



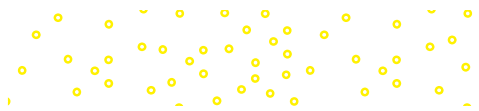
GREGORY J. FEIST
ERIKA L. ROSENBERG

Fundamentals of

PSYCHOLOGY

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PERSPECTIVES AND CONNECTIONS



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PSYCHOLOGY
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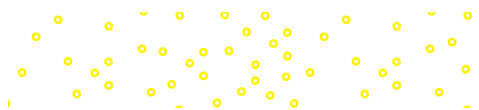
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FUNDAMENTALS OF PSYCHOLOGY: PERSPECTIVES AND CONNECTIONS

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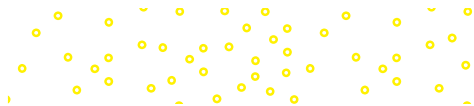
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To our most precious collaborative work,
Jerry and Evan





About the Authors



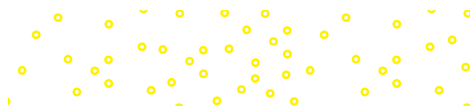
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Gregory J. Feist

Gregory J. Feist is Professor of Psychology in Personality and Adult Development at San Jose State University. He has also taught at the College of William & Mary and the University of California, Davis. He received his PhD from the University of California, Berkeley, and his undergraduate degree from the University of Massachusetts–Amherst.

Dr. Feist is widely published in the psychology of creativity, the psychology of science, personality, and the development of scientific talent. One of his major goals is establishing the psychology of science as a healthy and independent study of science, along the lines of history, philosophy, and sociology of science. Toward this end, Dr. Feist has published a book titled *Psychology of Science and the Origins of the Scientific Mind* (2006, Yale University Press), which was awarded the 2007 William James Book Prize by the Division of General Psychology, American Psychological Association (APA). In addition, he is the founding president of the International Society for the Psychology of Science and Technology.

A second major focus for Dr. Feist is the identification and development of scientific talent, as seen in finalists of the Westinghouse and Intel Science Talent Search. His paper (co-authored with Frank Barron) “Predicting Creativity from Early to Late Adulthood: Intellect, Potential, and Personality” won Article of the Year for 2003 in the *Journal of Research in Personality* and *Psychology of Aesthetics, Creativity and the Arts*. His teaching efforts have been recognized by outstanding teaching awards at both UC Berkeley and UC Davis. Dr. Feist is also co-author with his late father, Jess Feist (and Tomi-Ann Roberts), of the undergraduate text *Theories of Personality*. In his spare time, Dr. Feist enjoys cycling, camping, hiking, and skiing.



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Erika L. Rosenberg

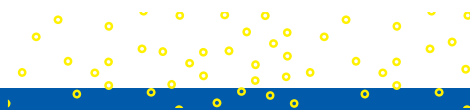
Erika L. Rosenberg is an emotions researcher, health psychologist, and teacher of meditation. Dr. Rosenberg received her PhD in Psychology from the University of California, San Francisco, where she studied with Paul Ekman. Dr. Rosenberg served on the faculties at the University of Delaware and the College of William & Mary. Erika is a Senior Investigator at the Center for Mind and Brain at the University of California, Davis, Senior Teacher at the Center for Compassion and Altruism Research and Education (CCARE) at Stanford University, Faculty at Nyingma Institute of Tibetan Studies, in Berkeley, CA, and Founding Faculty at The Compassion Institute, a new nonprofit devoted to the promotion of compassion education worldwide.

Dr. Rosenberg is a world-renowned expert in facial expression of emotion, who trains and consults on facial measurement using the Facial Action Coding System (FACS). She teaches FACS workshops worldwide and consults on facial expression with academic, corporate, and entertainment industry clients worldwide, including digital effects and animators in major computer game and film production companies. From 2009 to 2011 she served as Scientific Consultant on the Fox TV show *Lie to Me*.

Erika's work with meditation encompasses both teaching and personal practice and spans nearly three decades. As a senior teacher at Stanford University's CCARE, she co-authored the Compassion Cultivation Training (CCT) program with Thupten Jinpa and others in 2009. In 2010, she personally presented the CCT program to His Holiness the Dalai Lama. Erika Rosenberg has taught meditation in diverse international venues such as Google Inc., Lerab Ling Monastery, Upaya Zen Center, Kripalu Yoga Center, The Telluride Institute, and Burning Man.

In addition to McGraw-Hill's *Psychology: Perspectives and Connections*, Erika is co-editor of *What the Face Reveals* (with Paul Ekman), now in press in its 3rd edition, and author of numerous scientific articles and chapters on facial expression, emotion, and meditation.

Formerly married, now amicably divorced and forever colleagues, Erika and Greg have two sons, Jerry and Evan, and live in Oakland, California.





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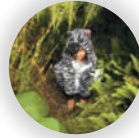
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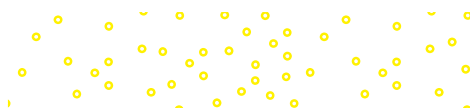
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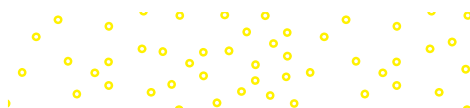
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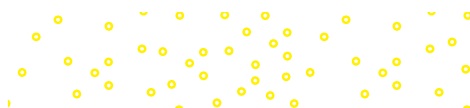
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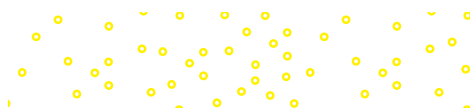
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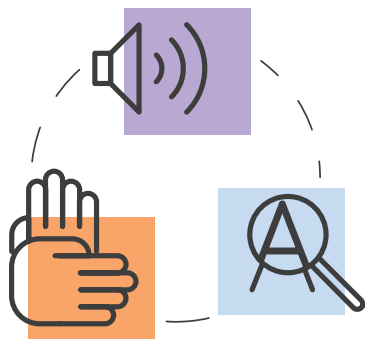
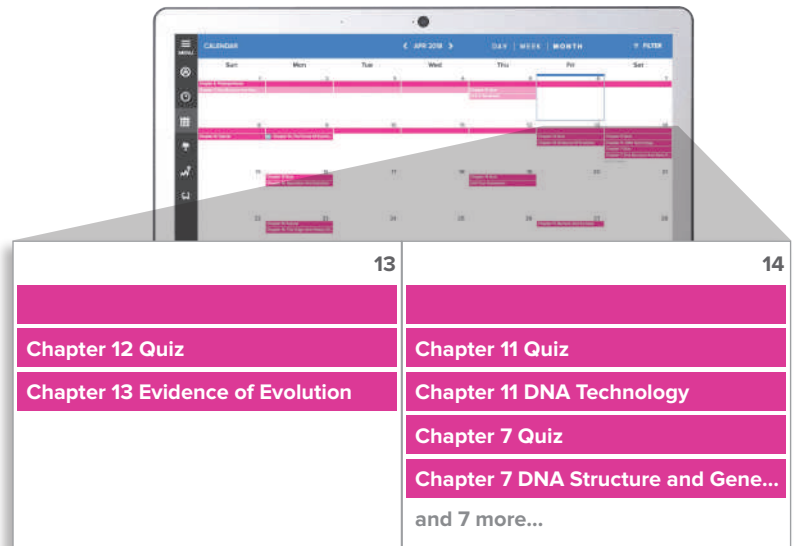
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Fundamentals of Psychology:

Those of us who teach at universities and colleges on a traditional 15-week semester system face a perpetual dilemma: Do we omit an entire chapter or two of a text to fit the readings into a 15-week semester, or do we pick and choose information to assign and discuss from within each chapter? On a 10-week quarter system, there is an even more difficult decision on what to cover. Our well-received *Psychology: Perspectives and Connections* has 16 chapters and co-author Greg, for instance, deletes one full chapter each semester to fit it into his 15-week semester.

One solution to this dilemma is to create a more concise version. Our new volume, *Fundamentals of Psychology: Perspectives and Connections*, contains all the core information from the full-length *Psychology* but condenses the most fundamental material into fewer chapters and pages. In *Fundamentals of Psychology* we maintain all the themes and concepts that made *Psychology* so successful:

- Themes and questions in each chapter that challenge assumptions and foster critical, active reading and learning of the material; in the age of so-called “fake news,” it is more important than ever that students learn to challenge assumptions and not believe everything they read, see, and think.
- An emphasis on showing the interaction and connectedness between different perspectives, especially the interplay of nature and nurture on most every aspect of thought and behavior.
- A writing style that makes crucial and current scientific findings accessible and engaging.
- Inclusion of cutting-edge and important current scientific findings in each chapter, with consistent emphasis on how technology and social media are impacting how we think, learn, feel, develop, and interact.

In addition to paring down each chapter to its most fundamental findings and concepts, we also combined two related chapters from *Psychology*. We integrated Language and Thought (Chapter 9) with Intelligence and Creativity (Chapter 10) to yield a new chapter called, “Language, Thought, and Intelligence.” At 15 chapters, *Fundamentals of Psychology* fits a 15-week semester perfectly!

Fundamentals of Psychology guides students in moving beyond what may seem obvious, to reevaluating the thoughts and beliefs they bring to the course. Students will learn to challenge their assumptions, understand the elements of scientific research, and recognize that in psychology, *no one perspective tells the whole story*.

CHALLENGING ASSUMPTIONS

Questioning assumptions is the first step in thinking scientifically. While building a foundation in the concepts and principles of psychology, our goal as teachers and authors has always been to encourage students to examine their preconceptions (as well as those held by others) and understand that there is often more than one plausible explanation for a given phenomenon.

Challenge Your Assumptions

True or False? Genetically influenced traits are set and unchanging after conception.

False: Genes continue to get turned on or off throughout our lives by what we eat, drink, or are exposed to.

Each chapter opens with **Challenge Your Assumptions**, a list of common assumptions for students to consider.

THINKING SCIENTIFICALLY

Throughout *Fundamentals of Psychology*, we model critical thinking and offer multiple opportunities for students to practice this skill. In “Introduction to Psychology,” we define the discipline, analyze major ways of thinking about the human experience, and present a framework for analyzing research and testing assumptions against real world observation.

We focus on high-interest topics including obsessive-compulsive disorder (OCD) and anxiety disorders (Treatment of Psychological Disorders) and how people of different genders and cultures experience the world (Sensing and Perceiving Our World), to emphasize how psychological science uses systematic investigation to address important questions about the human experience.

Perspectives and Connections

Another key goal is helping students to understand the theoretical perspectives and learn to apply them in a variety of settings—hence, the presence of the term *perspectives* in the subtitle. We call attention to the influence of theoretical perspectives on advances in psychology, as well as in the different subfields of psychology. For example, we include a section comparing theoretical perspectives on intelligence (Language, Thought, and Intelligence), and we invite students to explore the influences of nature and nurture on personality development, along with the theoretical perspectives that have inspired personality researchers (Personality: The Uniqueness of the Individual). By understanding that it's possible to study behavior through different lenses, students learn to look for underlying points of view.

Fundamentals of Psychology also encourages students to consider the diverse approaches to the study of human thought and behavior. **Connection** annotations appear throughout the text, emphasizing the interrelatedness of subfields of psychology.

MAKING SCIENCE ACCESSIBLE

Fundamentals of Psychology approaches the science of psychology in a straightforward, approachable manner to help students develop scientific literacy. Beginning with the question “What is science?” in the “Introduction to Psychology” chapter, we stress that psychology shares with the natural and physical sciences a way of thinking about the world that separates what we *believe* from what is *real*. A strong focus on research and the scientific method in the “Conducting Research in Psychology” chapter lays the foundation for subsequent science-based chapters on neuroscience

and genetics and on sensation and perception, which are challenging topics for many students. Throughout the program, we describe classic and contemporary research in depth to familiarize students with the scientific approach to collecting and analyzing data and sharing the results to advance knowledge. Moreover, this edition reflects the latest thinking, based on current research, in all areas of psychology.

Overcoming preconceptions about the research process may be one of the biggest challenges students face in Introductory Psychology. **Research Process** features, appearing in most chapters, demystify research by providing a step-by-step visual approach to the scientific method.

Research Process

1 Research Question

Is any part of the brain dedicated to seeing faces and no other object? Likewise, is there a part of the brain dedicated exclusively to perceiving places (such as buildings)? If so, are these brain regions equally active when you imagine a face or place and when you actually see one?

2 Method

Previous research had found one distinct part of the brain activated when we see a face (the fusiform face area, FFA) and a different area of the brain (the parahippocampal place area, PPA) activated when we see a place or a building. O'Craven and Kanwisher (2000) wanted to confirm this result and extend it by seeing whether the activity was as strong when just imagining faces or places as it was when seeing these images.

Eight participants were placed inside an fMRI machine and then viewed images of either famous faces or familiar buildings on their university campus. For the imagining condition, participants were read the names of famous people and places and asked to close their eyes and form a “vivid mental image” of each one.

3 Results

Results confirmed the FFA showed high activity (% signal change) for faces but low activity for places, whereas the PPA showed the opposite (see graph). Moreover, the results for imagining faces and places showed the same pattern of results, only less strongly.

4 Conclusion

Different regions of the brain are dedicated to very specific kinds of visual stimuli. We know this only because fMRI technology allows us to see specific areas of brain activity when we are shown different kinds of objects and given different kinds of tasks.

Using the basic structure of a contemporary study to exemplify scientific thinking, we walk through the “story” of how the research was conducted. In the chapter “Sensing and Perceiving Our World,” for example, this feature illustrates the methodology chosen by a researcher to answer the question, “Do people from an Eastern culture (Japan) focus more on and have better recall for objects in the background and periphery of a scene than people from a Western culture (United States)?”

Most chapters feature expanded coverage on technology and social media and how they affect thought and behavior. For example, in the “Social Behavior” chapter, we address the concept of groupthink in social media as well as the rise of “fake news” sites.

Connection

Area 25 is a region in the front of the brain; it is overly active in people with depression. A therapy known as “deep brain stimulation” can calm this area down and lead to a sudden decrease in depressed symptoms for some people.

See “Challenging Assumptions in the Treatment of Severe Depression,” in the chapter “Treatment of Psychological Disorders.” (p. 543)

APPLYING PSYCHOLOGY TO EVERYDAY LIFE

One of the perennially difficult tasks we face as instructors is to connect course material to students' lives and interests. In *Fundamentals of Psychology* we demonstrate the relevance of psychology in multiple ways in both the text and digital programs.

Psychology in the Real World features show how psychological research can directly affect people's lives. For instance, how musical training changes the brain ("Human Development"), and whether Internet use can become an addiction ("Psychological Disorders").

Additional examples in the text make psychological principles and concepts more concrete by connecting them to current, real-world experiences; for instance, in the chapter "Consciousness," the limits of *attention* are underscored with the example of how texting during class prevents attention to the lecture, and graphics in the chapter "Learning" use student-relevant examples of classical and operant conditioning to make these difficult concepts accessible.

A PERSONALIZED EXPERIENCE THAT LEADS TO IMPROVED LEARNING AND RESULTS

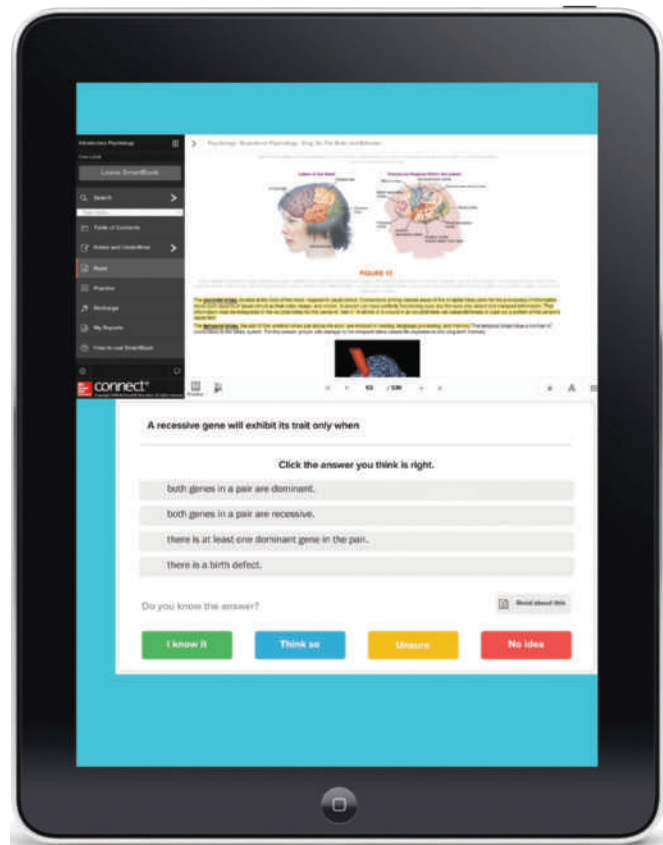


How many students think they know everything about introductory

psychology, but struggle on the first exam?

Students study more effectively with Connect and SmartBook.

- SmartBook helps students study more efficiently by highlighting where in the chapter to focus, asking review questions, and pointing students to resources until they understand.
- Connect's assignments help students contextualize what they've learned through application, so they can better understand the material and think critically.
- Connect will create a personalized study path customized to individual student needs.
- Connect reports deliver information regarding performance, study behavior, and effort. So instructors can quickly identify students who are having issues, or focus on material that the class hasn't mastered.



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THE POWER OF DATA

Fundamentals of Psychology harnesses the power of data to improve the instructor and student experiences.

Step 1. Over the course of three years, data points showing concepts that caused students the most difficulty were anonymously collected from the Connect **SmartBook** for *Psychology: Perspectives and Connections*, 3/e.

Step 2. The data from **SmartBook** was provided to the authors in the form of a **Heat Map**, which graphically illustrated "hot spots" in the text that impacted student learning.

Step 3. Greg Feist and Erika Rosenberg used the Heat Map data to refine the content and reinforce student comprehension in the new edition. Additional quiz questions and assignable activities were created for use in Connect Psychology to further support student success.

Result: With empirically based feedback at the paragraph and even sentence level, the authors developed the new edition using precise student data to pinpoint concepts that caused students to struggle.

POWERFUL REPORTING

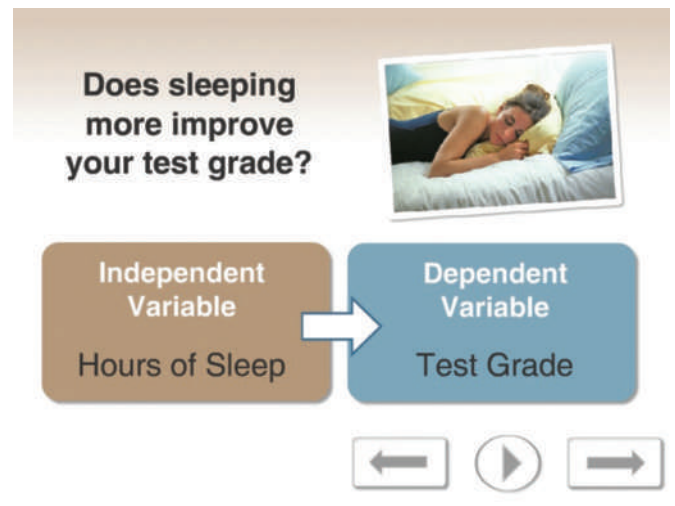
Whether a class is face-to-face, hybrid, or entirely online, McGraw-Hill Connect provides the tools needed to reduce the amount of time and energy instructors spend administering their courses. Easy-to-use course management tools allow instructors to spend less time administering and more time teaching, while reports allow students to monitor their progress and optimize their study time.

- The **At-Risk Student Report** provides instructors with one-click access to a dashboard that identifies students who are at risk of dropping out of the course due to low engagement levels.
- The **Category Analysis Report** details student performance relative to specific learning objectives and goals, including APA learning goals and outcomes and levels of Bloom's taxonomy.
- **Connect Insight** is a one-of-a-kind visual analytics dashboard—now available for both instructors and students—that provides at-a-glance information regarding student performance.
- The **LearnSmart Reports** allow instructors and students to easily monitor progress and pinpoint areas of weakness, giving each student a personalized study plan to achieve success.

STUDENT CRITICAL THINKING SKILLS

At the Apply and Analyze levels of Bloom's taxonomy, **Scientific Reasoning Activities** found in Connect offer in-depth arguments to sharpen students' critical thinking skills and prepare them to be more discerning consumers of psychology in their everyday lives. For each chapter, there are multiple sets of arguments accompanied by auto-graded assessments requiring students to think critically about claims presented as facts. These exercises can also be used in Connect as group activities or for discussion.

The **Power of Process**, now available in McGraw-Hill Connect, guides students through the process of critical reading, analysis, and writing. Faculty can select or upload their own content, such as journal articles, and assign analysis strategies to gain insight



into students' application of the scientific method. For students, Power of Process offers a guided visual approach to exercising critical thinking strategies to apply before, during, and after reading published research. Additionally, utilizing the relevant and engaging research articles built into Power of Process, students are supported in becoming critical consumers of research.

STUDENT ACTIVE ENGAGEMENT

Concept Clips help students comprehend some of the most difficult ideas in introductory psychology. Colorful graphics and stimulating animations describe core concepts in a step-by-step manner, engaging students and aiding in retention. Concept Clips can be used as a presentation tool in the classroom or for student assessment. Concept Clips are embedded in the eBook to offer an alternative presentation of these challenging topics.

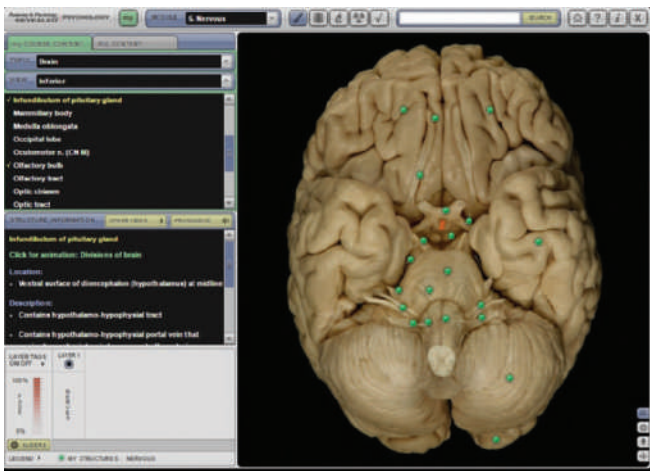
The screenshot shows a video player interface for "Naturalistic Observation". At the top right is a "START OVER" button. Below the title is an "Open Coding Task" section with instructions: "Watch the video clip of young Jasmine and keep a record of what you observe by typing brief statements in your research notebook to the right of the video. Feel free to replay the clip as many times as you need in order to get a good sense of what sort of behaviors you are seeing. We have included some sample observations to get you started. Once you are finished, click the Next button." Below the instructions is a video player with a play button. To the right of the video player is a "Sample statements" section with three bullet points: "At 22 months, Jasmine plays with toys in a group setting.", "J crawls on the floor.", and "J returns a book to the shelf when asked by an adult." Below the sample statements is a text input field. At the bottom of the video player are navigation controls: "NARRATION: On", "Replay", "Transcript", and "PREV NEXT" buttons.

Interactivities, assignable through Connect, engage students with content through experiential activities. Activities include: Perspectives in Psychology; Correlations; Neurons; The Brain and Drugs; The Stages of Sleep; Levels of Processing; Maslow's Hierarchy of Needs; Naturalistic Observation; Observational Learning; Defense Mechanisms; Stereotypes and Prejudice; Heuristics; Personality Assessment; and First Impressions and Attraction.

Through the connection of psychology to students' own lives, concepts become more relevant and understandable. Powered by McGraw-Hill Education's Connect Psychology, **NewsFlash exercises** tie current news stories to key psychological principles and learning objectives. After interacting with a contemporary news story, students are assessed on their ability to make the link between real life and research findings.

Psychology at Work videos, assignable and assessable within McGraw-Hill Connect, highlight nine careers in which knowledge of psychology is beneficial in the workplace. Each video introduces a person at work, who specifies how knowledge gained from taking introductory psychology in college is applied to the work environment.

Anatomy and Physiology REVEALED® for Psychology McGraw-Hill Education presents an interactive tool that encourages the exploration of biological structures related to psychology. **Lab Activity** assignments in Connect walk students through virtual nervous system and cell dissection experiences, including views of CT scans, x-ray imaging and histology, and include illustrated animations that link anatomy to the biology of behavior.



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Touring the Brain and Touring the Senses offer detailed digital overlays of key structures. These tours provide students with practice in grasping key biological structures and processes that are essential to an appreciation of the role of science in psychology and success in the course.

SUPPORTING INSTRUCTORS WITH TECHNOLOGY

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Easily rearrange chapters, combine material from other content sources, and quickly

upload content you have written, such as your course syllabus or teaching notes, using McGraw-Hill Education's **Create**. Find the content you need by searching through thousands of leading McGraw-Hill Education textbooks. Arrange your book to fit your teaching style. Create even allows you to personalize your book's appearance by selecting the cover and adding your name, school, and course information. Order a

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McGraw-Hill Education's Connect offers comprehensive service, support, and training throughout every phase of your implementation. If you're looking for some guidance on how to use Connect, or want to learn tips and tricks from super users, you can find tutorials as you work. Our Digital Faculty Consultants and Student Ambassadors offer insight into how to achieve the results you want with Connect.

INTEGRATION WITH YOUR LEARNING MANAGEMENT SYSTEM

McGraw-Hill integrates your digital products from McGraw-Hill Education with your school LMS for quick and easy access to best-in-class content and learning tools. Build an effective digital course, enroll students with ease, and discover how powerful digital teaching can be.

Available with Connect, integration is a pairing between an institution's learning management system (LMS) and Connect at the assignment level. It shares assignment information, grades, and calendar items from Connect into the LMS automatically, creating an easy to manage course for instructors and simple navigation for students. Our assignment-level

integration is available with **Blackboard Learn**, **Canvas by Instructure**, and **Brightspace by D2L**, giving you access to registration, attendance, assignments, grades, and course resources in real time, in one location.

INSTRUCTOR SUPPLEMENTS

Instructor's Manual The instructor's manual provides a wide variety of tools and resources for presenting the course, including learning objectives, and ideas for lectures and discussions.

Test Bank By increasing the rigor of the test bank development process, McGraw-Hill Education has raised the bar for student assessment. A coordinated team of subject-matter experts methodically vetted each question and set of possible answers for accuracy, clarity, effectiveness, and accessibility; each question has been annotated for level of difficulty, Bloom's taxonomy, APA learning outcomes, and corresponding coverage in the text. Organized by chapter, the questions are designed to test factual, conceptual, and applied understanding. All test questions are available within TestGen™ software and as Word documents.

PowerPoint Presentations The PowerPoint presentations, available in a dynamic lecture-ready format and a WCAG-compliant version, highlight the key points of the chapter and include supporting visuals. All of the slides can be modified to meet individual needs.

Image Gallery The Image Gallery features the complete set of downloadable figures and tables from the text. These can be easily embedded by instructors into their own PowerPoint slides.



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Greg would also like to give heartfelt thanks to his students each semester whose fresh eyes and minds renew his excitement in how important and fascinating the study of human thought and behavior really is. A semester never goes by where he is not inspired to include something new in his approach to teaching based on ideas and questions from students.

Erika would like to thank Greg for his forever partnership and never-ending professionalism, their children for their patience, and the staff at McGraw-Hill for their belief in our message and this project. She is eternally grateful to Stanley Marshall for his constant reminder to “be here now,” Paul Ekman for a lifetime of mentorship, and Bica Coffeehouse for supporting her writing with exceptional macchiato and good cheer!

Finally, although no longer married, Erika and Greg have carried forth their deep and long-term connection in writing this book and are grateful to each other for this solid and deep relationship that will always be more than just professional. Most importantly, we each want to give personal and heartfelt thanks to what will forever be our best collaborative work—our sons Jerry and Evan!

1 Introduction to Psychology

Chapter Outline

What Is Psychology?

Subdisciplines of Psychology

The Origins of Psychology

Psychological Perspectives: Explaining Human Behavior

No One Perspective Tells the Whole Story in Psychology

Making Connections in Psychology

Chapter Review

Challenge Your Assumptions

True or False?

- If you are a psychologist you diagnose and treat mental disorders. (see page 5)
- Psychology is made up of many different subfields. (see page 9)
- Psychologists agree that most of human thought and behavior cannot be explained by one perspective. (see page 22)
- Critical thinking involves seeing only the weaknesses and flaws in ideas. (see page 22)



Over the last few years in the United States, numerous videos of police officers shooting African American males have been posted on various social media websites. Although these events all differ in circumstance and explanation, the videos have often led to protests of police behavior. These protests have even spilled over into professional sports, most notably when the football player Colin Kaepernick refused to stand during the playing of the national anthem. Whatever position one may take on the explanation and cause of these events, there is no doubt that the universal ownership of cell phones with cameras and widespread use of social media outlets have changed the dynamic between police and civilians and begun a full-blown debate about race and justice in the United States.

These examples give just a small hint of the wide-ranging ways that online technologies have changed social interaction and human behavior. Here are some others:

- Millions of people have free or very inexpensive access to online learning through massive open online courses (MOOCs), such as Udacity and Coursera.
- We can immediately be in contact with friends and family via texting and email, and with wider circles of people via Twitter, Facebook, Tumblr, and Reddit, to name a few.
- Sexting photos have had traumatic effects on people's lives and even ruined politicians' careers.
- A baby died of malnutrition and neglect by a couple in South Korea who were spending 14–16 hours a day raising a virtual baby on the online site Prius Online.
- Distracted driving (much of which involves mobile device use) kills more than 3,000 Americans a year (more than 10 each day; *Distracted Driving*, 2013).

In many ways, people behave online much the way they do in everyday life, but with the capacity to affect more people, both known and unknown, and potentially with more widespread impact. What happens to social interactions when they become primarily electronic? Do the depths of our friendships increase or decrease through social media? Does technology make our attention scattered, or does it improve our ability to do more than one thing at a time? These are important questions; our interactions and social connections, or *networks*, can influence everything from opinion to eating patterns to one's likelihood of quitting smoking (Christakis & Fowler, 2007, 2008). For example, socially isolated people are more prone to illness and even early death (Kim et al., 2016). Do Facebook and other social networks operate in ways that resemble real-world networks? What are the consequences of electronic interaction for our social lives? Each of these questions centers on understanding the effects of technology on thought, feeling, and behavior.

You might assume that social networks only enhance social life. The surprise from psychological science is that social networking both improves and impairs our relationships (Garrett & Danziger, 2008; Lundy & Drouin, 2016). People use “friending” on social networks to widen their social circles, which can translate into real-life social benefits (Lange, 2008). These media help us reach people we might not otherwise communicate with at all (such as long-lost cousins). Yet social networking can also reduce interactions with close friends to short electronic statements and lessen the amount of face-to-face time. In addition, technology in general increases our likelihood to multitask, which makes it harder for us to engage in any one task deeply (Bowman et al., 2010; Foerde, Knowlton, & Poldrack, 2006; Werner, Cades, & Boehm-Davis, 2015).

You may be wondering why we are opening a text about psychology with a discussion of people's use of technology. The answer is that technology involves people thinking, behaving, and interacting, which is what psychology is all about.

WHAT IS PSYCHOLOGY?

In one sense, you have been a psychologist for most of your life. Every time you ponder why you think and feel in particular ways, you are thinking psychologically. Every time you try to explain what someone else is doing—and why—you are thinking psychologically. You do it when you say your friend dominates conversations because he is self-absorbed. You also do it when you conclude that your big sister is bossy because she is older and always gets what she wants. We think and live psychology every day.

Psychology Defined

Many fields of study aim to understand people's thoughts and actions. Literature helps us understand people through storytelling, character exploration, development of setting, and use of imagery. History helps us understand people through description and analysis of past events and artifacts. Anthropology is the study of human culture and origins. Sociology seeks to understand people in terms of large-scale social forces and group membership rather than individuals. Psychology is unique in that it is the *science* of understanding individuals—animals as well as people. Formally defined, **psychology** is the scientific study of thought and behavior. The root word *psyche* comes from the Greek for “mind,” but modern psychology is as likely to study the brain and behavior as it is the “mind.”

psychology
The scientific study of thought and behavior.

You might be thinking, Don't psychologists treat people with mental illness or try to help us figure out how our parents messed us up? Yes, they do these things too. Some professional psychologists practice, or *apply*, psychology to diagnose and treat problems of thought and behavior. In fact, psychology is both a clinical practice and a science. The clinical practice side encompasses the services provided in therapists' offices, schools, hospitals, and businesses. Without fail, when we (the authors of this text) tell people that we are psychologists, they immediately think we are clinical psychologists and are analyzing their every move, looking for hidden meaning in everything they do.

You can also find popular psychology in homes, on radio talk shows, on Internet news sites, and in TV news reports. What sets scientific psychology apart from popular psychology—known as *pop psychology*—are the methods used in each. As you will see in the chapter “Conducting Research in Psychology” and again in the chapter “Treatment of Psychological Disorders,” the methods of scientific and clinical psychologists are quite different from people in general, who sometimes draw from an unreliable body of knowledge known as *common sense*.

Perhaps because of the ubiquity of popular psychology, most people you talk to on the street don't think of psychology as a science; rather, they probably think of it only as a clinical practice.

As we will see throughout this text, not only is psychology a science, but it is also considered a core science, along with medicine, earth science, chemistry, physics, and math (Boyack, Klavans, & Börner, 2005). Core sciences are those that have many other disciplines organized around them.

Challenge Your Assumptions

True or False? If you are a psychologist, you diagnose and treat mental disorders.

False: Some psychologists diagnose and treat mental illness but others conduct scientific studies on human thought and behavior. Psychology is both a practice and a science.

Why Should You Study Psychology?

Reasons for studying psychology vary from person to person. Maybe your adviser suggested it would be a good course to take, or maybe you're taking the course because it satisfies a general education requirement. Psychology is considered part of a good general education because its content is useful to many fields. It is also relevant to your life.

Psychology in the Real World

Why Psychology Is Important to My Life

Yvette Z. Szabo, *University of Louisville*

For me, studying psychology has meant so much more than learning concepts for an exam. Every day I see how it applies to my life. Material from class and the textbook come alive in my daily encounters. For instance, I now understand what affects my own productivity and what increases my motivation. I know that stress sometimes serves as a major stimulant for me and activates me to work, but it also wears down my immune system. Also, too much stress impairs the quality of my work. From Intro Psych, I learned that these experiences are consistent with what research on motivation, stress, and health tells us.

I have also noticed how patterns of behavior repeat themselves within families or groups of friends. When I learned about the effects of birth order on personality, for example, I was able to connect the concept to my sister and me. I am the younger sister, and I am more rebellious and open to new ideas. In contrast, my elder sister is more agreeable and has a more cautious personality. When I learned in Intro Psych that younger-born children are “born to rebel” [see the chapter “Personality: The Uniqueness of the Individual”], I was amazed to discover that the pattern I see with my sister and me is a

common one. This has helped put my own life in a larger context of human behavior.

As a curious student, I always enjoy understanding something new. One thing I appreciated with this class is how all of the fields of psychology overlap and interconnect. For example: Different people see and perceive events differently. In other words, social and personality psychology are closely connected to memory, sensation, and perception. What we perceive and remember overlaps with our social environment and our personality. Perceiving and remembering is almost like a camera lens, but the lens has filters—your personality and previous experiences filter what you take in, what sense you make of it, and what you recall.

Moreover, psychology often explores the roles of nature and nurture in shaping behavior and personality. This book in particular does a great job of emphasizing how nature and nurture work together to create who we are and who we become. I have seen this firsthand. My cousin, adopted by my uncle and his wife, developed mannerisms similar to those of her family members. And yet, I’ve also learned in class that twins separated at birth will likely have similar interests and

Adopting a scientific perspective on human behavior helps you develop a curiosity for how behavior works. It also fosters an appreciation for how much of human thought and behavior cannot be explained from one perspective. As you move through this text, you will find that many of the concepts you learn, such as memory, have several definitions depending on how you look at them. *Memory*, for instance, can refer either to a specific recalled event (such as your memory of last summer’s vacation) or to the process by which we recall such information.

Studying psychology not only makes you more aware of how people work in general, but it also makes you more aware of how *you* work—very practical knowledge to have in many settings. Understanding others’ thoughts, feelings, and motives—as well as your own—may help you be a more effective doctor, lawyer, businessperson, or friend. Understanding how children learn, think, reason, and play will help you if you become a parent or a teacher. To learn how one recent college graduate has applied her knowledge of psychology in her life, read the “Psychology in the Real World” feature.

The study of psychology is as old as the human species. Before people wondered about the stars,



©AP Images/Ben Curtis

characteristics. These examples both show that nature and nurture are intertwined.

My knowledge of psychology provides constant explanations for the kinds of relationships I see all around me. For example, as I learned in my psychology courses, research shows that children who were bullied at home will be more likely to befriend someone meek so they can achieve dominance. Sure enough, a close friend of mine recently admitted she was a bully in grade school because it was the one place she was tougher than those around her. At home she was picked on, and so she wanted to dominate when she could at school. Psychology allowed me to better understand this not-so-desirable behavior in my friend. These cases show the importance of caregiving behavior in the formation of social relationships.

By turning what I learn in my classes outward, I can better understand the actions of others. I am more effective at motivating others and myself, because I better understand individual differences and different types of motivation that stem from internal and environmental sources. I am more conscious about what motivates me. Sometimes I am more motivated by an internal source, such as when I participate

in a sport because I enjoy the game. Other times, I am more motivated by external sources, such as when I work to earn a high grade in a class.

Most importantly, the things I learned in Introductory Psychology have laid a foundation for all my future studies in psychology and even other courses. As I have studied more about the clinical applications of psychology, I have become more conscious of the role of a listener and speaker and have greatly improved my listening skills. Psychology has taught me techniques for learning, like scheduling study time over several days, getting a good night's sleep, rehearsing material, and making information personal and relevant. Intro Psych can help you not only to understand other people but also to do well in college.

It is only in Intro Psychology where you learn about everything in psychology—from the brain and genetics to learning, memory, and perception; from development and aging to social groups and disorders of the mind. Intro Psych has been a wonderful foundation for understanding my own and other people's thought and behavior—and after all, isn't that what psychology is all about?

Source: Yvette Z. Szabo, University of Louisville

rocks, and planets, no doubt they tried to figure out themselves and others. They did, after all, form relationships, have children, and protect their families. Human babies could not survive without others to care for them. Perhaps that is why people fascinate us. From our very first days, we humans are inherently interested in other humans—for survival. Newborns prefer faces to almost any other object.

As you begin your study of psychology, you will learn just how broad the field is. You may even find a subfield that dovetails with another interest you have already developed.

Quick Quiz 1: What Is Psychology?

1. Psychology is best defined as the scientific study of
 - a. human behavior.
 - b. mental illness.
 - c. neuroses.
 - d. human thought and behavior.
2. As a field, psychology is
 - a. a social science.
 - b. the practice of diagnosing and treating mental illness.
 - c. a biological science.
 - d. all of the above.
3. How does psychology differ from the related field of sociology?
 - a. Psychology studies systems; sociology studies cultures.
 - b. Psychology studies cultures; sociology studies people.
 - c. Psychology studies individuals; sociology studies groups.
 - d. Psychology studies groups and cultures; sociology studies human behavior.

Answers can be found at the end of the chapter.

SUBDISCIPLINES OF PSYCHOLOGY

As a science and a practice, psychology is divided into various areas of investigation. Just as this book consists of chapters on different topics in psychology, the field of psychology is divided into more than 25 distinct, but increasingly interrelated, subdisciplines. Figure 1 gives a breakdown of the percentages of doctorates awarded in 2014 in each of the major subdisciplines we discuss (Doctorate Recipients, 2016). It is noteworthy that 71% of all PhDs in psychology in 2014 were earned by women. Each subdiscipline in psychology had more than 50% women PhDs, and the only two subfields with less than 60% were experimental psychology and cognitive/psycholinguistics. It is also worth noting that more PhDs were awarded in psychology in 2014 than all the other social sciences combined (anthropology, economics, political science, and sociology) (Doctorate Recipients, 2016).

Cognitive psychology is the study of how we perceive information, how we learn and remember, how we acquire and use language, and how we solve problems. For example, a researcher who is concerned with how people visualize objects in their minds is studying cognitive psychology. Those who do research on cognition and learning are often referred to as *experimental psychologists*, because they conduct laboratory experiments to address their research questions.

Developmental psychology explores how thought and behavior change and show stability across the life span. This developmental perspective allows us to appreciate that organisms—human or otherwise—change and grow. Developmental psychologists ask such questions as these: How do our reasoning skills or emotional skills change as we age? How does parent-infant bonding affect adult relationships? Does old age bring wisdom?

Behavioral neuroscience studies the links among brain, mind, and behavior. Neuroscience cuts across various disciplines and subdisciplines of psychology. One can study the brain functions involved in learning, emotion, social behavior, and mental illness, to name just a few areas. The more general subdiscipline of **biological psychology** includes research on all areas of connection between bodily systems and chemicals and their relationship to behavior and thought. An example of research in biological psychology appears in the chapter “Stress and Health,” where we discuss the effects of stress on hormones and behavior. Neuroscience and biological psychology overlap substantially. Biological psychology is an older term that is being replaced by *behavioral neuroscience* in contemporary psychology. Using noninvasive advanced imaging techniques and electrical recordings, behavioral neuroscientists study the structure and functions of the living brain.

Personality psychology considers what makes people unique, as well as the consistencies in people’s behavior across time and situations. Personality research addresses questions such as whether our personal traits and dispositions change or stay the same from infancy to childhood to adulthood. A question from this area, for example, might be whether the tendency to be friendly, anxious, or hostile affects one’s health, career choice, or interpersonal relationships or whether a friendly or anxious child will necessarily have the same characteristics as an adult.

Social psychology considers how the real or imagined presence of others influences thought, feeling, and behavior. Research on prejudice and racism, for example, looks at how a person of one group perceives and treats people in other groups. Social psychologists ask such questions as these: How does the presence of other people change an

cognitive psychology

The study of how people perceive, remember, think, speak, and solve problems.

developmental psychology

The study of how thought and behavior change and remain stable across the life span.

behavioral neuroscience

The study of the links among brain, mind, and behavior.

biological psychology

The study of the relationship between bodily systems and chemicals and how they influence behavior and thought.

personality psychology

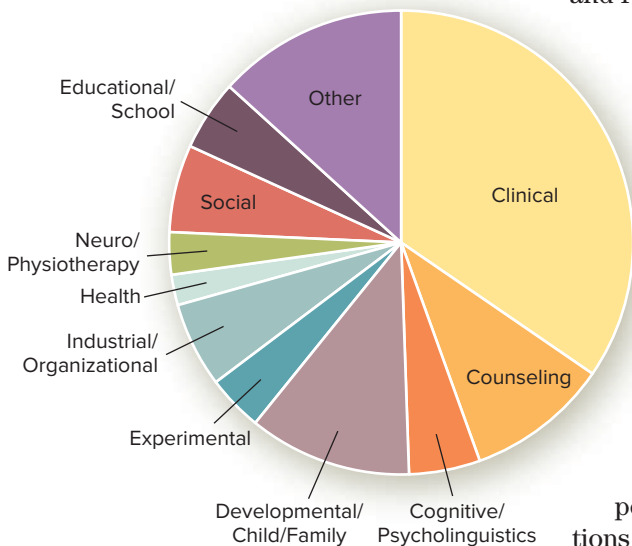
The study of what makes people unique and the consistencies in people’s behavior across time and situations.

social psychology

The study of how living among others influences thought, feeling, and behavior.

FIGURE 1
PERCENTAGE OF PhDs AWARDED IN THE SUBFIELDS OF PSYCHOLOGY IN 2014.

(Source: Adapted from Doctorate Recipients, 2016)



individual's thoughts, feelings, or perceptions? Why is someone less likely to help a person in need when there are many people around than when there is no one else around? Why are we attracted to particular kinds of people?

Clinical psychology focuses on the diagnosis and treatment of mental, emotional, and behavioral disorders and ways to promote psychological health. Some clinical psychologists also conduct research and teach. Clinical psychologists work in universities, medical settings, or private practice. As you can see from Figure 1, clinical psychology is the single largest subdiscipline in psychology. Psychology is a practice as well as a science.

A related field is *counseling psychology*. Counseling psychologists tend to work with less severe psychological disorders than clinical psychologists. They treat and assess relatively healthy people and assist them with career and vocational interests. Training for counseling psychologists is more likely to occur in schools of education than in psychology departments (Norcross et al., 1998).

Other professionals who provide therapy include clinical psychologists who have obtained a PsyD (a professional degree oriented toward nonresearch clinical careers); social workers; marriage and family therapists (who generally have master's degrees); and psychiatrists. Psychiatrists have training in medicine and an MD degree; in addition to offering therapy, they can prescribe drugs.

Health psychology examines the role of psychological factors in physical health and illness. Topics in health psychology range from studies of how stress is linked to illness and immune function to studies on the role of social factors in how people interact with health care professionals. Some health psychologists work in disease prevention, treatment, and rehabilitation; thus, this area involves clinical practice as well as research.

Educational psychology draws on several other areas of psychology to study how students learn, the effectiveness of particular teaching techniques, the dynamics of school populations, and the psychology of teaching. This field also attempts to understand special populations of students, such as the academically gifted and those with special needs. Educational psychologists are usually academics, theorists, or researchers. *School psychology* is a related field generally practiced by counselors in school settings. Approximately 9% of the doctorates in psychology were awarded in school psychology in 2005–2006.

Industrial/organizational (I/O) psychology is an applied science, meaning that it involves understanding real-world rather than laboratory behavior (Aamodt, 2010). The industrial and organizational sides focus on two distinct sets of problems. The *industrial* side involves matching employees to their jobs and uses psychological principles and methods to select employees and evaluate job performance. For this reason, the industrial side of I/O psychology is also sometimes referred to as personnel

clinical psychology

The diagnosis and treatment of mental, emotional, and behavioral disorders and the promotion of psychological health.

Challenge Your Assumptions

True or False? Psychology is made up of many different subfields.

True: Psychology has many subfields and is not just one overall discipline. Each subfield examines an important component of thought and behavior, such as cognition, personality, or social influence.

health psychology

The study of the role psychological factors play in regard to health and illness.

educational psychology

The study of how students learn, the effectiveness of particular teaching techniques, the social psychology of schools, and the psychology of teaching.

industrial/organizational (I/O) psychology

The application of psychological concepts and questions to work settings.



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The woman wearing goggles and headgear is being prepared for a neuroimaging exam in a neuroscience lab.