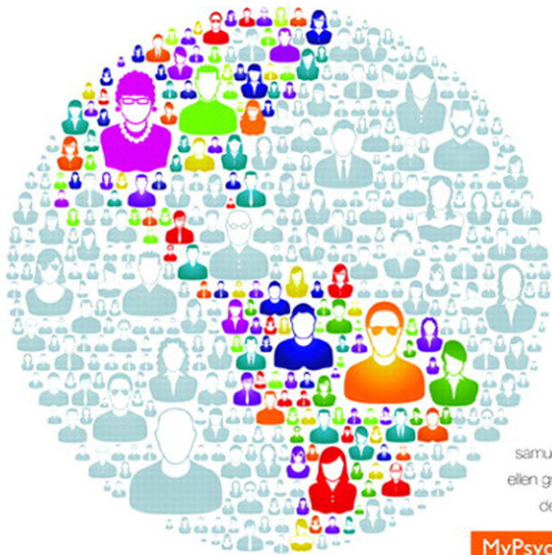


fifth edition

mastering the world of
psychology



samuel e. wood
ellen green wood
denise boyd

MyPsychLab®

fifth edition

mastering the world of psychology

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► *Houston Community College System*

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Preface

Why Do You Need This New Edition?

1. **Enhanced Pedagogical Program.** The SQ3R learning method continues to be the pedagogical foundation of *Mastering the World of Psychology*. In this edition, we have added new section reviews to encourage retrieval practice. We have made the instructions for SQ3R clearer and more concise and the Pearson eText contains an SQ3R study guide for each chapter to assist you in using this pedagogical method for effective studying.
2. **MyPsychLab Video Series.** This new series features over 100 original video clips covering the most recent research, science, and applications across the general psychology curriculum and utilizing the latest in film and animation technology. Each 4–6 minute video clip has automatically graded assessment questions tied to it. As you read, you will see cues that tell you which of these videos to watch to better grasp the concepts in the text or extend your learning beyond it. The information in one of the Chapter 1 videos, *Debunking Myths*, will help you put aside a few misconceptions that most people have about behavior and mental processes. One of the videos for Chapter 6, *Making It Stick*, will tell you how to sharpen your memory skills.
3. **New Remember It Feature.** At the end of each major section of each chapter, you will see a feature called *Remember It* that will help you assess how much information you retained while reading the section. Most of the questions in the *Remember Its* are fill-in-the-blank, so they'll challenge your memory and help you get ready to be tested.
4. **New MyPsychLab Writing Assignments.** Writing prompts in MyPsychLab provide instant feedback and give you the opportunity to practice writing while learning important psychological concepts. A collection of conceptual and applied writing prompts corresponding with videos from the MyPsychLab Video Series cover key concepts across the general psychology curriculum. This unique tool will give you instant feedback on both content and mechanics, allowing you to revise and improve your writing before receiving a final grade from your instructor.
5. **New and Expanded Coverage.** There is a wide range of new and expanded topics (including several hundred new research citations) covered in this edition, including, but not limited to, positive psychology (Chapter 1); the prefrontal cortex (Chapter 2); social perception (Chapter 3); “larks” and “owls” (Chapter 4); additive strategy for decision making (Chapter 7 emerging adulthood (Chapter 8); the complexities underlying correlations between socioeconomic status and health (Chapter 10); Maslow’s humanistic theory of personality (Chapter 11); and childhood disorders (Chapter 12). Please see the overview of changes and additions to each chapter on page xiii.

As psychology instructors, your backgrounds, experiences, and resources are as varied as those of your students. Each of you approaches the course with a unique set of challenges but with common goals: to provide students with a solid introduction to the diverse field of psychology; to show them how psychology applies to their lives; and to teach them how to think critically. We have designed the fifth edition of *Mastering the World of Psychology* to help you meet these goals.

Changes to the Fifth Edition

As with each edition, we have closely examined and thoroughly updated all aspects of the text’s content, organization, and pedagogy. All of our revisions were designed to create an engaging learning tool that gives students the support they need to succeed in the course. Among the improvements made to the fifth edition are the following:

- **Enhanced Pedagogical System:** SQ3R continues to be the pedagogical foundation of *Mastering the World of Psychology*. In the fifth edition, we have enhanced the SQ3R method by adding *Remember It* quizzes following each major section in the text. This helps students to periodically check their understanding of the material and to ensure they have mastered one section before moving on to the next.
- **Critical Thinking Questions:** We have added several writing prompts at the end of each chapter to encourage students to think critically about the material presented in the chapter. In each chapter, at least one of the prompts comes from the MyPsychLab Writing Assignments engine, which allows students to submit their responses for automated grading. This unique tool provides students with instant feedback on both content and mechanics, allowing them to revise and improve their writing before receiving a final grade from the instructor. Instructors are supplied with a numerical grade. In this way, *Mastering the World of Psychology* allows instructors the flexibility to incorporate writing in their course in the way that best suits their needs.
- **New Try-It Activities:** Some chapters contain new *Try It* activities, many of which have accompanying video clips.
- **New Video Integration:** References to relevant videos have been added to many of the feature boxes and in the margins throughout the text. These videos can be accessed on MyPsychLab or by clicking on the image in the eText. These videos enhance the material in the text and within the boxes, and allow students to experience and interact with the material in a different way.
- **Engaging, Current Examples:** To ensure that students identify with the material, examples have been updated and/or added throughout the text to both help students understand the material and to apply the material to their everyday lives.

Overview of Changes and Additions to Each Chapter

We have made a number of changes to improve the clarity of the discussions and overall flow of material. A number of new and expanded examples of difficult concepts provide students with additional support for connecting information in the text to real-world settings. We also increased the number of chapter cross-references in the text to heighten students’ awareness of interconnections among the major concepts that are taught in introductory psychology. We remain dedicated to citing current research and writing the most up-to-date text possible, while promoting an understanding of the foundation of psychology. Several hundred new research citations appear in the fifth edition to ensure that all presentations reflect

current thinking about the science of psychology. Here is a chapter-by-chapter list of the changes we have made in the fifth edition, along with the, MyPsychLab Video Series episodes and features for each chapter:

Chapter 1: Introduction to Psychology

- Streamlined SQ3R instructions
- New key term *positive psychology*
- MyPsychLab Video Series
 - *Debunking Myths*
 - *Making It Stick*
 - *Asking Tough Questions*
 - *Diverse Perspectives*
 - *How to Answer Psychological Questions*
 - *Thinking Critically*
 - *Speed Dating*
 - *Research Ethics*

Chapter 2: Biology and Behavior

- Expanded discussion of the prefrontal cortex
- New figure depicting the prefrontal cortex
- New *Try It* Mirror Tracing
- New key term *prefrontal cortex*
- MyPsychLab Video Series
 - *My Brain Made Me Do It*
 - *How the Brain Works Part 1*
 - *Neurotransmitters*
 - *How the Brain Works Part 2*
 - *The Pre-Frontal Cortex: The Good, the Bad, the Criminal*
 - *The Plastic Brain*
 - *Genetic Mechanisms and Behavioral Genetics*
 - *Epigenetics*
 - *Genes, Evolution, and Human Behavior*
 - *Taking Control of Our Genes*

Chapter 3: Sensation and Perception

- New *Try It* Absolute Threshold
- New figure illustrating amplitude
- New discussion of social perception
- New discussion of cross-modal perception
- New key term *mirror neuron system*
- MyPsychLab Video Series
 - *Taking in the World Around Us*
 - *Can Smells Alter Mood and Behavior?*
 - *In Full Appreciation of the Cookie*
 - *Managing Pain*
 - *The Myth of Multitasking*
 - *Recognizing Faces*
 - *Perceptual Magic in Art*

Chapter 4: Consciousness

- New *Think About It*: Are You a Lark or an Owl?
- New discussion of the contribution of individual differences in patterns of cortisol secretion to chronotypes (larks and owls)
- MyPsychLab Video Series
 - *States of Consciousness*
 - *Rhythms of Consciousness*
 - *Sleep, Memory, and Learning*
 - *Sleep Disorders*
 - *Altered States of Consciousness*
 - *The Uses and Limitations of Hypnosis*

Chapter 5: Learning

- New *Try It* Conditioned Eye Blink
- Expanded discussion of culture and punishment
- MyPsychLab Video Series
 - *What Does It Mean to Learn?*
 - *Classical Conditioning*
 - *Operant Conditioning*
 - *Physical Punishment-You Decide!*
 - *How to Make Healthier Choices*
 - *Learning Aggression*

Chapter 6: Memory

- New *Think About It*: Chunking
- New *Try It* Creating a False Memory
- New discussion of test anxiety as a context effect
- MyPsychLab Video Series
 - *The Woman Who Cannot Forget*
 - *Making It Stick*
 - *When Memory Fails*
 - *Do You Remember When...?*
 - *Police Line-Up*

Chapter 7: Cognition, Language, and Intelligence

- New *Try It* Using the Additive Strategy to Choose an Apartment
- New discussion of costs and benefits of using heuristics
- New key term *intellectual disability*
- MyPsychLab Video Series
 - *I Am, Therefore I Think*
 - *Mental Imagery: In the Mind's Eye*
 - *Making Choices*
 - *Changing Your Mind*
 - *Multilingualism: Speaking Your Mind*
 - *What Is Intelligence?*
 - *Theories of Intelligence*
 - *Intelligence Tests and Success*
 - *Intelligence Testing Then and Now*

- *How Resilient Are You?*
- *Intelligence Tests and Stereotypes*

Chapter 8: Human Development

- New *Think About It*: Emerging Adulthood
- New *Try It*: The Heinz Dilemma
- Gender dysphoria discussed in the context of typical gender development
- New discussion of emerging adulthood
- MyPsychLab Video Series
 - *Different Perspectives on the World*
 - *How Thinking Develops*
 - *Attachment*
 - *Risky Behavior and Brain Development*
 - *Smart Babies by Design*
 - *Parenting Styles and Socialization*
 - *Identity*

Chapter 9: Motivation and Emotion

- MyPsychLab Video Series
 - *Motivation and Emotion*
 - *Theories of Emotion and Motivation*
 - *Detecting Lies*
 - *Affective Forecasting*
 - *Eating Disorders*
 - *Meeting Our Needs*
 - *The Power of Sex*
 - *Sex and Gender Differences*
 - *Cultural Norms and Sexual Behavior*
 - *Sexual Orientation*
 - *Sexual Problems and Dysfunction*
 - *The Dating Game*

Chapter 10: Health and Stress

- New *Try It*: Personal Resilience Assessment
- MyPsychLab Video Series
 - *Health Psychology*
 - *Stress and Your Health*
 - *Health Disparities*
 - *Personality and Health*
 - *Reducing Stress, Improving Health*
 - *The Challenge of Quitting Bad Health Habits*

Chapter 11: Personality Theory and Assessment

- New *Think About It*: What Is Your Personality Like?
- New *Try It*: Personal Self-Esteem Assessment
- New *Try It*: What Is Your Locus of Control?
- Expanded coverage of Maslow's humanistic theory of personality
- MyPsychLab Video Series
 - *What Is Personality?*
 - *Personality Theories*
 - *Twins and Personality*
 - *Measuring Personality*
 - *Popular Personality Assessments*
 - *Psychological Resilience*

Chapter 12: Psychological Disorders

- New discussion of DSM-5
- Terminology modified to conform to DSM-5
- New section covering childhood disorders, including the pediatric bipolar disorder controversy
- MyPsychLab Video Series
 - *What Does It Mean to Have a Mental Disorder*
 - *Living with a Disorder*
 - *Diagnosing Mental Disorders*

Chapter 13: Therapies

- New research on the effects of nicotine and transcranial magnetic stimulation on symptoms of schizophrenia
- MyPsychLab Video Series
 - *Therapies in Action*
 - *Assessing Treatment Effectiveness*
 - *Cognitive Behavioral Therapy*
 - *Finding a Therapist If You Need One*

Chapter 14: Social Psychology

- New research on the comparative persuasiveness of online and television advertising, cross-cultural differences in attributions, and methodological problems with research on the influence of violent video games on players' behavior
- MyPsychLab Video Series
 - *The Social World*
 - *Under the Influence of Others*
 - *Mental Shortcuts in a Social Context*
 - *Changing Attitudes and Behaviors*
 - *Are Stereotypes and Prejudice Inevitable?*
 - *Attraction*
 - *Persuasion*

Our Commitment to Learning: SQ3R

The text's commitment to learning begins with the learning method called SQ3R. Made up of five steps—Survey, Question, Read, Recite, and Review—this method serves as the foundation for your students' success. Introduced in Chapter 1, the SQ3R method is integrated throughout the text to help students make the connection between psychology and life, while promoting a more efficient way to approach reading, studying, and test taking.


Among the key learning features that promote use of the SQ3R method are the following:

Learning Objectives Each chapter in this text is structured around specific learning objectives. These numbered learning objectives are stated as questions, because research shows that open-ended questions help readers locate critical information, process it deeply, and commit it to memory. The learning objectives appear in each chapter opener, in the margins of their corresponding sections, and again in the end-of-chapter Summary, to help focus students' attention on key information.

Key Terms Boldfaced key terms are highlighted in the text and defined in the margin on the page on which they first appear. A complete list of key terms, with page references, is supplied at the end of the chapter, and a complete Glossary can be found at the end of the text.

Summarize It These comprehensive summary tables help consolidate major concepts, their components, and their relationships to one another, providing students with a unique visual study tool.

Remember It These fill-in-the-blank quizzes appear at the end of every major section in the text allowing students to check their understanding of the material before moving on to the next section in the chapter.

 Watch the Video Episode 5: Big Picture: Taking in the World Around Us in MyPsychLab

3.1 What are the absolute and difference thresholds?

throughout the chapter. Before we consider perception, we will take a look at the process of sensation. 

The Absolute and Difference Thresholds

What is the softest sound you can hear, the dimmest light you can see, the most diluted substance you can taste? Researchers in sensory psychology have performed many experiments over the years to answer these questions. Their research has established

absolute threshold The minimum amount of sensory stimulation that can be detected 50% of the time.

measures for the senses known as absolute thresholds. Just as the threshold of a doorway is the dividing point between being outside a room and inside, the **absolute threshold** of a sense marks the difference between not being able to perceive a stimulus and being just barely able to perceive it. Psychologists have arbitrarily defined this absolute threshold as the minimum amount of sensory stimulation that can be detected 50% of the time. The absolute thresholds for vision, hearing, taste, smell, and touch are illustrated in Figure 3.1. You can experience an absolute threshold by doing

SUMMARIZE IT		Major Structures of the Visual System	
STRUCTURE		FUNCTION	
Cornea		Translucent covering on the front of the eyeball that bends light rays entering the eye inward through the pupil	
Iris		Colored part of the eye that adjusts to maintain a constant amount of light entering the eye through the pupil	
Pupil		Opening in the center of the iris through which light rays enter the eye	
Lens		Transparent disk-shaped structure behind the pupil that adjusts its shape to allow focusing on objects at varying distances	
Retina		Layer of tissue on the inner surface of the eye that contains sensory receptors for vision	
Rods		Specialized receptor cells in the retina that are sensitive to light changes	
Cones		Specialized receptor cells in the retina that enable humans to see fine detail and color in adequate light	
Fovea		Small area at the center of the retina, packed with cones, on which objects viewed directly are clearly and sharply focused	
Optic nerve		Nerve that carries visual information from the retina to the brain	
Blind spot		Area in each eye where the optic nerve joins the retinal wall and no vision is possible	

REMEMBER IT

Check your answers and take additional quizzes in MyPsychLab.com.  Study and Review on MyPsychLab

1. Taking in sensory information from the environment and transmitting it to the brain is called _____.
2. Interpreting sensory information is called _____.
3. The _____ threshold is the point at which you sense a stimulus 50% of the time.
4. The _____ threshold is the smallest increase or decrease in a physical stimulus that produces a difference in sensation 50% of the time.
5. _____ transmit sensory information from the sense organs to the brain.
6. _____ is the process in which sensory receptors grow accustomed to constant, unchanging stimuli over time.

Chapter Summary Organized around the learning objectives, each end-of-chapter Summary provides a comprehensive study tool as well as a quick reference to the chapter's key terms, which are listed alphabetically by section.

CHAPTER 3 SUMMARY		
THE PROCESS OF SENSATION (pp. 76–79)		
<p>3.1 What are the absolute and difference thresholds? (pp. 76–78)</p> <p>The absolute threshold is the minimum amount of sensory stimulation that can be detected 50% of the time. The difference threshold is a measure of the smallest increase or decrease in a physical stimulus that can be detected 50% of the time.</p>	<p>Key Terms</p> <p>sensation, p. 76 perception, p. 76 absolute threshold, p. 76 difference threshold, p. 77 just noticeable difference (JND), p. 77 Weber's law, p. 77</p>	
	<p>3.2 How does transduction change sensory information? (pp. 78–79)</p> <p>For each of the senses, the body has sensory receptors that detect and respond to sensory stimuli. Through the process of transduction, the receptors change the sensory stimuli</p>	<p>into neural impulses, which are then transmitted to precise locations in the brain.</p> <p>Key Terms</p> <p>sensory receptors, p. 78 transduction, p. 78 sensory adaptation, p. 79</p>
	<p>VISION (pp. 79–85)</p>	
	<p>3.3 How does each part of the eye function in vision? (pp. 79–81)</p> <p>The cornea bends light rays inward through the pupil—the small, dark opening in the eye. The iris dilates and contracts</p>	<p>two optic nerves come together, and some of the nerve fibers from each eye cross to the opposite side of the brain. They synapse with neurons in the thalamus, which transmit the neural impulses to the primary visual cortex.</p>

Chapter 3 Study Guide

Answers to all the Study Guide questions are provided at the end of the book.

SECTION ONE: Chapter Review

The Process of Sensation (pp. 76–79)

1. The process through which the senses detect sensory information and transmit it to the brain is called (sensation, perception).
2. The point at which you can barely sense a stimulus 50% of the time is called the (absolute, difference) threshold.
3. The difference threshold is the same for all individuals. (true/false)
4. Which of the following is not true of sensory receptors?
 - a. They are specialized to detect certain sensory stimuli.
 - b. They transduce sensory stimuli into neural impulses.
 - c. They are located in the brain.
 - d. They provide the link between the physical sensory world and the brain.

Hearing and Balance (pp. 85–90)

10. Pitch is chiefly determined by _____; loudness is chiefly determined by _____.
 - a. amplitude; frequency
 - b. wavelength; frequency
 - c. intensity; amplitude
 - d. frequency; amplitude
11. Pitch is measured in (decibels, hertz); loudness is measured in (decibels, hertz).
12. Match the part of the ear with the structures it contains.

_____ (1) ossicles	b. middle ear
_____ (2) pinna, auditory canal	
_____ (3) cochlea, hair cells	

 - a. outer ear
 - c. inner ear
13. The receptors for hearing are found in the
 - a. ossicles.
 - b. auditory canal.
 - c. auditory membrane.
 - d. cochlea.

Built-in Study Guide In addition to all of the SQ3R features in the text, each chapter concludes with a Study Guide, featuring multiple-choice, true/false, matching, critical thinking writing prompts, and application essay prompts. Answers to the Study Guide questions are located at the end of the text.

Learning through Application

To gain a full understanding of psychology, it is vital that students apply the principles they learn about in this course to their own life and the lives of others. We, the authors, have designed five features to help students accomplish this goal.

Think About It Each chapter opens with a *Think About It* feature that encourages students to become actively involved with the content right from the beginning of the chapter. These openers will invite students to complete an activity (i.e., a quiz, an experiment) that introduces the chapter content in a fun and an interesting way.

THINK ABOUT IT

Try standing on one foot like the woman in the accompanying illustration. You'll probably have no trouble maintaining your balance for at least 30 seconds. But what will happen if you try to maintain this position with your eyes closed? Try it and find out.

No doubt you found it more difficult to keep your balance with your eyes closed. Your body's system for maintaining balance is a complex one that depends on several types of input. As you just learned, visual input is critical. In fact, visual input is so important that doctors use the one-leg/eyes-closed test to assess neurological health (Chaitow & Delany, 2002). Because performance on the test normally declines as we get older (due to the aging of the cerebellum that we learned about in Chapter 2), it can also be used to determine whether your brain is aging normally. Studies suggest that, if you're between the ages of 20 and 49, and you can't maintain your balance on one foot with your eyes closed for at least



25 seconds, your brain might be aging more rapidly than those of your peers (Bohannon et al., 1984). But take heart, exercise regimens that emphasize balance, such as the ancient Chinese meditation practice of *Tai Chi*, which consists of slow, deliberate movements, can help to counteract the effects of aging (Fuzhong, Harner, Fisher, & McAuley, 2004).

Your body's ability to maintain its position is just one of many topics that we'll address as we explore the interactive processes of sensation and perception.

First, we'll consider the two dominant senses: vision and hearing. Then we'll turn our attention to the other senses: smell, taste, touch, pain, and balance. You will learn how the senses detect sensory information and how this sensory information is actively organized and interpreted by the brain.

Apply It This feature combines scientific research with practical advice to teach students how to improve their study habits or handle challenging situations that may arise in their personal, academic, or professional lives.

APPLY IT

How Dangerous Is It to Talk on a Cell Phone or Text while Driving?

When you read about the research demonstrating inattention blindness, did it raise your level of concern about the possible dangers of driving while talking or texting on a cell phone? Interestingly, surveys suggest that we are more concerned about other drivers' cell phone use than our own. In one study, researchers found that, although 94% of participants viewed texting while driving as dangerous and 87% support laws prohibiting it, some 35% admitted to having done so themselves (AAA Foundation for Traffic Safety, 2012). In another survey, just 6% of drivers reported that their cell phone use had caused them to get into a potentially dangerous situation on the road. Remarkably, when participants were asked whether another driver's cell phone use had ever put them at risk, 66% said yes (Troglauer, Hels, & Christens, 2006). As much as we would like to believe that cell phones affect other drivers' behavior but not our own, research clearly shows that talking or texting on a cell phone, or engaging in other kinds of attention-demanding tasks, results in potentially dangerous changes in our behind-the-wheel behavior.

Behavioral Effects of Cell Phone Use

Most experiments examining cell phone use while driving take place in laboratories in which participants use driving simulators. Experimental group participants talk, text on, or follow instructions to ignore e-mail alerts and other auditory signals emitted by the cell phone while driving, but those in the control groups do not have a cell phone in the driving environment. Studies of this type show that both cell phone use and ignored signals from cell phones affect drivers' behavior in the following ways (Beede & Kass, 2006; Harold et al., 2009; Holland & Rathod, 2012; Liu & Lee, 2006):

- Drivers slow down when using the phone.
- Drivers have slower reaction times when engaged in phone conversations or texting.
- Drivers who talk on a cell phone often fail to stay within the boundaries of the lane in which they are driving.
- Cell-phone-using drivers sometimes stop at green lights but drive through red lights and stop signs.
- Drivers who ignore auditory signals from cell phones have more collisions with pedestrians and other vehicles than drivers in phone-free driving environments do.

These effects have been observed just as often in studies using hands-free phones as conventional handheld models (Strayer & Drews, 2004). However, one study suggested that hands-free phone use gave drivers a false sense of safety (Langer, Holzner, Magnet, & Kopp, 2005). Thus, experimental studies show definitively that, on average, cell phone use impairs driving ability.

Compensating for the Effects of Cell Phone Use

Despite the clear findings of these studies, other research suggests that several factors help drivers compensate for the distractions associated with cell phone use (Hunton & Rose, 2005; Pöysti, Rajalin, & Summala, 2005; Shinar, Tractinsky, & Compton, 2005; Sullman, 2012). Here are a few of them:

- Experience with multitasking improves drivers' ability to juggle the demands of cell phone use and driving.
- Reducing other distractions, such as turning off the radio, helps drivers keep their minds on driving while also talking on the phone.
- Some drivers end a cell phone call with "I'll call you back later when I'm not driving," when they realize that the attentional demands of a specific conversation are incompatible with those of driving.

These findings show that drivers are well aware of the potentially risk-enhancing effects of behavior changes caused by distractions. As a result, they actively work to manage the number of demands on their attention while driving.

It's about Attention, Not Cell Phones

You may know from personal experience that several attention-demanding tasks impair driving behaviors just as much as cell phone use does. For example, talking to a passenger or searching for a radio station while driving produces the same kinds of detrimental effects on drivers' behavior as cell phone use (Amado & Ulupinar, 2005; Horberry et al., 2006; Sullman, 2012). Therefore, for drivers, the takeaway message from this chapter's discussion of inattention blindness is clear: When drivers pay attention to anything that is not relevant to the task of operating a vehicle—be it a cell phone, a radio, or a conversation with a passenger—they limit their ability to focus on driving. Consequently, the goal of anyone who is operating a vehicle ought to be to minimize distractions to as great a degree as possible:

- Texting is more dangerous than talking on a cell phone because you must divert your eyes from the road (Harrold et al., 2009). Therefore, experts recommend that drivers NEVER text while driving.
- If possible, drivers should pull off the road to talk on their cell phones.
- Radio station adjustments should be postponed until drivers are stopped at a red light or stop sign.
- Whenever passengers are distracting them, drivers should politely request that they refrain from talking.

By taking these measures, drivers will reduce their risk of missing important cues such as traffic lights and decrease the likelihood that they will, at best, get a traffic ticket, or, at worst, cause an accident. In addition, laws that restrict or prohibit the use of cell phones by drivers have been passed in several jurisdictions, so following these guidelines may prevent you from getting a ticket.



Try It This popular feature provides brief applied experiments, self-assessments, and hands-on activities, which help personalize psychology, making it simple for students to actively relate psychological principles to everyday life. For instance, students can find their absolute threshold for hair movement (Chapter 3) or take a quiz to find their life stress score (Chapter 10).


TRY IT

Absolute Threshold

You will need a partner for this activity. You will be the experimenter, and your partner will be the observer. Ask the observer to close his eyes (no peeking allowed!) and tell you when he feels something. Locate a small hair on the observer's forearm. Using a pencil or similar object with a very small point, and taking care not to touch the observer's skin, slowly move the hair until the observer notices the sensation. Now switch roles so that you can experience the other role. If you have an appropriate measuring device handy, you can repeat the procedure and measure how far the hair must be moved before the observer notices the sensation. The amount of movement required is the absolute threshold for hair movement.



Explain It This feature provides psychological explanations for some common everyday occurrences. For instance, “What does your credit score mean, and how is it used by lenders?” (Chapter 1) and “Why are some individuals drawn to dangerous hobbies like skydiving?” (Chapter 9).

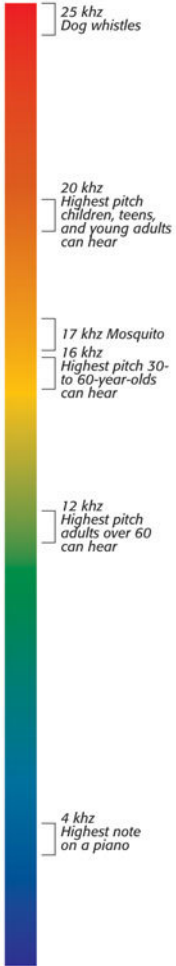

EXPLAIN IT

Why Can't Everyone Hear the “Mosquito” Ring Tone?

Have you ever tested your hearing to find out if you can hear the “Mosquito,” a tone with a frequency of about 17,000 Hz? If not, search online for “mosquito ringtone hearing test” and you’ll be directed to dozens of websites where you can do so. As the figure to the right suggests, the ability to hear the Mosquito declines with age. However, research suggests that the truth about age differences in sensitivity to the Mosquito is that the ability to hear it is nearly universal in the teens and early 20s but highly variable from the mid-20s on (Lawton, 2001). What accounts for the variability in sensitivity to high-pitched tones among adults?

The ability to hear high-pitched tones declines with age for a variety of reasons. A few conditions that are more common to middle-aged and older adults (e.g., excessive ear wax, chronic fluid in the ear, overgrowth of the bones in the inner ear) than to younger adults explain some of the decline (Mathur & Roland, 2009). However, hearing loss in adulthood often results from lifelong exposure to excessive noise. Noise above 85 decibels or so, if experienced repeatedly for long periods of time, damages the tiny hair cells inside the cochlea (Mathur & Roland, 2009). And the longer the exposure to excessive noise goes on, the more hearing people who are exposed to it lose. For instance, many long-time rock and pop musicians who are now in their middle- and late-adulthood years—Bono, Pete Townshend, Eric Clapton, Ozzy Osbourne, Ted Nugent, Phil Collins, Trent Reznor, to name a few—have much poorer hearing than others their age. Moreover, Townshend has reported that he began to notice his hearing loss when he was still in his 20s. Classical musicians who regularly play in orchestras show similar losses (Laitinen, 2005).


What can you do to increase your chances of maintaining the ability to hear the Mosquito and other high-pitched sounds, which happen to be critical to the ability to understand speech, for as long as possible? If you’re a musician, investigate hearing protectors that shield your inner ear from potentially damaging noise but still allow you to hear the sounds you need to in order to play and perform effectively. Even if you’re not a musician, you should be aware that regular use of headphones greatly increases your risk of suffering the kind of hearing loss that is common among professional musicians (Britt, 2006). To protect your hearing, adopt a practice that experts call the “60/60 rule”: Use headphones no more than a total of 60 minutes each day with the player set on 60% of its maximum volume (Fligor, 2010).



25 kHz	Dog whistles
20 kHz	Highest pitch children, teens, and young adults can hear
17 kHz	Mosquito
16 kHz	Highest pitch 30- to 60-year-olds can hear
12 kHz	Highest pitch adults over 60 can hear
4 kHz	Highest note on a piano

MyPsychLab Icons MyPsychLab icons—Watch, Listen, Explore, and Simulate—are integrated throughout the text in the margins—these icons highlight specific MyPsychLab assets that can be found online.

To access MyPsychLab, simply go to www.mypsychlab.com and enter your login name and password. First-time users of MyPsychLab can buy access here as well.

know, distinctive odors can serve as memory cues, both pleasant and unpleasant. For instance, the smell of peanut butter may transport you back to your elementary school lunchroom and, in turn, remind you either of the bully who stole your cookies or the best friend who sat next to you every day. 

You cannot smell a substance unless some of its molecules vaporize—that is, pass from a solid or liquid into a gaseous state. Heat speeds up the vaporization of mol-

 Watch the Video Episode 5: Thinking Like a Psychologist: Can Smells Alter Mood and Behavior? in MyPsychLab

A Complete Teaching and Learning Program

We have created a complete collection of resources for the fifth edition that will help you prepare for class, enhance your course presentations, and assess your students' understanding of the material.



MyPsychLab (www.mypsychlab.com). MyPsychLab is an online homework, tutorial, and assessment program that truly engages students in learning. It helps students better prepare for class, quizzes, and exams—resulting in better performance in the course. It provides educators a dynamic set of tools for gauging individual and class performance. And, MyPsychLab comes from Pearson—your partner in providing the best digital learning experiences. MyPsychLab for *Mastering the World of Psychology*, Fifth Edition contains the following learning tools and resources:

- **An Interactive eBook** with highlighting and note-taking features and powerful embedded media including over 100 simulations, more than 3,000 video clips (available in closed caption), dozens of podcasts, and an interactive timeline that presents the history of psychology.
- **Customized Study Plans and Assessments** allow students to take a Pre-Test to self-assess how much they already know about the topics in a section of the chapter they're working on. These Pre-Tests pair together with Post-Tests on the website to generate customized study plans and eBook self-assessments.
- **New! MyPsychLab Writing Assignments** give students the opportunity to practice writing while learning important psychological concepts. A collection of conceptual and applied writing prompts corresponding with videos from the MyPsychLab Video Series cover key concepts across the general psychology curriculum. This unique tool provides students with instant feedback on both content and mechanics, allowing them to revise and improve their writing before receiving a final grade from the instructor.
- **APA Learning Goals Assessment Bank:** For instructors interested in assessing their students progress against the APA Psychology Learning Goals and Outcomes, we have provided a separate bank of assessment items keyed specifically to those goals in MyPsychLab.
- **NEW! MyPsychLab Simulations** allow students to participate in online simulations of virtual classic psychology experiments and research-based inventories, helping to reinforce what they are learning in class and in their book.
- **A Gradebook for Instructors** as well as full course management capabilities for instructors teaching online or hybrid courses are included in the instructor version of MyPsychLab.
- **Audio Files of Each Chapter** benefit students who are blind and others who prefer sound-based materials, and conform to ADA guidelines.
- **New! Visual Brain** designed to help students better understand neuroanatomy, physiology, and human behavior.
- **Interactive Mobile-Ready Flash Cards** of the key terms from the text can be used by students to build their own stacks, print the cards, or export their flashcards to their cell phones.

You decide the extent of integration, from independent self-assessment for students to total course management. Students benefit

from an easy-to-use site at which they can test themselves on key content, track their progress, and create individually tailored study plans. By transferring faculty members' most time-consuming tasks—content delivery, student assessment, and grading—to automated tools, MyPsychLab allows you to spend more quality time with students.

Instructor's Resource DVD: Bringing all of the fifth edition's instructor resources together in one place, the Instructor's Resource DVD contains the following resources:

- **Hyperlinked Instructor's Manual:** The Instructor's Manual gives you unparalleled access to a huge selection of classroom-proven assets. First-time instructors will appreciate the detailed introduction to teaching the introductory psychology course, with suggestions for preparing for the course, sample syllabi, and current trends and strategies for successful teaching. Each chapter offers activities, exercises, assignments, handouts, and demos for in-class use, as well as guidelines for integrating media resources into the classroom and syllabus. The material is organized in an easy-to-use Chapter Lecture Outline. A unique hyperlinking system allows for easy reviewing of relevant sections and resources. The Instructor's Manual is also available for download from the Instructor's Resource Center at <http://www.pearsonhighered.com/irc>.
- **Test Bank:** Thoroughly revised and updated for the fifth edition, the Test Bank contains over 2,500 multiple-choice, fill-in-the-blank, short-answer, and essay questions, each referencing the relevant page in the text. Rationales for the correct answer in the conceptual and applied multiple-choice questions allow you to see the logic of the questions when reviewing them, making it easier to generate an answer key for your students if desired. Feedback from customers indicates that this unique feature is useful for ensuring quality and quick response to student queries. A two-page Total Assessment Guide chapter overview makes creating tests easier by listing all of the test items in an easy-to-reference grid. The Total Assessment Guide organizes all test items by text section and question type/level of difficulty. All multiple-choice questions are categorized as factual, conceptual, or applied. The Test Bank is also available for download from the Instructor's Resource Center at <http://www.pearsonhighered.com/irc>.
- **Interactive PowerPoint Slides:** Available on the Instructor's Resource DVD, these slides bring the design of *Mastering* right into the classroom, drawing students into the lecture and providing wonderful interactive activities and visuals. A video walk-through is available and provides clear guidelines on using and customizing the slides. The slides are built around the text's learning objectives and offer many links across 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:** These slides, presented in a more traditional format with excerpts of the text material and art work, are also available for download at <http://www.pearsonhighered.com/irc>.
- **Pearson MyTest Computerized Test Bank (www.pearsonmytest.com):** The fifth edition Test Bank comes with Pearson MyTest, a powerful assessment-generation program that helps instructors easily create and print quizzes and exams. You can do this online, allowing flexibility and the ability to efficiently manage assessments at any time. You can easily access existing questions and edit, create,

and store questions using the simple drag-and-drop and Word-like controls. Each question comes with information on its level of difficulty and related page number in the text, mapped to the appropriate learning objective. For more information, go to www.PearsonMyTest.com.

- **Classroom Response System (CRS) slides:** Classroom Response questions (“clicker” questions) created for *Mastering the World of Psychology*, are intended to be the basis of class discussions as well as lectures. Each student uses a personal remote or “clicker” to send immediate communication to the instructor. The system will gather the individual responses and show the compiled feedback for the class as a whole. Based on these results, you can then tailor the pace of each lecture, further explain difficult concepts if needed, and conduct in-class surveys, polls, and quizzes. Pearson offers exclusive, money-saving rebates with several CRS leading systems.
- **MyPsychLab Video Series (18 half-hour episodes):** Comprehensive, current, and cutting edge, the new MyPsychLab Video Series features over 100 original video clips covering the most recent research, science, and applications across the general psychology curriculum and utilizing the latest in film and animation technology. Each 4–6 minute video clip has automatically graded assessment questions tied to it. Each episode features several brief segments that bring psychology to life:
 - *The Big Picture* introduces the topic of the episode and provides the hook to draw students in.
 - *The Basics* uses the power of video to present foundational topics, especially those that typically trip up students.
 - *Special Topics* dives deeper into high-interest and often cutting-edge topics, and often features research in action.
 - *In the Real World* focuses on applications of psychological research.
 - *What’s in It for Me?* These narrated segments emphasize why students should care about the research and how it may have a real impact on their lives.

The Pearson MyPsychLab Video Series is only available to adopters of Pearson psychology textbooks. An Instructor’s Guide to the video series is also available to adopters.

Additional Course Management Resources:

- **Online Resource MyPsychLab for BlackBoard/MyPsychLab for WebCT** The customized BlackBoard cartridge and WebCT epack include the complete Test Bank, each chapter’s Learning Objectives, Glossary Flashcards, Chapter Summaries, a link to MyPsychLab, and Chapter Exams.
- Ask your Pearson representative about custom offerings for other learning management systems or visit www.mypsychlab.com for more information.

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And, last, to all the instructors and students who have taken time out of their busy lives to send along feedback about their experiences teaching and studying from *Mastering the World of Psychology*, we are grateful to you. Please feel free to write drdeniseboyd@sbcglobal.net with your comments about the text.

List of Features

APPLY IT

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 Should You Consult a Genetic Counselor? (Chapter 2)
 How Dangerous Is It to Talk on a Cell Phone or Text while Driving? (Chapter 3)
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 Interpreting Health Information on the Internet (Chapter 10)
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 Overcoming the Fear of Public Speaking (Chapter 12)
 Is E-therapy Right for You? (Chapter 13)
 "Unlearning" Prejudice (Chapter 14)

TRY IT

What Is the Third Variable Problem? (Chapter 1)
 Does Random Assignment Really Make Groups Equal? (Chapter 1)
 A Balancing Act (Chapter 2)
 Mirror Tracing (Chapter 2)
 Absolute Threshold (Chapter 3)
 Sensory Adaptation (Chapter 3)
 A Negative Afterimage (Chapter 3)
 Bottom-Up and Top-Down Processing (Chapter 3)
 Lucid Dreaming (Chapter 4)
 The Relaxation Response (Chapter 4)
 Classical Conditioning (Chapter 5)
 Using Behavior Modification (Chapter 5)
 Creating a False Memory (Chapter 6)
 A Penny for Your Thoughts (Chapter 6)
 Using the Additive Strategy to Choose an Apartment (Chapter 7)
 Water Lily Problem (Chapter 7)
 Find Your EQ (Chapter 7)
 Conservation of Volume (Chapter 8)
 The Heinz Dilemma (Chapter 8)
 Stereotypes about Later Adulthood (Chapter 8)
 What Is Your n Ach? (Chapter 9)
 Recognizing Basic Emotions (Chapter 9)
 Finding a Life Stress Score (Chapter 10)
 How Resilient Are You? (Chapter 10)
 AIDS Quiz (Chapter 10)
 How High Is Your Self-Esteem? (Chapter 11)
 What Is Your Locus of Control? (Chapter 11)
 Phobia Names (Chapter 12)
 A Possible Hierarchy of Fears (Chapter 13)
 Choosing a Life Partner (Chapter 14)

EXPLAIN IT

What Is a Credit Score? (Chapter 1)
 Why Are Most People Right-Handed? (Chapter 2)
 Why Can't Everyone Hear the "Mosquito" Ring Tone? (Chapter 3)
 How Does the Brain Keep Track of Time? (Chapter 4)
 How Do the Principles of Learning Explain the Behavior of Smoking Cigarettes? (Chapter 5)
 Why Is Cramming an Ineffective Study Method? (Chapter 6)
 Why Do People Overestimate the Likelihood of Rare Events? (Chapter 7)
 Why Are Peer Groups Important in Adolescence? (Chapter 8)
 Why Are Dangerous Hobbies Appealing to Some People? (Chapter 9)
 Why Do Pop Quizzes Facilitate Learning? (Chapter 10)
 How Personality Theories Answer the Question, "Why Do Some People Fail to Develop a Conscience?" (Chapter 12)
 How Do Cultural Beliefs about Ideal Emotional States Lead to Depression? (Chapter 11)
 Why Are Smoking Rates So High among People with Schizophrenia? (Chapter 13)
 Why Doesn't Groupthink Occur in Every Tightly Knit Group? (Chapter 14)

SUMMARIZE IT

The Goals of Psychology (Chapter 1)
 Contemporary Perspectives in Psychology (Chapter 1)
 Research Methods in Psychology (Chapter 1)
 Major Structures of the Visual System (Chapter 3)
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 Five Perspectives on Psychological Disorders (Chapter 12)
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About the Authors

Samuel E. Wood (deceased) received his doctorate from the University of Florida. He taught at West Virginia University and the University of Missouri–St. Louis and was a member of the doctoral faculty at both universities. From 1984 to 1996, he served as president of the Higher Education Center, a consortium of 14 colleges and universities in the St. Louis area. He was a cofounder of the Higher Education Cable TV channel (HEC-TV) in St. Louis and served as its president and CEO from its founding in 1987 until 1996.

Ellen Green Wood received her doctorate in educational psychology from St. Louis University and was an adjunct professor of psychology at St. Louis Community College at Meramec. She has also taught in the clinical experiences program in education at Washington University and at the University of Missouri–St. Louis. In addition to her teaching, Dr. Wood has developed and taught seminars on critical thinking. She received the Telecourse Pioneer Award from 1982 through 1988 for her contributions to the field of distance learning.

Denise Boyd received her Ed.D. in educational psychology from the University of Houston and has been a psychology instructor in the Houston Community College System since 1988. From 1995 until 1998, she chaired the psychology, sociology, and anthropology department at Houston Community College–Central. She has coauthored five other Pearson Allyn and Bacon texts: With Samuel Wood and Ellen Green Wood, *The World of Psychology* (Seventh Edition); with Helen Bee, *Lifespan Development* (Sixth Edition), *The Developing Child* (Thirteenth Edition), and *The Growing Child* (First Edition); and with Genevieve Stevens, *Current Readings in Lifespan Development*. A licensed psychologist, she has presented a number of papers at professional meetings, reporting research in child, adolescent, and adult development. She has also presented workshops for teachers whose students range from preschool to college.

Together, Sam, Evie, and Denise have several decades of experience teaching introductory psychology to thousands of students of all ages, backgrounds, and abilities. *Mastering the World of Psychology*, Fifth Edition, is the direct result of their teaching experience.

APA Correlation

The APA Guidelines for the Undergraduate Psychology Major				MyPsychLab Content	
APA Learning Outcomes	Number	Learning Objective	Book Learning Objectives	Book Features	Videos, Simulations, and Assessments
GOAL 1: Scientific Inquiry and Critical Thinking					
Understand scientific reasoning and problem solving, including effective research methods.					
1.1 Use scientific reasoning to interpret behavior	1.1a	Identify basic biological, psychological, and social components of behavioral explanations (e.g., inferences, observations, operational definitions, interpretations)	2.13, 2.14, 5.5	Chapter 2: Explain It: Why Are Most People Right-Handed?	Simulations: Implicit Association Test: Cats and Dogs Hemispheric Specialization Ambiguous Figures Weber's Law Müller-Lyer Illusion Learning Digit Span Serial Position Effect Depth of Processing Mental Rotation Selective Attention Stroop Effect Implicit Association Test: Food IPIP Neo Personality Inventory Video Series Basics: Scientific Research Methods Thinking Like a Psychologist: Thinking Critically The Pre-Frontal Cortex: The Good, the Bad, and the Criminal Evolutionary Psychology—Why We Do the Things We Do Can Smells Alter Mood and Behavior? The Uses and Limitations of Hypnosis Police Line-Up Babies by Design Speaking One's Mind Intelligence Tests and Success Predicting Future Emotion and Desire Measuring Personality Personality and Health Assessing Treatment Effectiveness
	1.1b	Use psychology concepts to explain personal experiences and recognize the potential for flaws in behavioral explanations based on simplistic, personal theories	3.6, 3.7, 3.8		
	1.1c	Use an appropriate level of complexity to interpret behavior and mental processes	1.9	Chapter 3: Try It: A Negative Afterimage	
	1.1d	Ask relevant questions to gather more information about behavioral claims	4.13, 10.17		
	1.1e	Describe common fallacies in thinking (e.g., confirmation bias, post hoc explanations, implying causation from correlation) that impair accurate conclusions and predictions	1.12, 3.18	Chapter 10: Try It: AIDS Quiz	
1.2 Demonstrate psychology information literacy	1.2a	Read and summarize general ideas and conclusions from psychological sources accurately	4.10, 4.11, 7.6, 13.16	Chapter 3: Explain It: Why Can't Everyone Hear the Mosquito Ring Tone	
	1.2b	Describe what kinds of additional information beyond personal experience are acceptable in developing behavioral explanations (i.e., popular press reports versus scientific findings)	3.19, 5.17	Chapter 7: Explain It: Why Do People Overestimate the Likelihood of Rare Events?	
	1.2c	Identify and navigate psychology databases and other legitimate sources of psychology information			
	1.2d	Articulate criteria for identifying objective sources of psychology information	9.7		
	1.2e	Interpret simple graphs and statistical findings	5.4	Chapter 7: Try It: Using the Additive Strategy to Choose an Apartment	

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The APA Guidelines for the Undergraduate Psychology Major					MyPsychLab Content
APA Learning Outcomes	Number	Learning Objective	Book Learning Objectives	Book Features	Videos, Simulations, and Assessments
1.3 Engage in innovative and integrative thinking and problem solving	1.3a	Recognize and describe well-defined problems	6.7, 6.8	Chapter 2: Try It: A Balancing Act	In the Real World: Neurotransmitters Taking Control of Our Genes Pain Management Sleep, Memory, and Learning The Memories We Don't Want Changing Your Mind Eating Disorders Putting Popular Personality Assessments to the Test Sexual Problems and Dysfunction Reducing Stress, Improving Health Cognitive Behavioral Therapy
	1.3b	Apply simple problem-solving strategies to improve efficiency and effectiveness	7.1, 7.2, 7.3		
	1.3c	Describe the consequences of problem-solving attempts		Chapter 2: Try It: Mirror Tracing	
1.4 Interpret, design, and conduct basic psychological research	1.4a	Describe research methods used by psychologists including their respective advantages and disadvantages	1.2, 1.10, 1.11, 7.4, 11.13		What's in It for Me?: The Myth of Multitasking Perceptual Magic in Art and Movies Altered States of Consciousness How to Make Healthier Choices Making It Stick Making Choices How Resilient Are You? Meeting Our Needs Psychological Resilience The Challenge of Quitting Bad Health Habits Finding a Therapist If You Need One
	1.4b	Discuss the value of experimental design (i.e., controlled comparisons) in justifying cause-effect relationships	1.13, 1.14	Chapter 1: Try It: Does Random Assignment Really Make Groups Equal?	
	1.4c	Define and explain the purpose of key research concepts that characterize psychological research (e.g., hypothesis, operational definition)	1.8	Chapter 1: Try It: What Is the Third Variable Problem?	
	1.4d	Replicate or design and conduct simple scientific studies (e.g., correlational or two-factor) to confirm a hypothesis based on operational definitions		Chapter 4: Try It: Lucid Dreaming; Chapter 6: Try It: A Penny for Your Thoughts	
	1.4e	Explain why conclusions in psychological projects must be both reliable and valid	11.14, 11.15		
	1.4f	Explain why quantitative analysis is relevant for scientific problem solving		Chapter 7: Try It: Water Lily Problem	
	1.4g	Describe the fundamental principles of research design	7.1		
1.5 Incorporate sociocultural factors in scientific inquiry	1.5a	Relate examples of how a researcher's value system, sociocultural characteristics, and historical context influence the development of scientific inquiry on psychological questions	9.14		
	1.5b	Analyze potential challenges related to sociocultural factors in a given research study	6.9		
	1.5c	Describe how individual and sociocultural differences can influence the applicability/generalizability of research findings	1.15	Chapter 3: Try It: Bottom-Up and Top-Down Processing; Chapter 8: Try It: The Heinz Dilemma	
	1.5d	Identify under what conditions research findings can be appropriately generalized		Chapter 8: Try It: Conservation of Volume	

The APA Guidelines for the Undergraduate Psychology Major				MyPsychLab Content	
APA Learning Outcomes	Number	Learning Objective	Book Learning Objectives	Book Features	Videos, Simulations, and Assessments
GOAL 2: Ethical and Social Responsibility					
Develop ethically and socially responsible behaviors for professional and personal settings.					
2.1 Apply ethical standards to psychological science and practice	2.1a	Describe key regulations in the APA Ethics Code for protection of human or nonhuman research participants	1.16		<p>Simulations Participating in a Research Survey</p> <p>Video Series</p> <p>Special Topics: Ethics and Psychological Research</p>
	2.1b	Identify obvious violations of ethical standards in psychological contexts	14.6	Chapter 6: Try It: Creating a False Memory	
	2.1c	Discuss relevant ethical issues that reflect principles in the APA Code of Ethics	5.3		
	2.1d	Define the role of the institutional review board			
2.2 Promote values that build trust and enhance interpersonal relationships	2.2a	Describe the need for positive personal values (e.g., integrity, benevolence, honesty, respect for human dignity) in building strong relationships with others	9.9	Chapter 8: Explain It: Why Are Peer Groups Important in Adolescence?	<p>Simulations Implicit Association Test: Sexuality Implicit Association Test: Prejudice</p> <p>Video Series</p> <p>Thinking Like a Psychologist: Physical Punishment—You Decide! Sexual Orientation Changing Attitudes and Behaviors</p> <p>In the Real World: Speed Dating Resolving Conflict Socialization Are Stereotypes and Prejudices Inevitable? How Am I Being Influenced? Learning Aggression</p> <p>What's in It for Me?: Identity The Dating Game Attraction Persuasion</p>
	2.2b	Treat others with civility	9.16, 13.14, 13.15		
	2.2c	Explain how individual differences, social identity, and world view may influence beliefs, values, and interaction with others and vice versa	9.6		
	2.2d	Maintain high standards for academic integrity, including honor code requirements			
2.3 Adopt values that build community at local, national, and global levels	2.3a	Identify human diversity in its many forms and the interpersonal challenges that often result from the diversity	6.16, 6.17, 7.8, 8.8	Chapter 9: Explain It: Why Are Dangerous Hobbies Appealing to Some People?	
	2.3b	Recognize potential for prejudice and discrimination in oneself and others	7.15, 9.12, 12.1, 14.7		
	2.3c	Explain how psychology can promote civic, social, and global outcomes that benefit others	5.12, 5.13, 10.10	Chapter 14: Apply It: Unlearning Prejudice	
	2.3d	Describe psychology-related issues of global concern (e.g., poverty, health, migration, human rights, international conflict, sustainability)	4.15, 5.9, 5.11, 8.18, 8.19, 8.20, 9.11, 10.12, 14.16, 14.17	Chapter 5: Explain It: How Do the Principles of Learning Explain the Behavior of Smoking Cigarettes?	
	2.3e	Articulate psychology's role in developing, designing, and disseminating public policy	7.13, 7.14, 10.9		
	2.3f	Accept opportunity to serve others through civic engagement, including volunteer service	14.14, 14.15		

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The APA Guidelines for the Undergraduate Psychology Major				MyPsychLab Content	
APA Learning Outcomes	Number	Learning Objective	Book Learning Objectives	Book Features	Videos, Simulations, and Assessments
GOAL 3: Communication					
Demonstrate competence in written, oral, and interpersonal communication skills and be able to develop and present a scientific argument.					
3.1 Demonstrate effective writing in multiple formats	3.1a	Express ideas in written formats that reflect basic psychological concepts and principles	6.5, 6.6	Think About It, Remember It	Writing Assignments Diagnosing Anxiety Designing an Experiment Parts of the Brain on Pizza Night Musical Talent as a Heritable Trait The Gestalt Perspective Effects of Sleep Deprivation in College
	3.1b	Recognize writing content and format differ based on purpose (e.g., blogs, memos, journal articles) and audience		Think About It, Remember It	Operant Conditioning and Weight Loss Memory and Study Strategies Describing Thinking Patterns with Piaget's Theory of Cognitive Development
	3.1c	Use generally accepted grammar		Think About It, Remember It	Mental Sets and Studying a Foreign Language
	3.1d	Describe how writing using APA writing style is different from regular writing or writing in other conventions			Exploring Gardner's Types of Intelligence
	3.1e	Recognize and develop overall organization (e.g., beginning, development, ending) that fits the purpose			Describing Theories of Emotion Describing Theories of Personality Comparing Gender Concepts Analyzing Stress Assessing Work Environments and Motivation Discussing Prejudice and Discrimination
	3.1f	Interpret quantitative data displayed in statistics, graphs, and tables, including statistical symbols in research reports	7.7	Chapter 1: Explain It: What Is a Credit Score?	Considering Schizophrenia Comparing Psychotherapy Approaches
	3.1g	Use expert feedback to revise writing of a single draft			
3.2 Exhibit effective presentation skills in multiple formats	3.2a	Construct plausible oral argument based on a psychological study			
	3.2b	Deliver brief presentations within appropriate constraints (e.g., time limit, appropriate to audience)		Chapter 12: Apply It: Overcoming the Fear of Public Speaking	
	3.2c	Describe effective delivery characteristics of professional oral performance			
	3.2d	Incorporate appropriate visual support			
	3.2e	Pose questions about psychological content	2.1, 2.2, 4.14	Chapter 13: Explain It: Why Are Smoking Rates So High among People with Schizophrenia?	
3.3 Interact Effectively with Others	3.3a	Identify key message elements in communication through careful listening			
	3.3b	Recognize that culture, values, and biases may produce misunderstandings in communication	7.17		
	3.3c	Attend to language and nonverbal cues to interpret meaning	7.16	Chapter 7: Apply It: How to Build a Powerful Vocabulary	
	3.3d	Ask questions to capture additional detail			
	3.3e	Respond appropriately to electronic communications		Chapter 10: Apply It: Interpreting Health Information on the Internet	

The APA Guidelines for the Undergraduate Psychology Major				MyPsychLab Content	
APA Learning Outcomes	Number	Learning Objective	Book Learning Objectives	Book Features	Videos, Simulations, and Assessments
GOAL 4: Professional Development					
Apply psychology-specific content and skills, effective self-reflection, project management skills, teamwork skills, and career preparation to support occupational planning and pursuit.					
4.1 Apply psychological content and skills to professional work	4.1a	Recognize the value and application of research and problem-solving skills in providing evidence beyond personal opinion to support proposed solutions	14.1		Video Series Surveys: Which Sense Do You Use? Do You Fly or Fight? What Altered States Have You Experienced? Are Dreams Meaningful? What Drugs Have You Used? What Learning Techniques Do You Use? What Do You Remember? What Has Your Father Done for You? What Is Creativity? What Is Intelligence? How to Deal with Your Emotions? What Motivates You? What Has Shaped Your Personality? How Does Gender Affect You? Will This Survey Stress You Out? Could You Be a Hero? Are You Normal? How Do You Take Care of Your Mental Health?
	4.1b	Identify range of possible factors that influence beliefs and conclusions	14.2, 14.12		
	4.1c	Expect to deal with differing opinions and personalities in the college environment	7.12		
	4.1d	Describe how psychology’s content applies to business, healthcare, educational, and other workplace settings	2.11, 2.12	Chapter 5: Try It: Using Behavior Modification	
	4.1e	Recognize and describe broad applications of information literacy skills obtained in the psychology major			
	4.1f	Describe how ethical principles of psychology have relevance to non-psychology settings		Chapter 11: Explain It: How Personality Theories Answer the Question, “Why Do Some People Fail to Develop a Conscience?”	
4.2 Exhibit self-efficacy and self-regulation	4.2a	Recognize the link between effort and achievement	9.1, 9.2	Chapter 6: Explain It: Why Is Cramming an Ineffective Study Method?	
	4.2b	Accurately self-assess performance quality by adhering to external standards (e.g., rubric criteria, teacher expectations)	11.12	Chapter 6: Apply It: Improving Memory; Chapter 10: Explain It: Why Do Pop Quizzes Facilitate Learning?	
	4.2c	Incorporate feedback from educators and mentors to change performance	14.11	Chapter 7: Try It: Find Your EQ	
	4.2d	Describe self-regulation strategies (e.g., reflection, time management)	1.1	Chapter 1: Apply It: More Tips for Effective Studying; Chapter 11: Try It: What Is Your Locus of Control?	
4.3 Refine project management skills	4.3a	Follow instructions, including timely delivery, in response to project criteria			
	4.3b	Identify appropriate resources and constraints that may influence project completion			
	4.3c	Anticipate where potential problems can hinder successful project completion	10.4	Chapter 5: Apply It: How to Win the Battle against Procrastination	
	4.3d	Describe the processes and strategies necessary to develop a project to fulfill its intended purpose		Chapter 9: Try It: What Is Your <i>n</i> ACH?	

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The APA Guidelines for the Undergraduate Psychology Major				MyPsychLab Content	
APA Learning Outcomes	Number	Learning Objective	Book Learning Objectives	Book Features	Videos, Simulations, and Assessments
4.4 Enhance teamwork capacity	4.4a	Collaborate successfully on small group classroom assignments	14.8		
	4.4b	Recognize the potential for developing stronger solutions through shared problem solving	14.9	Chapter 14: Explain It: Why Doesn't Groupthink Occur in Every Tightly Knit Group?	
	4.4c	Articulate problems that develop when working with teams	6.11		
	4.4d	Assess one's strengths and weaknesses in performance as a project team member	10.2		
	4.4e	Describe strategies used by effective group leaders	10.3		
	4.4f	Describe the importance of working effectively in diverse environments	14.1		
4.5 Develop meaningful professional direction for life after graduation	4.5a	Describe the types of academic experiences and advanced course choices that will best shape career readiness	1.7		
	4.5b	Articulate the skills sets desired by employers who hire people with psychology backgrounds	9.3, 13.13, 14.13	Chapter 8: Apply It: Where Are You in the Career Development Process?	
	4.5c	Recognize the importance of having a mentor	5.16		
	4.5d	Describe how a curriculum vitae or resume is used to document the skills expected by employers		Chapter 11: Apply It: Put Your Best Foot Forward	
	4.5e	Recognize how rapid social change influences behavior and affects one's value in the workplace			
GOAL 5: Knowledge Base in Psychology					
Demonstrate fundamental knowledge and comprehension of major concepts, theoretical perspectives, historical trends, and empirical findings to discuss how psychological principles apply to behavioral problems.					
5.1 Describe key concepts, principles, and overarching themes in psychology	5.1a	Use basic psychological terminology, concepts, and theories in psychology to explain behavior and mental processes	2.6, 2.7, 3.3, 3.4, 3.5, 3.15, 3.16, 3.17, 5.10, 7.5, 8.6, 8.9, 9.8, 9.10, 9.13, 10.1, 10.15, 11.8, 12.3, 12.4, 12.5, 12.6, 12.13, 12.14, 13.4, 13.5, 14.3		Video Series
	5.1b	Explain why psychology is a science with the primary objectives of describing, understanding, predicting, and controlling behavior and mental processes	1.3, 2.3, 2.4, 2.5, 3.1, 3.2, 4.1, 4.5, 4.6, 5.2, 6.1, 6.2, 6.3, 6.4, 6.13, 8.11, 8.14, 12.7, 12.8	Chapter 3: Try It: Sensory Adaptation	The Big Picture: Asking the Tough Questions How to Answer Psychological Questions My Brain Made Me Do It Genes, Evolution, and Human Behavior Taking in the World Around Us States of Consciousness What Does It Mean to Learn? The Woman Who Cannot Forget Different Perspectives on the World I Am, Therefore I Think What Is Intelligence? Motivation and Emotion What Is Personality?
	5.1c	Interpret behavior and mental processes at an appropriate level of complexity	3.9, 3.10, 3.11, 12.11, 12.12		
	5.1d	Recognize the power of the context in shaping conclusions about individual behavior	4.7		

The APA Guidelines for the Undergraduate Psychology Major				MyPsychLab Content	
APA Learning Outcomes	Number	Learning Objective	Book Learning Objectives	Book Features	Videos, Simulations, and Assessments
	5.1e	Identify fields other than psychology that address behavioral concerns	6.12, 6.14, 6.15, 8.5, 8.15, 12.2, 12.18, 12.19, 13.11, 13.12		The Power of Sex Health Psychology The Social World What Does It Mean to Have a Mental Disorder?
5.2 Develop a working knowledge of the content domains of psychology	5.2a	Identify key characteristics of major content domains in psychology (e.g., cognition and learning, developmental, biological, and sociocultural)	2.8, 2.9, 2.10, 6.10, 11.10		Basics: Diverse Perspectives How the Brain Works Genetic Mechanisms and Behavioral Genetics
	5.2b	Identify principle research methods and types of questions that emerge in specific content domains	4.3, 4.4, 11.6	Chapter 4: Explain It: How Does the Brain Keep Track of Time?	In Full Appreciation of the Cookie Rhythms of Consciousness Classical Conditioning: An Involuntary Response
	5.2c	Recognize major historical events, theoretical perspectives, and figures in psychology and their link to trends in contemporary research	1.4, 1.5, 1.6, 5.1, 5.7, 5.15, 7.9, 7.11, 8.1, 8.2, 8.3, 8.4, 9.4, 10.7, 11.1, 11.2, 11.5, 11.7, 11.11, 13.1, 13.2, 13.3, 13.9, 14.5		Operant Conditioning: Learning from Consequences Do You Remember When...? How Thinking Develops Attachment The Mind Is What the Brain Does
	5.2d	Provide examples of unique contributions of content domain to the understanding of complex behavioral issues	5.8, 8.12, 11.3, 11.4		Theories of Intelligence Theories of Emotion and Motivation Personality Theories
	5.2e	Recognize content domains as having distinctive sociocultural origins and development	4.2, 8.7, 8.10, 11.9	Chapter 12: Try It: Phobia Names	Sex and Gender Differences Stress and Your Health Under the Influence of Others
5.3 Describe applications that employ discipline-based problem solving	5.3a	Describe examples of relevant and practical applications of psychological principles to everyday life	5.6, 8.13, 9.5, 10.5, 10.6, 10.8	Chapter 2: Apply It: Should You Consult a Genetic Counselor?; Chapter 4: Apply It: How to Get a Good Night's Sleep; Chapter 4: Try It: The Relaxation Response; Chapter 13: Try It: A Possible Hierarchy of Fears; Chapter 13: Apply It: Is E-Therapy Right for You?; Chapter 14: Try It: Choosing a Life Partner	Living with a Disorder Therapies in Action Special Topics: The Plastic Brain Epigenetics: A Revolutionary Science Recognizing Faces Sleep Disorders Learning to Overcome Phobias When Memory Fails Risky Behavior and Brain Development
	5.3b	Summarize psychological factors that can influence the pursuit of a healthy lifestyle	4.8, 4.12, 10.13, 10.14, 10.16, 14.4	Chapter 10: Try It: Finding a Life Stress Score	Mental Imagery: In the Mind's Eye Intelligence Testing, Then and Now Detecting Lies Twins and Personality
	5.3c	Correctly identify antecedents and consequences of behavior and mental processes	3.12, 3.14, 4.16, 4.17, 4.18, 7.7, 12.9, 12.10, 12.15, 12.16, 12.17, 13.6, 13.7, 13.8, 13.10	Chapter 12: Explain It: How Do Cultural Beliefs about Ideal Emotional States Lead to Depression?	Cultural Norms and Sexual Behavior Health Disparities Mental Shortcuts in a Social Context
	5.3d	Predict how individual differences influence beliefs, values, and interactions with others, including the potential for prejudicial and discriminatory behavior in oneself and others	3.13, 5.14, 8.16, 8.17, 9.15, 10.11, 14.18, 14.19	Chapter 8: Try It: Stereotypes about Later Adulthood	Diagnosing Mental Disorders

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Introduction to Psychology

1

An Introduction to *Mastering the World of Psychology* (pp. 2–7)

- 1.1 How will the SQ3R method help you master psychology?
- 1.2 Why do psychologists use the scientific method?
- 1.3 What are the goals of psychology?

Psychology Then and Now (pp. 7–15)

- 1.4 What did the early psychologists contribute to the field?
- 1.5 What are the major schools of thought in psychology?
- 1.6 What are the seven contemporary psychological perspectives?
- 1.7 What specialty areas exist in psychology?

Thinking about Theories and Research (pp. 16–17)

- 1.8 How do psychologists evaluate theories?
- 1.9 How will critical thinking help you evaluate research?

Descriptive Research Methods (pp. 18–22)

- 1.10 What are the pros and cons of observational and case studies?
- 1.11 How do researchers design useful surveys?
- 1.12 What are the strengths and weaknesses of the correlational method?

The Experimental Method (pp. 23–27)

- 1.13 How do researchers use experiments to test causal hypotheses?
- 1.14 What are the limitations of the experimental method?

Research Participants (pp. 27–30)

- 1.15 How can participants' characteristics influence a study's usefulness?
- 1.16 How do researchers protect human participants' and animals' rights?

The SQ3R method will help you maximize your learning in five steps:

- Survey
- Question
- Read
- Recite
- Review

The sticky notes in Chapter 1 will help you master this learning system so that you can use it on your own in the remaining chapters.



**THINK ABOUT IT**


Here you are taking your first psychology course and wondering what it's all about. When you focus on the word *psychology*, what ideas spring to mind as you concentrate? Do terms such as *therapy*, *brain*, *psychological disorder*, *emotion*, and *hypnosis* come to mind? Your introductory psychology course will touch on all of these concepts, but it will also help you learn how to deal with pressing practical issues in your everyday life. How can you study more effectively? (You can start answering this one by reading the *Apply it* section on page 4.) How can you know which career is right for you? How can you solve conflicts and maintain satisfying relationships with others? These are the kinds of practical questions that a good understanding of psychology can help you answer?

Let's begin your exploration of psychology with an assessment of how much you already know, or think you know, about the topic:

Indicate whether each statement is true (T) or false (F).

1. Once damaged, brain cells never work again.
2. All people dream during a night of normal sleep.
3. As the number of bystanders at an emergency increases, the time it takes for the victim to get help decreases.

4. Humans do not have a maternal instinct.
5. It's impossible for human beings to hear a watch ticking 20 feet away.
6. Eyewitness testimony is often unreliable.
7. Chimpanzees have been taught to speak.
8. Creativity and high intelligence do not necessarily go together.
9. When it comes to close personal relationships, opposites attract.
10. The majority of teenagers have good relationships with their parents.

You may be surprised to learn that all the odd-numbered items are false, and all the even-numbered items are true. Learning all you can from this text is a good first step toward a better understanding of behavior and mental processes. The text's features will help you learn because they are part of a systematic—that is, a goal-oriented, planned, and effortful—way of studying. Similarly, the procedures that scientists use yield reliable answers to questions about behavior and mental processes because they are part of a systematic approach to what some philosophers deem to be the primary goal of science: to search for truth (Popper, 1972). 

 **Watch** the Video Episode 1: *Thinking Like a Psychologist: Debunking Myths* in **MyPsychLab**

SQ3R method A study method involving the following five steps: (1) survey, (2) question, (3) read, (4) recite, and (5) review.

1.1 How will the SQ3R method help you master psychology?



An Introduction to *Mastering the World of Psychology*

A Ugandan expression says, “The hunter in pursuit of an elephant does not stop to throw stones at birds.” In other words, to achieve any goal, including succeeding in a psychology course, one must remain focused on it. The study strategies we have incorporated into *Mastering the World of Psychology* can help you stay focused on your goal of successfully completing your course in introductory psychology. Here is how the features of the text can help you.

Studying Psychology: Some Tricks of the Trade

To help you maximize your learning, *Mastering the World of Psychology* includes a set of tried and true study strategies—*Survey*, *Question*, *Read*, *Recite*, and *Review*—that are collectively known as the **SQ3R method** (Robinson, 1970). Here's how to make the most of the SQ3R features that we have included in *Mastering the World of Psychology*:

STEP 1: Survey. The goal of the survey step is to get the chapter's “big picture,” a mental map of what it's all about. That's the purpose of the list of learning questions at the beginning of each chapter. The questions give you a blueprint to use as you navigate through the chapter and tell you what you will learn in each section. Use the learning questions to create a note-taking outline that you will fill in as you read the chapter. Next, look over the major elements of the chapter. These elements include the chapter-opening activity called *Think About It*, the section headings, *Summarize It* tables, *Try It* activities, *Explain It* boxes, and *Apply It* boxes. You should also survey the learning questions in the margins by each subheading (the same questions that are listed at the beginning of the chapter) and the boldfaced terms that are also in the margins. Next, skim over the *Chapter Summary*. It includes answers for all the learning questions. Next, do the *Think About It* activity at the beginning of the chapter, keeping in mind the mental overview of the chapter that you constructed with the help of the learning questions. Now you're ready to start working your way through the chapter.

STEP 2: Question. Do the Question step as you come to each subheading in the chapter. This step has two parts: First, read the learning question in the margin.

Step 1: Survey

- Read over the learning objectives in the outline at the beginning of the chapter.
- Look over the other major elements of the chapter. They include the following:
 - Think About It chapter opener
 - Key terms
 - Summarize It tables
 - Try It activities
 - Explain It boxes
 - Apply It boxes
- Skim the Chapter Summary.
- Create note-taking outline you'll use as you read the chapter. Your outline will include these elements:
 - The titles and main ideas of the chapter's sections
 - The learning questions each section answers
- Do the Think About It activity at the beginning of the chapter.

For instance, the learning question for this subsection is “How will the SQ3R method help you master psychology?” Next, think of additional questions you have about the topic and add them to the note-taking outline you created notes in the Survey step.

STEP 3: Read. Read the text under each subheading, keeping in mind the learning question and your own questions. Use the *Apply It* boxes, *Try It* activities, *Explain It* boxes, and *Summarize It* tables, if any are present, to help you understand the section.

STEP 4: Recite. When you finish reading each subsection, answer its learning question and your own questions aloud in your own words. Jot your answers, along with brief definitions for the section’s key terms, in your outline. When you’re finished, look back at the section to see if you’ve missed anything and modify your notes if necessary. Repeat this process for each subsection and you’ll end up with a well-organized set of notes on the entire chapter.

STEP 5a: Review I. To be sure you’ve understood each major section before you move on to the next one, answer the Remember It questions. You should find many of the answers in your notes. If you don’t, you should probably go back and revise them. Next, log on to MyPsychLab and take the section’s Quick Review quiz. Research shows that repeated testing is one of the most effective study strategies you can use (Karpicke, Butler, & Roediger, 2009).

STEP 5b: Review II. After you have worked your way through the all the major sections, you need to review the entire chapter to be sure that you’re ready to be tested on it. Begin by reading the *Chapter Summary* and comparing it to your notes. Revise your notes if necessary. Next, complete the Study Guide and check your answers against the key in the back of the book. Revisit your notes and restudy the parts of the chapter you scored the lowest on in the Study Guide. Finally, take the chapter Practice Test in the back of the book or log on to MyPsychLab to take the online Chapter Exam. Reread the parts of the chapter that relate to any questions that you miss, and be sure that you understand where you went wrong. At this point, you should be feeling confident about your mastery of the chapter.

Now that you know how to study this text effectively, let’s consider in more detail what impact the work of psychologists has on our everyday lives. Before we begin, think about all of the ways in which psychology—and the language of psychology—plays an integral role in our lives.

Is Psychology a Science? ▶

Psychology is defined as the scientific study of behavior and mental processes. If you are like most people, you have made many observations about both and perhaps have developed a few of your own theories to explain them. From television, radio, or the Internet, you probably also have had some exposure to “expert” opinions on behavior and mental processes. In fact, those may be the very sources that led you astray on the quiz at the beginning of the chapter.

Many people believe that a field is a science because of the nature of its body of knowledge. Few people question whether physics, for example, is a true science. But a science isn’t a science because of its subject matter. A field of study qualifies as a science if it uses the scientific method to acquire knowledge. The **scientific method** consists of the orderly, systematic procedures that researchers follow as they identify a research problem, design a study to investigate the problem, collect and analyze data, draw conclusions, and communicate their findings. The knowledge gained is dependable because of the method used to obtain it. The scientific method includes the following steps:

- Step 1: Observe and theorize
- Step 2: Formulate a hypothesis
- Step 3: Design a study

Step 2: Question

Use the question step for each subheading in the chapter. It has two parts:

- Read the learning question in the margin.
- Think of additional questions you have about the topic.

Step 3: Read

Read the text under each subheading and be sure you understand it before you go on to the next one. As you read:

- Keep the learning question in mind.
- Keep your own questions in mind.
- Use the Apply It boxes, Try It activities, Explain It boxes, and Summarize It tables, if any are present, to help you understand the subsection.

Step 4: Recite

When you finish reading each section:

- Answer the learning question and your own questions aloud in your own words.
- Add the answers to your outline.
- Look back at the section to see if you’ve missed anything.
- Modify your outline if necessary. Repeat this process for each subsection and you will end up with a well-organized set of notes on the entire chapter.

1.2 Why do psychologists use the scientific method?

psychology The scientific study of behavior and mental processes.

scientific method The orderly, systematic procedures that researchers follow as they identify a research problem, design a study to investigate the problem, collect and analyze data, draw conclusions, and communicate their findings.

APPLY IT

More Tips for Effective Studying

Decades of research on learning and memory have uncovered a number of strategies that you can use, in addition to the SQ3R method, to make your study time more efficient and effective.

- Establish a quiet place, free of distractions, where you do nothing else but study. You can condition yourself to associate this environment with studying, so that entering the room or area will be your cue to begin work.
- Schedule your study time. Research on memory has proven that spaced learning is more effective than massed practice (cramming). Instead of studying for five hours straight, try five study sessions of one hour each.
- To be prepared for each class meeting, set specific goals for yourself each week and for individual study sessions. Your goals should be challenging but not overwhelming. If the task for an individual study session is manageable, it will be easier to sit down and face it. Completing the task you have set for yourself will give you a sense of accomplishment.
- The more active a role you play in the learning process, the more you will remember. Spend some of your study time reciting rather than rereading the material. One effective method is to use index cards as flash cards. Write a key term or study question on the front of each card. On the back, list pertinent information from the text and class lectures. Use these cards to help you prepare for tests.
- *Overlearning* means studying beyond the point at which you can just barely recite the information you are trying to memorize. Review the information

again and again until it is firmly locked in memory. If you are subject to test anxiety, overlearning will help.

- Forgetting takes place most rapidly within the first 24 hours after you study. No matter how much you have studied for a test, always review shortly before you take it. Refreshing your memory will raise your grade.
- Sleeping immediately after you study will help you retain more of what you have learned. If you can't study before you go to sleep, at least review what you studied earlier in the day. This is also a good time to go through your index cards.
- Test, retest, and test again! A great deal of research indicates that testing and retesting yourself over material you have read enhances your ability to recall it when you are tested. For this reason, use all of the self-testing tools we have included in the text as well as those that are available on MyPsychLab.

Once you've mastered these study strategies, use them to improve your comprehension and success in all of your courses.



 Watch on MyPsychLab

 Watch the Video Episode 6: What's in It for Me? Making It Stick in MyPsychLab

- Step 4: Collect data
- Step 5: Apply results to the hypothesis

We describe each of these steps in detail in the following section and Figure 1.1 on page 5 will help you visualize the process.

STEP 1: Observe and Theorize. The first step in the scientific method is an interactive one in which a researcher observes some phenomenon and *theorizes*, or develops a hunch, about what might have led to it. For instance, suppose a psychologist observes students playing video games on a big-screen TV in a student lounge and notices that the men tend to get higher scores than the women do. She might speculate that this gender difference results from differences in the amount of time that men and women spend playing video games. In other words, her hunch is that, in general, men get higher scores on video games because they practice more than women do. Such hunches are often derived from a psychological **theory**, a general principle or set of principles proposed to explain how a number of separate facts are related. In our example, the researcher's hunch seems to be based on a theory that emphasizes the role of experience in shaping behavior; that is, her theory proposes that the more experience people have doing something, the better they are at it.

STEP 2: Formulate a Hypothesis. Based on her hunch about the cause of gender differences in video game scores, the researcher next comes up with a **hypothesis**, a specific prediction that can be tested *empirically*—that is, with data. Although the researchers' theory suggests many possible hypotheses, one, in particular, is key

theory A general principle or set of principles proposed to explain how a number of separate facts are related.

hypothesis A testable prediction about the conditions under which a particular behavior or mental process may occur.

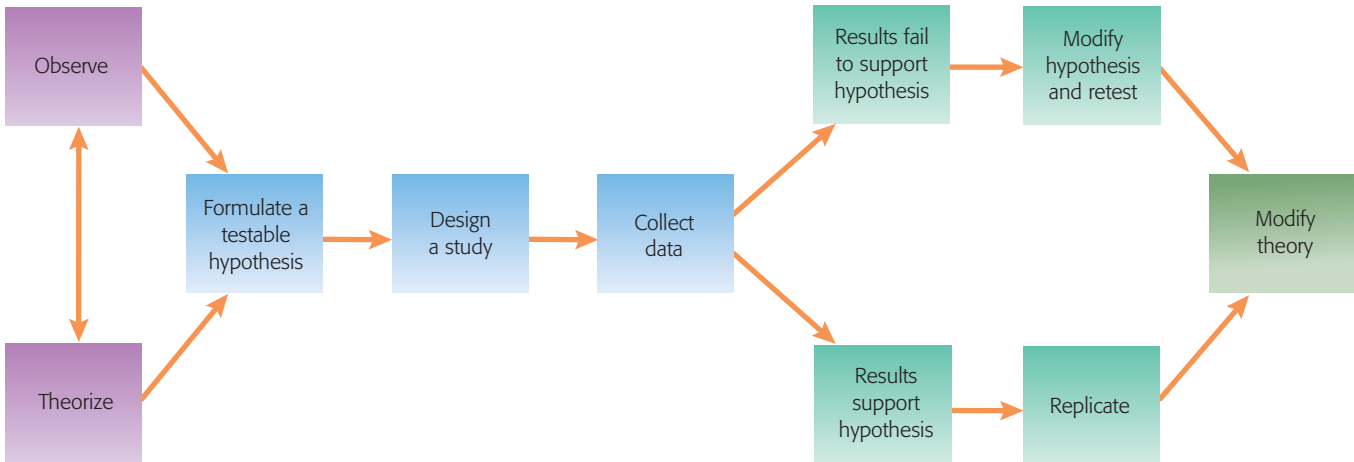


FIGURE 1.1 The Scientific Method

These are the steps involved in the scientific method.

to understanding the contribution of practice to video game scores: *If males and females spend equal amounts of time practicing a game, their scores will be equal.*

STEP 3: Design a Study. Next, to test the hypothesis about equal practice, the researcher could design a study in which she uses the same procedures to teach male and female students how to play a new video game. Then she allows them 30 minutes to practice it on their own. At the end of the practice session, she tells participants to play the game one more time but to try for the highest score possible.

STEP 4: Collect Data. Once the researcher conducts her study, she collects data that are relevant to her hypothesis. First, she calculates an average score for male and female participants. Then she calculates the amount of time that participants actually spent practicing the game. This information could be critical in interpreting the study's results because, even though each participant is allowed 30 minutes to practice, the researcher cannot assume that they will all practice an equal amount of time.

STEP 5: Apply Results to the Hypothesis. If the scores for males and females are equivalent, the researcher can conclude that the data support her hypothesis. That is, given the same amount of practice time, males and females will score equally well. Next, the researcher will make other psychologists aware of her findings by presenting them at a professional meeting, such as the annual convention of the American Psychological Association, or by publishing them in a professional journal. Such journals publish the results of studies that have been reviewed by other researchers and found to be methodologically sound, a process called *peer review*.

However, publication is only one facet of the final step of the scientific. The other is a process called **replication** in which the researcher or another psychologist who is intrigued by her findings or wants to challenge them to repeat the study using the same procedures. The purpose of replication is to determine whether the original results were a one-time phenomenon or evidence of a true, underlying psychological principle.

On the other hand, if the researcher finds that males still get higher scores than females, she must concede that the results do not support her hypothesis and she must modify it. However, this is where the researcher's data on actual practice time may come in handy: If the data show that males spent more time engaged in actual practice than the females did, the researcher can assert that the study's outcome supports her

replication The process of repeating a study to verify research findings.

1.3 What are the goals of psychology?

basic research Research conducted to seek new knowledge and to explore and advance general scientific understanding.

applied research Research conducted specifically to solve practical problems and improve the quality of life.

Step 5a: Review!

To be sure you've understood each major section before you move on to the next one:

- Look over the notes in your outline for each of the section's subheadings.
- Answer the Remember It questions at the end of each section
- Log on to MyPsychLab and take the section's Quick Review quiz.

hypothesis after all. Still, she must modify her hypothesis to include a testable assertion about why the men in her study chose to practice more than the women did. If she hypothesizes that the practice difference was caused by the type of game used in the study, for example, in a subsequent study, the researcher would go on to examine how different types of games affect practice time.

The Goals of Psychology

What goals do psychological researchers pursue when they plan and conduct their studies? Briefly put, psychologists pursue four broad goals:

- **Description:** Identifying and classifying behaviors and mental processes as accurately as possible
- **Explanation:** Proposing reasons for behaviors and mental processes
- **Prediction:** Offering predictions (or hypotheses) about how a given condition or set of conditions will affect behaviors and mental processes
- **Influence:** Using the results of research to solve practical problems that involve behavior and mental processes


Two types of research help psychologists accomplish the four goals just described: basic research and applied research. The purpose of **basic research** is to seek new knowledge and to explore and advance general scientific understanding. Basic research explores such topics as the nature of memory, brain function, motivation, and emotional expression. **Applied research** is conducted specifically for the purpose of solving practical problems and improving the quality of life. Applied research focuses on finding methods to improve memory or increase motivation, therapies to treat psychological disorders, ways to decrease stress, and so on. This type of research is primarily concerned with the fourth goal of psychology—**influence**—because it specifies ways and means of changing behavior.

The scientific method has enabled psychologists to accumulate a vast knowledge base about behavior and mental processes. However, information alone doesn't necessarily advance our understanding of psychological phenomena. As we noted earlier, using knowledge acquired through the scientific method to develop cohesive theories can help us in the quest for understanding. With that point in mind, we'll turn our attention to some early attempts at psychological theory building and the schools of thought and psychological perspectives that arose from the debate stimulated by them.

The *Summarize It* below summarizes the goals of psychology and applies them to the video game hypothesis we discussed earlier.

SUMMARIZE IT

The Goals of Psychology

 **Watch** the Video Episode 1: The Big Picture: Asking the Tough Questions in **MyPsychLab**

GOAL	DEFINITION	EXAMPLE
Description	Describe behavior or mental process as accurately as possible.	Calculate average video game scores for males and females.
Explanation	Suggest causes for behavior or mental processes of interest.	Propose that males score higher on video games because they practice more than females do.
Prediction	Specify conditions under which behavior or mental process is likely to occur.	Hypothesize that males and females will obtain equivalent video game scores if they practice the same amount of time.
Influence	Apply the results of a study to change a condition in order to bring about a desired real-world outcome or prevent an undesired real-world outcome.	Use the results of video game practice studies to develop games that can enhance females' achievement in math and science.

REMEMBER IT

Check your answers and take additional quizzes in MyPsychLab.com. ✓ [Study and Review on MyPsychLab

1. The orderly, systematic procedures scientists follow in acquiring a body of knowledge comprise the _____.
2. _____ is the process of repeating a study to determine whether the results were reliable.
3. The four goals of psychology are _____, _____, _____, and _____.
4. Applied research addresses the _____ goal.

Psychology Then and Now

If you were to trace the development of psychology from the beginning, you would need to start before the earliest pages of recorded history, beyond even the early Greek philosophers, such as Aristotle and Plato. Psychology became distinct from philosophy when researchers began to use the scientific method to study behavior and mental processes. By the 1920s, the field's earliest researchers had laid the foundations of the major schools of thought and psychological perspectives that exist in psychology today. As the field grew and research findings accumulated, specialty areas within the field began to follow distinctive pathways.

Exploring Psychology's Roots

Psychology became a science and an academic discipline in the 19th century when people who wanted to learn more about behavior and mental processes began to use the scientific method. Conventional thought at the time held that such endeavors were the exclusive province of white males. Nevertheless, several researchers overcame gender and ethnic prejudice in the late 19th and early 20th centuries to make notable contributions to the field of psychology.

1.4 What did the early psychologists contribute to the field?

Structuralism and Functionalism. Who were the “founders” of psychology? Historians acknowledge that three German scientists—Ernst Weber, Gustav Fechner, and Hermann von Helmholtz—were the first to systematically study behavior and mental processes. But it is Wilhelm Wundt (1832–1920) who is generally thought of as the “father” of psychology. Wundt’s vision for the new discipline included studies of social and cultural influences on human thought (Benjafield, 1996).

Wundt established a psychological laboratory at the University of Leipzig in Germany in 1879, an event considered to mark the birth of psychology as a formal academic discipline. Using a method called *introspection*, Wundt and his associates studied the perception of a variety of visual, tactile, and auditory stimuli, including the rhythm patterns produced by metronomes set at different speeds. (A *metronome* is a mechanical or electronic device that emits ticking sounds that represent musical rhythms such as 2/4 and 4/4 time at varying tempos.) Introspection as a research method involves looking inward to examine one’s own conscious experience and then reporting that experience.

Wundt’s most famous student, Englishman Edward Bradford Titchener (1867–1927), took the new field to the United States, where he set up a psychological laboratory



▲ Even though these skydivers share the same sensations—the feeling of falling, the rush of air on their faces as they fall, and the sudden lurch of their parachutes opening—their reported introspections of the experience would probably differ.

structuralism The first formal school of thought in psychology, aimed at analyzing the basic elements, or structure, of conscious mental experience.

functionalism An early school of psychology that was concerned with how humans and animals use mental processes in adapting to their environment.



▲ During the 1880s, Christine Ladd-Franklin became one of the first women to complete a doctoral degree in psychology, although Johns Hopkins University refused to officially grant her the degree until the mid-1920s.

Source: Archives of the History of American Psychology—The University of Akron.

at Cornell University. He gave the name **structuralism** to this first formal school of thought in psychology, which aimed at analyzing the basic elements, or the structure, of conscious mental experience. Like Wundt before him, Titchener thought that consciousness could be reduced to its basic elements, just as water (H₂O) can be broken down into its constituent elements—hydrogen (H) and oxygen (O). For Wundt, pure sensations—such as sweetness, coldness, or redness—were the basic elements of consciousness. And these pure sensations, he believed, combined to form perceptions.

The work of both Wundt and Titchener was criticized for its primary method, introspection. Introspection is not objective, even though it involves observation, measurement, and experimentation. When different introspectionists were exposed to the same stimulus, such as the click of a metronome, they frequently reported different experiences. Therefore, structuralism was not in favor for long. Later schools of thought in psychology were established, partly as a reaction against structuralism, which did not survive after the death of its most ardent spokesperson, Titchener. Nevertheless, the structuralists were responsible for establishing psychology as a science through their insistence that psychological processes could be measured and studied using methods similar to those employed by scientists in other fields.

As structuralism began losing its influence in the United States in the early 20th century, a new school of psychology called functionalism was taking shape. **Functionalism** was concerned not with the structure of consciousness but with how mental processes function—that is, how humans and animals use mental processes in adapting to their environment. The influential work of Charles Darwin (1809–1882), especially his ideas about evolution and the continuity of species, was largely responsible for an increasing use of animals in psychological experiments. Even though Darwin, who was British, contributed important seeds of thought that helped give birth to the new school of psychology, functionalism was primarily American in character and spirit.

The famous American psychologist William James (1842–1910) was an advocate of functionalism, even though he did much of his writing before this school of psychology emerged. James's best-known work is his highly regarded and frequently quoted textbook *Principles of Psychology*, published more than a century ago (1890). James taught that mental processes are fluid and have continuity, rather than the rigid, or fixed, structure that the structuralists suggested. James spoke of the “stream of consciousness,” which, he said, functions to help humans adapt to their environment.

How did functionalism change psychology? Functionalism broadened the scope of psychology to include the study of behavior as well as mental processes. It also allowed the study of children, animals, and the mentally impaired, groups that could not be studied by the structuralists because they could not be trained to use introspection. Functionalism also focused on an applied, more practical use of psychology by encouraging the study of educational practices, individual differences, and adaptation in the workplace (industrial psychology).

The Changing Face of Psychology. As we noted earlier, during the early days of psychology, most people believed that academic and scientific pursuits were the exclusive province of white males. However, there were a number of women and minority group members who refused to allow convention to stand in the way of their quest for a better understanding of behavior and mental processes. They broke barriers that paved the way for later scholars and, at the same time, made important contributions to the field. Here are a few examples:

- *Christine Ladd-Franklin (1847–1930)*: completed Ph.D. requirements at Johns Hopkins University in the mid-1880s but had to wait 40 years to receive her degree; formulated evolutionary theory of color vision.
- *Mary Whiton Calkins (1863–1930)*: completed Ph.D. requirements at Harvard in 1895, but the university refused to grant doctorate to a woman (Dewsbury, 2000);

established psychology laboratory at Wellesley College; developed methods for studying memory; first female president of the American Psychological Association in 1905.

- *Margaret Floy Washburn (1871–1939)*: received a Ph.D. in psychology from Cornell University; taught at Vassar College (Dewsbury, 2000); wrote influential books on animal behavior and mental imagery.
- *Francis Cecil Sumner (1895–1954)*: first African American to earn a Ph.D. in psychology; translated more than 3,000 research articles from German, French, and Spanish; chaired psychology department at Howard University; known as the “father” of African American psychology.
- *Albert Sidney Beckham (1897–1964)*: established the first psychological laboratory at an African American institution of higher education (Howard University); studied relationship of intelligence to occupational success.
- *Kenneth Clark (1914–2005) and Mamie Phipps Clark (1917–1983)*: conducted studies of detrimental effects of racial segregation on African American children’s self-esteem that were cited in Supreme Court ruling that declared racial segregation in U.S. schools unconstitutional (Benjamin & Crouse, 2002; Lal, 2002).
- *George Sánchez (1906–1972)*: studied cultural and linguistic bias in intelligence testing during the 1930s (Sánchez, 1932, 1934).

Today, more women than men obtain degrees in psychology, and minority group representation is growing (NCES, 2006, 2008). However, there continues to be a gap between the proportion of minorities in the U.S. population and their representation among professional psychologists (APA, 2008). Consequently, the APA and other organizations have established programs to encourage minority enrollment in graduate programs in psychology.

Schools of Thought in Psychology ▶

Why don’t we hear about structuralism and functionalism today? In the early 20th century, the debate between the two points of view sparked a veritable explosion of theoretical discussion and research examining psychological processes. The foundations of the major schools of thought in the field were established during that period and continue to be influential today.

Behaviorism. Psychologist John B. Watson (1878–1958) looked at the study of psychology as defined by the structuralists and functionalists and disliked virtually everything he saw. In his article “Psychology as the Behaviorist Views It” (1913), Watson proposed a radically new approach to psychology, one that rejected the subjectivity of both structuralism and functionalism. This new school redefined psychology as the “science of behavior.” Termed **behaviorism** by Watson, this school of psychology confines itself to the study of behavior because behavior is observable and measurable and, therefore, objective and scientific. Behaviorism also emphasizes that behavior is determined primarily by factors in the environment.

Behaviorism was the most influential school of thought in American psychology until the 1960s. It remains a major force in modern psychology, in large part because of the profound influence of B. F. Skinner (1904–1990). Skinner agreed with Watson that concepts such as mind, consciousness, and feelings are neither objective nor measurable and, therefore, not appropriate subject matter for psychology. Furthermore, Skinner argued that these concepts are not needed to explain behavior. One can explain behavior, he claimed, by analyzing the conditions that are present before a behavior occurs and then analyzing the consequences that follow the behavior.

Skinner’s research on operant conditioning emphasized the importance of reinforcement in learning and in shaping and maintaining behavior. He maintained that any behavior that is reinforced (followed by pleasant or rewarding consequences) is



▲ Kenneth (1914–2005) and Mamie (1917–1983) Clark’s research examining self-esteem in African American children was cited in the 1954 U.S. Supreme Court decision *Brown v. Board of Education* that led to the desegregation of public schools in the United States.

1.5 What are the major schools of thought in psychology?

behaviorism The school of psychology that views observable, measurable behavior as the appropriate subject matter for psychology and emphasizes the key role of environment as a determinant of behavior.