versions of the PowerPoint presentations, the Classroom Response System (CRS), the electronic files for the Instructor's Resource Manual materials, and the Test Item File to help instructors customize their lecture notes. All, except the Interactive PowerPoint Slides, can also be downloaded from the Instructor's Resource Center at www.pearsonhighered.com/irc.

- **Interactive PowerPoint Slides** bring the Wade/Tavris/Garry design into the classroom, drawing students into the lecture and providing appealing interactive activities, visuals, and videos. The slides are built around the text's learning objectives and offer many links between content areas. Icons integrated throughout the slides indicate interactive exercises, simulations, and activities that can be accessed directly from the slides if instructors want to use these resources in the classroom.
- **Standard Lecture PowerPoint Slides**, include lecture notes, photos, and figures.
- **Classroom Response System (CRS) PowerPoint Slides**, allow you to integrate clicker technology into your classroom.
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- **MyPsychLab Video Series** is a comprehensive, cutting-edge set of more than 100 original video clips covering the most recent research, science, and applications across the general psychology curriculum, many using the latest film and animation technology. Each 4- to 6-minute video clip has automatically graded assessment questions tied to it.
- **Writing Space** helps students master concepts and develop critical thinking through writing. Writing Space provides a single place within MyPsychLab to create and track writing assignments, access writing resources, and exchange meaningful personalized feedback quickly and easily. It offers immediate feedback on writing practice prompts based on the following traits: the development of ideas, organization, conventions, voice, focus, and coherence. Instructors can provide additional feedback and adjust each student's auto-generated grades. Instructors will appreciate the fact that Writing Space has integrated access to Turnitin, the global leader in preventing plagiarism.
- **MyPsychLab Simulations** allow students to participate in online simulations of classic psychology experiments and research-based inventories, thereby reinforcing what they are learning in class and in their book.
- **An audio version** of the textbook increases accessibility of the textbook.
- **A personalized study plan** for each student, to promote better critical thinking skills and help students succeed in the course and beyond.
- **Assessment tied to videos, applications, and the material in every chapter** enables instructors and students to track progress and get immediate feedback. With results feeding into a powerful grade book, the assessment program helps instructors identify student challenges early and find the best resources with which to help them.
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Acknowledgments from the Authors

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We have always loved learning about psychological discoveries and introducing them to students. We hope you will enjoy reading and using this book as much as we have enjoyed writing it.

Carole Wade
Carol Tavis
Maryanne Garry

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 ten recommended goals for the undergraduate psychology major. These guidelines were revised in 2013 and currently consist of 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 UNDERGRADUATE GOALS AND OUTCOMES

WADE CONTENT

GOAL 1. KNOWLEDGE BASE IN PSYCHOLOGY

Demonstrate fundamental knowledge and comprehension of the major concepts, theoretical perspectives, historical trends, and empirical findings to discuss how psychological principles apply to behavioral problems.

- | | |
|--|---|
| <p>1.1 Describe key concepts, principles, and overarching themes in psychology</p> <p>1.2 Develop a working knowledge of psychology's content domains</p> <p>1.3 Describe applications that employ discipline-based problem solving</p> | <p>Ch 1: 1.1–1.5 and Taking Psychology With You: Lying with Statistics</p> <p>Ch 2: 2.1–2.14, 2.17–2.19 and Taking Psychology With You: How to Avoid the “Barnum Effect”</p> <p>Ch 3: 3.1–3.18 and Taking Psychology With You: Bringing Up Baby</p> <p>Ch 4: 4.1–4.16 and Taking Psychology With You: Cosmetic Neurology–Tinkering With the Brain</p> <p>Ch 5: 5.1–5.13 and Taking Psychology With You: How to Get a Good Night's Sleep</p> <p>Ch 6: 6.1–6.28 and Taking Psychology With You: Can Perception be “Extrasensory”?</p> <p>Ch 7: 7.1–7.21 and Taking Psychology With You: Becoming More Creative</p> <p>Ch 8: 8.1–8.21 and Taking Psychology With You: This Is Your Life</p> <p>Ch 9: 9.1–9.16 and Taking Psychology With You: Does Media Violence Make You Violent?</p> <p>Ch 10: 10.1–10.18 and Taking Psychology With You: Dealing With Cultural Differences</p> <p>Ch 11: 11.1–11.19 and Taking Psychology With You: When a Friend Is Suicidal</p> <p>Ch 12: 12.1–12.12 and Taking Psychology With You: Becoming a Smart Consumer of Psychological Treatments</p> |
|--|---|

APA UNDERGRADUATE GOALS AND OUTCOMES

WADE CONTENT

GOAL 1. KNOWLEDGE BASE IN PSYCHOLOGY *continued*

	<p>Ch 13: 13.1–13.18 and Taking Psychology With You: The Dilemma of Anger: “Let It Out” or “Bottle It Up”?</p> <p>Ch 14: 14.1–14.15 and Taking Psychology With You: How to Attain Your Goals</p> <p>Appendix: Statistical Methods</p>
<p><i>Major concepts are reinforced with learning tools: Writing Space, Experiment Simulations, MyPsychLab Video Series, Operation ARA, Visual Brain, and instructor’s teaching and assessment package.</i></p>	

GOAL 2. SCIENTIFIC INQUIRY AND CRITICAL THINKING

<p>Demonstrate scientific reasoning and problem solving, including effective research methods.</p>	
<p>2.1 Use scientific reasoning to interpret psychological phenomena</p> <p>2.2 Demonstrate psychology information literacy</p> <p>2.3 Engage in innovative and integrative thinking and problem solving</p> <p>2.4 Interpret, design, and conduct basic psychological research</p> <p>2.5 Incorporate sociocultural factors in scientific inquiry</p>	<p>Ch 1: 1.8–1.20 and Taking Psychology With You: Lying With Statistics</p> <p>Ch 2: 2.1–2.14, 2.17–2.19 and Taking Psychology With You: How to Avoid the “Barnum Effect”</p> <p>Ch 3: 3.1–3.18 and Taking Psychology With You: Bringing Up Baby</p> <p>Ch 4: 4.1–4.16 and Taking Psychology With You: Cosmetic Neurology–Tinkering With the Brain</p> <p>Ch 5: 5.1–5.11, 5.13 and Taking Psychology With You: How to Get a Good Night’s Sleep</p> <p>Ch 6: 6.1–6.28 and Taking Psychology With You: Can Perception be “Extrasensory”?</p> <p>Ch 7: 7.1–7.21 and Taking Psychology With You: Becoming More Creative</p> <p>Ch 8: 8.1–8.21 and Taking Psychology With You: This Is Your Life</p> <p>Ch 9: 9.1–9.16 and Taking Psychology With You: Does Media Violence Make You Violent?</p> <p>Ch 10: 10.1–10.18 and Taking Psychology With You: Dealing With Cultural Differences</p> <p>Ch 11: 11.1–11.19 and Taking Psychology With You: When a Friend Is Suicidal</p> <p>Ch 12: 12.1–12.12 and Taking Psychology With You: Becoming a Smart Consumer of Psychological Treatments</p> <p>Ch 13: 13.1–13.18 and Taking Psychology With You: The Dilemma of Anger: “Let It Out” or “Bottle It Up”?</p> <p>Ch 14: 14.1–14.15 and Taking Psychology With You: How to Attain Your Goals</p> <p>Appendix: Statistical Methods</p>
<p><i>Scientific methods are reinforced with learning tools: Writing Space, Experiment Simulations, MyPsychLab Video Series, Operation ARA, Visual Brain, and instructor’s teaching and assessment package.</i></p>	

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
- 3.2 Build and enhance interpersonal relationships
- 3.3 Adopt values that build community at local, national, and global levels

Ch 2: 2.16, 2.17
Ch 3: 3.8, 3.19
Ch 4: 4.16
Ch 8: 8.4, 8.19
Ch 10: 10.14-10.18 and The Many Targets of Prejudice
Ch 11: 11.2
Ch 12: 12.12
Ch 13: 13.7,13.8
Ch 14: 14.6, 14.10, 14.11

Ethics and values are reinforced with learning tools: Writing Space, Experiment Simulations, MyPsychLab Video Series, Operation ARA, Visual Brain, and instructor's teaching and assessment package.

GOAL 4. COMMUNICATION

Demonstrate competence in written, in oral, and in interpersonal communication skills.

- 4.1 Demonstrate effective writing in multiple formats
- 4.2 Exhibit effective presentation skills in multiple formats
- 4.3 Interact effectively with others

Ch 2: 2.15, 2.16
Ch 10: 10.5, 10.8, 10.14-10.18 and Taking Psychology With You: Dealing With Cultural Differences
Ch 11: 11.2
Ch 13: 13.7,13.8
Ch 14: 14.10-14.12, 14.14

Communication skills are reinforced with learning tools: Writing Space, Experiment Simulations, MyPsychLab Video Series, Operation ARA, Visual Brain, and instructor's teaching and assessment package.

GOAL 5. PROFESSIONAL DEVELOPMENT

Develop abilities that sharpen readiness for employment, graduate school, or professional school.	
<p>5.1 Apply psychological content and skills to career goals</p> <p>5.2 Exhibit self-efficacy and self-regulation</p> <p>5.3 Refine project management skills</p> <p>5.4 Enhance teamwork capacity</p> <p>5.5 Develop meaningful professional direction for life after graduation</p>	<p>Ch 1: 1.6, 1.7</p> <p>Ch 2: 2.15, 2.16</p> <p>Ch 10: 10.5, 10.8, 10.14-10.18 and Taking Psychology With You: Dealing With Cultural Differences</p> <p>Ch 11: 11.2</p> <p>Ch 13: 13.7,13.8</p> <p>Ch 14: 14.11-14.14 and Taking Psychology With You: How to Attain Your Goals</p>
<p><i>Professional development is reinforced with learning tools: Writing Space, Experiment Simulations, MyPsychLab Video Series, Operation ARA, Visual Brain, and instructor’s teaching and assessment package.</i></p>	

The Science of
Psychology

What Psychologists Do

Critical and
Scientific Thinking
in Psychology

Descriptive Studies:
Establishing the Facts

Correlational Studies:
Looking for Relationships

The Experiment: Hunting
for Causes

Evaluating the
Findings

Psychology in the News,
Revisited

Taking Psychology With
You: Lying With Statistics

WHAT IS PSYCHOLOGY?

PSYCHOLOGY IN THE NEWS //

Zaniness on Parade in Pasadena

PASADENA, CA, April 27, 2013. The 37th Occasional Pasadena Doo Dah Parade, a joyful celebration of wacky weirdness, took place today to the cheers of fans lining the streets. Known as “the other parade” (the more famous one being Pasadena’s Rose Parade on January 1), the event encourages marchers to shed their inhibitions and dress as outrageously as they please. The parade’s favorites have included the Men of Leisure Synchronized Nap Team, Tequila Mockingbird & the Royal Doo Dah Orchestra, the BBQ & Hibachi Marching Grill Team, and the Clown Doctors from Outer Space.



Devils or dragons: Anything goes at the Doo Dah Parade.

City’s Weight Loss Campaign the “Biggest Loser”

BOSTON, January 23, 2013. It seemed like a great idea last April, when the city of Boston challenged residents to collectively shed a million pounds of excess weight in a year, and offered free exercise classes to help them work off their potbellies and love handles. But with only a few months left in the battle of the bulge, the results have been disappointing: a collective loss of only 74,597 pounds. Ironically, the same week that City Hall kicked off its exercise classes, it hosted the annual “Scooper Bowl,” the nation’s largest all-you-can-eat ice-cream contest. “A little mixed messaging,” concedes a spokesman for the Boston Public Health Commission.

Armstrong Admits Doping, Past Lies

NEW YORK, January 18, 2013. In a much-anticipated interview with Oprah Winfrey, former bicycling champion Lance Armstrong has confessed to taking performance-enhancing drugs and lying repeatedly about it to colleagues and fans for many years. Since the scandal broke, he has seen his seven Tour de France titles taken away and has been banned from the sport. “I will spend the rest of my life trying to earn back trust and apologize to people,” he told Oprah. But he also said that the doping had been necessary to level the playing field, “like [putting] air in my tires.”



In an interview with Oprah Winfrey, former cyclist Lance Armstrong admitted for the first time that he had used banned substances to enhance his performance.

Court Finds No Evidence Linking Vaccine to Autism

WASHINGTON, DC, March 13, 2010. A special federal court, headed by judges called “special masters,” has sustained an earlier court ruling against three sets of parents who blamed their children’s autism on the MMR vaccine. Administered by injection, this vaccine inoculates children against measles, mumps, and rubella (German measles).

Every day, the news brings tales of violence and heroism, scandals in sports and politics, triumphs and failures, joyful playfulness and savage terror, human creativity and human folly. What on earth do these stories have to do with psychology?

The answer is simple: Everything.

People usually associate psychology with mental and emotional disorders, personal problems, and psychotherapy. But psychologists take as their subject the entire spectrum of beautiful and brutish things that human beings do—the kinds of things you read and hear about every day. They want to know why some people, like the jovial marchers in the Doo Dah Parade, are extroverts, whereas others prefer to blend in quietly. They investigate the causes of

For years, many parents of children with autism have argued that the vaccines trigger the devastating condition, but one of the special masters said that the evidence for this claim is “weak, contradictory, and unpersuasive.” Nonetheless, some autism advocacy groups expressed disappointment and said that they still believe a link exists.

Israel-Gaza Cease-fire after Eight Days of War

GAZA, November 21, 2012. Israel and the Gaza-based group Hamas have agreed to a cease-fire after more than a week of fierce fighting involving heavy bombardment by both sides. The violence has caused the deaths of 150 civilians and wounded hundreds of others, most of them Palestinians. The conflict is the latest in ongoing hostilities between the two enemies. In 2008 and 2009, at least 1,400 men, women, and children were killed when Israeli troops invaded Gaza in response to rocket attacks being launched from the Palestinian territory into civilian areas in Israel.



rising obesity rates, and why most diets fail. 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 ask why some parents of autistic children, when given the good news from scientific research that they don’t need to beat themselves up for having had their children vaccinated, react with anger rather than relief.

In this book, we will be discussing the psychological issues raised by these opening stories and many others in the news. But psychology is not only about behavior that is

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; the term is often represented by ψ , the Greek letter psi (usually pronounced sy).

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

newsworthy. Psychologists are also 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, remembering a shopping list, 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 some insight into your own behavior, then you are in the right course. We invite you now to step into the world of psychology, the discipline that dares to explore the most complex topic on earth: you.

(“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 and quackery 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, we think, far more helpful than 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 such nonscientific competitors as graphology, fortune-telling, numerology, and astrology. Like psychologists, promoters of these systems 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, and a “past-lives channeler” may say it's because you were jilted in a former life. 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, “Spirituality will increase next year”) or just plain wrong (Shaffer & Jadwiszczok, 2010). One well-known “psychic to the stars” predicted that in 2012, a giant earthquake would destroy most of Mexico City, Ellen deGeneres would join the army for a week, and an airplane would crash into the White House. Wrong on all counts! Moreover, contrary to what you might think from watching TV shows or going to psychic websites, no psychic has ever found a missing child, identified a serial killer, or helped police solve any other crime by using “psychic powers” (Radford, 2011). 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 repressed and then accurately recalled years later, as if they had been recorded in perfect detail in the brain? Do most women suffer from emotional mood swings due to premenstrual syndrome? 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? These beliefs are widely held, but as you will learn, they are wrong.

You are about to learn . . .

- how “psychobabble” differs from serious psychology.
- what's wrong with psychologists' nonscientific competitors, such as astrologers and psychics.
- the lesson to be learned from phrenology.
- how and when psychology became a formal discipline.
- three early schools of psychology.
- the four major perspectives in modern psychology.

The Science of Psychology

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*. This definition, however, is like defining a car as a vehicle for transporting people without explaining how a car differs from a train or a bus, or how a Ford differs from a Ferrari. To get a clear picture of this field, you need to know about its methods, its findings, and its ways of interpreting information.



Explore the **Concept** Do You Know About Psychology? at **MyPsychLab**

Psychology, Pseudoscience, and Common Sense LO 1.1

Let's begin by considering what psychology is *not*. First, the psychology that you are about to study bears little relation to the popular psychology

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

psychoanalysis

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

biological perspective

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

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 a person's or animal's actions; it includes behaviorism and social-cognitive learning theories.

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, mental images, 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 break down behavior into its most basic elements, much as a chemist might analyze 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 function or purpose of behavior, as opposed to its analysis and 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, or trying to turn up the gas quickly enough to see how the darkness looks.” 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, 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 most Freudian

concepts, but some schools of psychotherapy still draw on psychoanalytic ideas.

From its early beginnings in philosophy, natural science, and medicine, psychology eventually grew into a complex discipline encompassing many specialties, perspectives, and methods. Today the field is like a large, sprawling family. The members of this family have common great-grandparents, and many of the cousins have formed alliances, but some are quarreling and a few are barely speaking to one another.

Psychology's Present LO 1.4

Today's psychological scientists typically approach their work from one of four different but overlapping theoretical perspectives: biological, learning, cognitive, or sociocultural. These perspectives reflect 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.

1 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.



Watch the Video Thinking Like a Psychologist: Evolutionary Psychology at [MyPsychLab](#)

2 The **learning perspective** is concerned with how the environment and experience affect a person's (or a nonhuman animal's) actions. Within this perspective, *behaviorists* focus on the environmental rewards and punishers 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



Psychologists study many puzzles of human behavior. 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.



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 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.

3 The **cognitive perspective** emphasizes what goes on in people's heads—how people reason, remember, understand language, solve problems, explain experiences, acquire moral standards, and form beliefs. (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.

4 The **sociocultural perspective** focuses on social and cultural forces outside the individual, forces that shape every aspect of behavior, from how we kiss to what and where we eat. 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 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

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.

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.



Watch the Video The Basics: Diverse Perspectives at [MyPsychLab](#)

Using Psychology to Study Psychology

We are coming up on a practice quiz. But please don't take it yet! First we want to share four winning strategies that can help you master the material in this book (and any other courses you may be taking). These strategies have been proven to work in scientific laboratories and in schools from junior high to the university level (Dunlosky et al., 2013; McDaniel, Roediger, & McDermott, 2007; Roediger, Putnam, & Smith, 2011).

Strategy #1: Use the 3R technique: Read, Recite, Review. Many students think it's enough to read the textbook and their notes and then read them again, but usually that won't do it (Karpicke, Butler, & Roediger, 2009). What's essential is to test yourself on what you've studied: asking yourself questions, retrieving the answers, going back and restudying what you didn't know—again and again until you learn the material. To help you get in the 3R habit, we will begin each quiz with a reminder to *recite aloud* what you recall about the major concepts in the section you just finished reading. You may feel foolish at first, but it really works. You can recite to yourself, a friend, or your cat, or into your cell phone. Then we will ask you to review the prior section to correct anything you got wrong or find out what you overlooked. After you do that, you can go on to the regular quiz questions.

Strategy #2: Dig Deep. The mind is not a bin or a sponge; you can't just pour information into it and assume it will stay there. Instead, you

have to *process* it until you get it. An excellent way to do this is to connect new information to information you already know. These associations will organize the information in your memory, creating new mental pathways that will help you retrieve the material later. For instance, you just read about the four basic perspectives in psychological science. Taking each one, you could think of examples you have read about or that apply to your own life: “Many of my friends take medication to manage their depression or anxiety; that would follow from the biological perspective's approach.”

Strategy #3: Once you learn it, don't ignore it. You might be tempted to skip the parts of a chapter that you feel sure you know. Resist that temptation. Instead, take advantage of a powerful research finding: Students who retest themselves by recalling information they could remember previously do twice as well on exams as students who skipped retesting themselves on familiar material (Karpicke & Roediger, 2007).

Strategy #4: Forget about cramming. Like many students, you may believe that studying for exams means staying up all night, guzzling coffee or other stimulants, and rereading your textbook and notes until your eyeballs bleed. Cramming might give you the feeling that you know the material, but if you haven't really *understood* what you've read, it becomes easier to “blank out” when you actually take the test. Rather than cramming all your attempts to test yourself into one giant awful block of time, test yourself regularly throughout the semester, say once a week (Bjork & Bjork, 2011). That way, once you've learned something, it will stay learned.

We also encourage you to give your full attention to lectures and class discussions. (Sorry, but you can't do that while texting or searching the Web; later you will learn why multitasking messes up concentration and learning.) Take good notes in class or when you are watching a recorded lecture. Capture the important points instead of trying to scribble down every word. Later, go over any messy or incomplete notes, organizing and rewriting them.

We are sure these techniques will help you, especially if you remember the ultimate strategy for success: No matter how good they are, no course and no textbook can do your work for you. Now onward!

Recite & Review



Study and Review at MyPsychLab

Recite: Say aloud everything you know about how serious psychology differs from psychobabble, pseudoscience, and “common sense”; phrenology; Wilhelm Wundt; functionalism; William James; the role played by Freud and psychoanalysis in early psychology; and the four major perspectives in present-day psychological science.

Review: Next, go back and reread the previous section to see how you did.

Now take this **Quick Quiz**; you won't be graded!

1. *True or false?* Psychology's forerunners relied heavily on empirical evidence.
2. Credit for founding modern scientific psychology usually goes to _____.
3. Early psychologists who emphasized how behavior helps an organism adapt to its environment were known as _____.
4. Anxiety is a common problem. Which major perspective in psychology is associated with each of these explanations? (a) Anxious people often think about the future in distorted ways. (b) Anxiety symptoms often bring hidden rewards, such as being excused from exams. (c) Excessive anxiety can be caused by a chemical imbalance. (d) A national emphasis on competition and success promotes anxiety about failure.

Answers:

1. false 2. Wilhelm Wundt 3. functionalists 4. (a) cognitive (b) learning (c) biological (d) sociocultural

You are about to learn...

- why you can't assume that all therapists are psychologists or that all psychologists are therapists.
- the three major areas of psychologists' professional activities.
- the difference between a clinical psychologist and a psychiatrist.

What Psychologists Do

Now you know the main viewpoints that guide psychologists in their work. But what do psychologists actually do with their time between breakfast and dinner?

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.

Psychological Research LO 1.5

Most people who do psychological research have doctoral degrees (Ph.D.s or Ed.D.s, doctorates in education). 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 behavior?” An applied psychologist might ask, “How can knowledge about peer pressure be used to reduce binge drinking by college students?”

Psychologists doing basic and applied research have made important scientific contributions in areas as diverse as health, education, child development, testing, conflict resolution, marketing, industrial design, worker productivity, and urban planning. Their findings are the main focus of this book and of your course. Yet scientific research is the aspect of the discipline least recognized and understood by the public (Benjamin, 2003). We hope that by the time you finish this book, you will have a greater understanding of what research psychologists do and of their contributions to human knowledge and welfare.

Psychological Practice LO 1.6

Psychological practitioners, whose goal is to understand and improve people’s physical and

basic psychology The study of psychological issues for the sake of knowledge rather than for its practical application.

applied psychology The study of psychological issues that have direct practical significance; also, the application of psychological findings.