Psychology
and Your Life

with P O W E R Learning

4e

Robert S. Feldman

McGraw Hill Education

Psychology

and Your Life

with P O W E R Learning

4e

Robert S. Feldman
University of Massachusetts Amherst

dedication

To Alex, Miles, Naomi, and Lilia,
the best of the best.
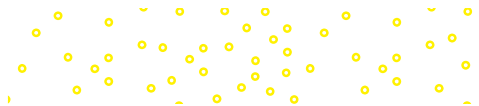
about the author

Courtesy of Robert S. Feldman

ROBERT S. FELDMAN is Professor of Psychological and Brain Sciences and Senior Advisor to the Chancellor of the University of Massachusetts Amherst. A recipient of the College Distinguished Teacher Award, he teaches psychology classes ranging in size from 15 to nearly 500 students. During the course of more than three decades as a college instructor, he has taught undergraduate and graduate courses at Mount Holyoke College, Wesleyan University, and Virginia Commonwealth University in addition to the University of Massachusetts.

Professor Feldman, who initiated the Minority Mentoring Program at the University of Massachusetts, also has served as a Hewlett Teaching Fellow and Senior Online Teaching Fellow. He initiated distance-learning courses in psychology at the University of Massachusetts.

A Fellow of the American Psychological Association, the Association for Psychological Science, and the American Association for the Advancement of Science, Professor Feldman received a BA with High Honors from Wesleyan University and an MS and PhD from the University of Wisconsin-Madison. He is a winner of a Fulbright Senior Research Scholar and Lecturer Award and the Distinguished Alumnus Award from Wesleyan. He is past President of the Federation of Associations in Behavioral and Brain Sciences (FABBS) Foundation, which advocates for the field of psychology, and is on the board of the Social Psychology Network (SPN).

He has written and edited more than 250 books, book chapters, and scientific articles. He has edited *Development of Nonverbal Behavior in Children, Applications of Nonverbal Behavioral Theory and Research*, and *Improving the First Year of College: Research and Practice,* and co-edited *Fundamentals of Nonverbal Behavior.* He is also author of *P.O.W.E.R. Learning: Strategies for Success in College and Life.* His textbooks, which have been used by more than two million students around the world, have been translated into Spanish, French, Portuguese, Dutch, German, Italian, Chinese, Korean, and Japanese. His research interests include deception and honesty in everyday life, work that he described in *The Liar in Your Life,* a trade book published in 2009. His research has been supported by grants from the National Institute of Mental Health and the National Institute on Disabilities and Rehabilitation Research.

Professor Feldman loves music, is an enthusiastic pianist, and enjoys cooking and traveling. He is president of the Board of New England Public Radio. He has three children, two granddaughters, and two grandsons. He and his wife, a psychologist, live in western Massachusetts in a home overlooking the Holyoke mountain range.

brief
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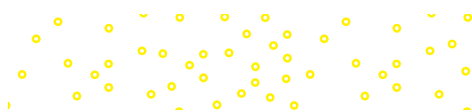
Preface

Students first.

If I were to use only a few words to summarize my goal for *Psychology and Your Life with P.O.W.E.R. Learning,* 4/e, as well as my teaching philosophy, that's what I would say. I believe that an effective text must be oriented to students—informing them, engaging them, exciting them about the field, and helping them to learn.

Luckily, psychology is a science that is naturally interesting to students. It is a discipline that speaks with many voices, offering a personal message to each student. Some students see the discipline as a way to better understand themselves, their family members, their co-workers, and people in general. For others, psychology offers information that can help prepare for a future career. Some students are drawn to the field simply because of their interest in psychological topics and how an understanding of psychology can improve their lives.

No matter what brings students into the introductory course and regardless of their initial motivation, *Psychology and Your Life with P.O.W.E.R. Learning,* 4/e, is designed to draw students into the field by illustrating how psychology will affect them in their careers—whether they are studying to become a medical assistant, a graphic designer, or a police officer, or will enter any other program. The text integrates a variety of elements that foster students' understanding of psychology and its impact on their everyday lives.

Psychology and Your Life with P.O.W.E.R. Learning, 4/e, was written to accomplish the following goals:

- To provide broad coverage of the field of psychology, introducing the basic concepts, theories, and applications that constitute the discipline.

- To build an appreciation of the relevance of psychology to everyday life, including learning to apply psychology to students' chosen areas of study.

- To maximize student learning of the material, helping students to think critically about psychological phenomena, particularly those that have an impact on their everyday lives.

The content and its ancillary materials include coverage of the traditional areas of psychology while also emphasizing applied topics. The flexibility of the content's organizational structure is considerable. Each chapter is divided into three or four manageable, self-contained modules, aiding students' reading and studying of the content and allowing instructors to choose and omit sections in accordance with their syllabus.

To further help students learn and think critically about the material in the text, *Psychology and Your Life with P.O.W.E.R. Learning, 4/e,* uses the **P.O.W.E.R.** learning and critical thinking system to organize the material. **P.O.W.E.R.** is a five-stage framework that systematically presents material in five steps: **P**repare, **O**rganize, **W**ork, **E**valuate, and **R**ethink. Each of the steps—which are described

in detail later in the "To the Student" section—are indicated by a graphical icon, providing students with a clear, logical framework that will help them read, study, learn, and ultimately master the material in the book.

In addition, *Psychology and Your Life with P.O.W.E.R. Learning,* 4/e, provides a complete framework for learning and assessment. Clear in-text learning outcomes, tied to each major section of the material, allow students to know exactly what it is they are supposed to learn. These learning outcomes also permit instructors to create assessments based on those outcomes. All the ancillary materials that accompany the student material, including every test item in the Test Bank, are keyed to these learning outcomes.

Furthermore, *Psychology and Your Life with P.O.W.E.R. Learning,* 4/e, specifically takes into account the diverse population of students who are enrolled in college today. The content particularly is designed to address the needs of today's students who may work full- or part-time; who may be juggling their education, their families, and their jobs; who may be returning to school in search of a career change; or who are in a specific career-oriented program. I have taken great care to ensure students have an opportunity to explore why psychology is relevant to everyone—no matter what their background is and no matter what their area of study may be.

Psychology and Your Life with P.O.W.E.R. Learning, 4/e, Promotes Student Success

Psychology and Your Life with P.O.W.E.R. Learning, 4/e, includes many features designed to maximize students' success in their introductory course. Every chapter follows the same format, enabling students to better master its content. The examples are drawn from across the spectrum of life, including the worlds of work, family, and community. The vocabulary has received particular focus in order to ensure clarity and ease of learning. The glossary includes expanded definitions, where appropriate, to ensure that students of all reading levels can gain their fullest understanding of the key terms and their definitions.

Psychology and Your Life with P.O.W.E.R. Learning, 4/e, is divided into 43 short modules grouped into 12 chapters covering the major areas of psychology. An advantage of the modular structure is that it allows students to study material in smaller chunks, which psychological research has long found to be the optimal way to learn. The modular approach, therefore, makes already manageable chapters even easier to absorb. Moreover, instructors can customize assignments for their students by asking them to read only those modules that fit their course outline and in the sequence that matches their syllabus.

At the beginning of each module, **Learning Outcomes** introduce the key concepts covered in the module. These key concepts are also the focus of activities available in McGraw-Hill's Connect Psychology.

To further help students learn the material, dozens of **Study Alerts** are included by key concepts. *Study Alerts* offer advice and hints for students, signaling them when critical concepts are presented and offering suggestions for learning those concepts effectively.

STUDY ALERT

Use the three steps of problem solving to organize your studying: preparation, production, and judgment (PPJ).

Another great feature that helps connect concepts with career realities is the **From the Perspective of . . .** feature. *From the Perspective of . . .* highlights how psychology impacts a variety of professions. Created to show the correlation between psychology and different professions, the feature helps students learn to comprehend what psychology means to their chosen program of study and answers the "why does psychology matter to me?" question. Whether students are in an allied health, nursing, criminal justice, technology, business, legal studies track, or any other program of study, they will have the chance to make connections between their area of study and their lives after completing their program.

From the perspective of . . .

A Retail Manager   How might the needs of adolescent employees differ from the needs of adult employees? Would you use different strategies to motivate and reward adolescent and adult workers?

Try It!

Psychological Truths?

The features are designed to engage and excite students. **Try It!** exercises are experiential self-assessment quizzes that reinforce chapter concepts in a nonthreatening (even fun!) manner and enable students to consider, compare, and contrast their preferences, behaviors, and attitudes. Similar to quizzes in popular magazines, students can readily apply their own answers directly to the concepts they are learning—active learning at its best!

becoming an informed consumer of psychology

Improving Your Memory

Apart from the advantages of forgetting, say, a bad date, most of us would like to find ways to improve our memories. Here are some effective strategies for studying and remembering course material:

- *Use the keyword technique.* If you are studying a foreign language, try pairing a foreign word with a common English word that has a similar sound. This English word is known as the *keyword*. For example, to learn the Spanish word for duck (*pato,* pronounced *pot-o*), you might choose the keyword *pot*. Once you have thought of a keyword, think of an image in which the the Spanish word *pato* is interacting with the English keyword. For example, you might envision a duck being cooked in a pot to remember the word *pato* (Wyra, Lawson, & Hungi, 2007).

In the feature **Becoming an Informed Consumer of Psychology**, psychology concepts are discussed in the context of the student as a consumer. These real-life scenarios enable students to consider and even implement psychological concepts within the world around them and apply critical thinking skills to their personal and professional lives. This feature includes scenarios such as how to evaluate advertising, and how to determine if one should seek counseling.

Exploring Diversity features, strategically placed within the modules, address how diversity and perspective relate to the study of psychology. *Exploring Diversity* promotes critical thinking about psychology concepts through the discussion and assessment of cultural and ethnic differences in direct correlation to research, study, and our lives.

Key terms and their definitions are easily identifiable (bolded and called out in the margins with definitions) within each module and are listed with page references at the end of every module. The glossary includes enhanced definitions—additional explanations of difficult or confusing terms using synonyms or expanded parenthetical definitions—allowing students to expand their knowledge of the terminology associated with psychology. Providing the clearest, most accessible definitions helps students recognize, identify, define, and describe the terminology and definitions.

Recap/Evaluate/Rethink end-of-module activities are tied directly to the module's learning outcomes boosting students' opportunities to apply and analyze their knowledge beyond the definitions or simple explanations. These activities allow instructors to move students from memorization to application and analysis in a cohesive, logical manner through a variety of activities and exercises tied to the learning outcomes of the module. Instructors who are familiar with Bloom's Taxonomy or who want to provide activities for students with different learning styles will find a variety of exercises for homework or class discussion. The need to connect the modules with overarching chapter content is addressed in the **Looking Ahead/Looking Back** feature. *Looking Ahead* introduces the key concepts of every chapter; *Looking Back* summarizes content from the chapter as a whole to reinforce the learning outcomes of each module.

Psychology Online consists of various web-based activities found at the end of every chapter to promote Internet research of key chapter concepts. This feature is great for active learning and increasing students' abilities to conduct Internet research and critique Internet resources within the context of their psychology class.

Found at the end of each chapter, **Case Studies** allow students to apply and analyze the chapter content and discuss what they have learned in the context of a story or situation. Students will analyze a situation through critical thinking, discussion, and interaction with other students whose perspectives may differ from their own. In addition, **Speaking of Success** offers short sketches of successful students and how they use the principles of psychology in their academic and professional lives.

The **Visual Summaries** identify the correlation of the overarching chapter's key concepts. Visual learners will benefit from these summaries that "tie everything together" by revisiting and reinforcing the key concepts for every module within each chapter.

EXPLORING diversity

Teaching with Linguistic Variety: Bilingual Education

In New York City, 1 in 6 of the city's 1.1 million students is enrolled in some form of bilingual or English as a Second Language instruction. And New York City is far from the only school district with a significant population of nonnative English speakers. From the biggest cities to the most rural areas, the face—and voice—of education in the United States is changing. In seven states, including Texas and Colorado, more than one-quarter of the students are not native English speakers. For some 60 million Americans, English is their second language (Holloway, 2000; Shin & Kominski, 2010; see Figure 1).

Psychology and Your Life with P.O.W.E.R. Learning, 4/e, Promotes Active Student Engagement

Connect is a digital assignment and assessment platform that strengthens the link between faculty, students, and course work, helping everyone accomplish more in less time. The Connect course for *Psychology and Your Life*, 4e, includes assignable and assessable videos, quizzes, critical thinking exercises, textbook exercises that mirror Evaluate and Rethink sections found at the end of each module, journal activities, and more, all associated with the text's learning outcomes.

SmartBook creates a personalized reading experience by highlighting the most impactful concepts a student needs to learn at that moment in time. This ensures that every moment spent with SmartBook is returned to the student at the most value-added minute possible.

A Personalized Experience That Leads to Improved Learning and Results

How many students *think* they know everything about introductory psychology, but struggle on the first exam?

Students study more effectively with Connect and SmartBook.

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

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

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

NewsFlash exercises tie current news stories to key psychological principles and learning objectives. Through the connection of psychology to students' own lives, concepts become more relevant and understandable After interacting with

a contemporary news story, students are assessed on their ability to make the link between real life and research findings.

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

New to the Fourth Edition, **Power of Process,** now available in McGraw-Hill Connect™, guides students through the process of critical reading, analysis, and writing. Faculty can select or upload their own content, such as journal articles, and assign analysis strategies to gain insight into students' application of the scientific method. For students, Power of Process offers a guided visual approach to exercising critical thinking strategies to apply before, during, and after reading published research.
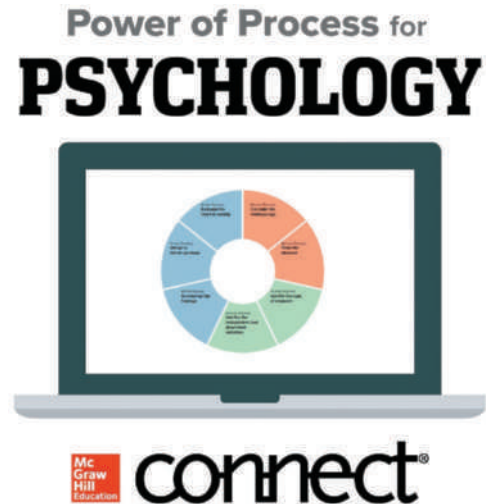
Content Changes in the Fourth Edition

Psychology and Your Life with P.O.W.E.R. Learning, 4/e, contains a significant amount of new and updated content and features reflecting the advances in the field and the suggestions of reviewers. Hundreds of new citations have been added, and most of them refer to articles and books published in the last few years.

Moreover, this edition incorporates a wide range of new topics. The following sample of new and revised topics provides a good indication of the material's currency.

Chapter 1

- Added a new prologue on shootings in a Florida high school
- Updated statistics on numbers and job settings of psychologists
- Updated gender salary discrepancies of psychologists
- Clarified definition of introspection
- Clarified definition of structuralism
- Added to the discussion of autism spectrum disorder
- Clarified material on racism
- Clarified definition of case studies
- Clarified definition of experimental manipulation

Chapter 2

- Added new prologue on brain-computer interface (BCI)
- Clarified definition of neuron
- Changed presentation of terminal buttons
- Clarified description of transcranial magnetic stimulation (TMS)
- Introduced hydrogel-embedding methods of examining the brain
- Clarified presentation of reticular formation
- Updated discussion of neuroplasticity

Chapter 3

- Included new prologue on synesthesia
- Clarified discussion of visual spectrum
- Clarified feature detection
- Added material on facial recognition
- Clarified discussion of color blindness
- Clarified discussion of distinctions between theories of color vision
- Clarified discussion of pain gates
- Clarified discussion of biofeedback to reduce pain
- Clarified explanation of binocular disparity
- Clarified discussion of motion parallax

Chapter 4

- Included new prologue on opioid crisis
- Updated stages of sleep, removing Stage IV
- Updated information on sleep medication
- Clarified changes in brain waves during hypnosis
- Revised description of meditation
- Clarified material on the factors that lead to addictive drug use
- Updated information on Adderall use
- Updated information on crack cocaine use
- Discussed the opioid epidemic
- Presented statistics on opioid use
- Clarified description of hallucinogens
- Added material on legalization of marijuana
- Clarified description of MDMA properties

Chapter 5

- Clarified the classical conditioning figure
- Clarified neutral stimulus
- Clarified unconditioned stimulus
- Clarified unconditioned response
- Redefined operant conditioning
- Clarified schedule of reinforcement
- Redefined variable-ratio schedule
- Clarified results of exposure to media aggression
- Explained how behavior modification can lead to more effective study sessions
- Discussed APA task force findings on violent video game play
- Updated figure comparing relational versus analytical approaches to learning

Chapter 6

- Discussed false memories
- Redefined chunk
- Clarified explanation of chunk

- Clarified procedural memory
- Added the term *implicit memory*
- Clarified flashbulb memory description
- Clarified similarities and differences between cultures with regard to memory
- Clarified concept of relearning and importance of practice
- Redefined description of keyword technique
- Clarified the need for skepticism around drug use to improve memory
- Discussed the value of forgetting to relearning
- Removed term "mental set"
- Clarified telegraphic speech
- Clarified overgeneralization
- Clarified nativist approach
- Added new contrary evidence to nativist approach
- Clarified definition of interactionist approaches to language development
- Clarified linguistic-relativity hypothesis

Chapter 7

- Revised self-test on preferred level of stimulation
- Clarified Maslow's view of esteem
- Clarified self-determination theory
- Updated figure reflecting the major approaches to motivation
- Updated statistics about obesity
- Introduced new term *orbitofrontal cortex*
- Added new discussion of biological causes of eating disorders
- Updated resources for eating disorders advice and help
- Added new definition of need for achievement
- Clarified James-Lange theory of emotions
- Clarified Schachter-Singer theory of emotions
- Updated description of facial-affect program
- Added new information about the benefits of sexual activity
- Redefined transgender
- Clarified use of gay and lesbian labels
- Clarified biological and genetic causes of sexual orientation
- Clarified distinction between transgender and intersex persons

Chapter 8

- Clarified vision capabilities of neonates
- Clarified the benefits of play
- Clarified Erikson's trust-versus-mistrust stage
- Clarified Erikson's autonomy-versus-shame-and-doubt stage
- Clarified Erikson's industry-versus-inferiority stage
- Clarified information processing approach
- Clarified Vygotsky's view of cognitive development
- Changed presentation of scaffolding

- Clarified presentation of puberty
- Clarified discussion of spermarche
- Added new discussion of the effects of early maturation/early puberty
- Clarified Kohlberg's Level 2 morality
- Clarified Kohlberg's Level 3 morality
- Clarified adolescence as a period of relative tranquility
- Discussed cyberbullying as a cause of suicide
- Clarified emerging adulthood
- Redefined genetic programming theories of aging
- Added new statistics on Alzheimer's disease
- Added new research on slowing the declines of Alzheimer's disease

Chapter 9
- Added Lance Armstrong case
- Redefined ego
- Clarified discussion of ego's mediating role
- Clarified discussion of Freud's Oedipal conflict in boys and girls
- Added specificity to influence of psychoanalytic theory
- Added new definition of inferiority complex
- Refined definition of factor analysis
- Clarified criticisms of trait theory
- Clarified Roger's notion of self-concept
- Replaced term "norm" with "test norm"
- Added new definition of test norm
- Added new definition of projective test
- Clarified projective test criticisms
- Added research studies on twins separated early in life
- Clarified distinction between psychodynamic, trait, and learning theories
- Redefined fluid intelligence
- Redefined crystallized intelligence
- Added definition of familial intellectual disability
- Clarified heritability
- Clarified discrepancies associated with comparing IQ scores of individuals versus groups

Chapter 10
- Added new case study of woman with anxiety disorder
- Clarified deviation from typical definition of abnormality
- Clarified deviation from an ideal definition of abnormality
- Explicitly defined abnormal behavior
- Added references to magic and spells as explanations for abnormal behavior
- Clarified the difference between causes and symptoms in the cognitive perspective
- Clarified discussion of the humanistic perspective
- Removed explication of historical change in DSM

- Removed discussion of a theoretical approach to identifying psychological disorders
- Added new statistics on mentally ill homeless population
- Discussed the relationship between homelessness and psychological disorders
- Clarified discussion of insanity
- Discussed epigenetic approaches to understanding schizophrenia
- Redefined mood disorder
- Redefined compulsion
- Added new definition of sociocultural perspective
- Clarified major depressive disorder
- Redefined illness anxiety disorder
- Clarified discussion of dissociative identity disorder
- Clarified label and explanation of internal unconscious conflicts as a cause of depression
- Changed inappropriate emotional displays to inappropriate emotions in discussion of schizophrenia
- Added explanation of action of glutamate in treating schizophrenia
- Added material on genes responsible for schizophrenia
- Discussed gray matter differences in brain of people with schizophrenia
- Clarified the predispositional model of schizophrenia
- Clarified explanation of borderline personality disorder
- Clarified narcissistic personality disorder
- Clarified lack of distress for those with personality disorders
- Clarified and qualified psychoanalytic explanations of schizophrenia
- Clarified symptoms of schizophrenia
- Condensed and clarified discussion of cross-cultural influences on definitions of abnormal behavior
- Clarified lack of objective danger in phobic stimuli
- Clarified difference between phobic disorders and generalized anxiety disorders or panic disorders

Chapter 11
- Redefined psychotherapy
- Redefined biomedical therapy
- Reframed discussion of psychodynamic therapies (versus psychoanalysis)
- Redefined psychoanalysis
- Clarified free association
- Redefined and explained behavioral approaches to therapy
- Clarified aversive therapy
- Added new example of aversion therapy
- Revised discussion of aversion therapy
- Clarified definition of systematic desensitization
- Added new discussion of virtual reality exposure therapy
- Revised discussion of contingency contracting

- Added definition of observational learning
- Reframed discussion of behavioral techniques
- Expanded definition of unconditional positive regard
- Clarified discussion of contemporary versions of client-centered therapy
- Revised discussion of interpersonal therapy effectiveness
- Revised discussion of the goals of family therapy
- Clarified definition of self-help therapy
- Clarified discussion of effectiveness of therapy in general versus specific kinds of therapy
- Reframed distinction between biomedical approaches and other treatments
- Updated definition of drug therapy
- Added psychotherapy to biomedical treatments for schizophrenia
- Added discussion of brain scan neurofeedback for treatment
- Clarified prefrontal lobotomy discussion
- Clarified drawbacks to biomedical therapies
- Revised definition of deinstitutionalization
- Explicitly linked material on drug treatments to neuroscience chapter
- Discussed memory deficits as side effect of antidepressant drugs
- Referenced Satir's family therapy work

Chapter 12
- Added prologue describing Dylann Roof
- Redefined fundamental attribution error
- Clarified example of fundamental attribution error
- Redefined norms
- Clarified description of foot-in-the-door technique
- Clarified door-in-the-face technique
- Clarified mere exposure effect
- Clarified effect of proximity on liking
- Clarified frustration-aggression approaches
- Added new research on microaggressions
- Clarified diffusion of responsibility explanations of helping
- Redefined diffusion of responsibility
- Clarified relationship between physical attractiveness and general attraction
- Added new discussion of posttraumatic growth
- Discussed nontraditional forms of PTSD for combat veterans
- Clarified biological and psychological consequences of stress
- Clarified effects of stress on lymphocyte

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Available with Connect, integration is a pairing between an institution's learning management system (LMS) and Connect at the assignment level. It shares assignment information, grades, and calendar items from Connect into the LMS automatically, creating an easy to manage course for instructors and simple navigation for students. Our assignment-level integration is available with **Blackboard Learn, Canvas by Instructure,** and **Brightspace by D2L,** giving you access to registration, attendance, assignments, grades, and course resources in real time, in one location.

Instructor Supplements available to faculty in Connect include the Instructor's Manual, Test Bank, PowerPoint presentation, and Image Gallery.

Students First: The Bottom Line

Based on extensive feedback from reviewers in a variety of schools, I am confident that *Psychology and Your Life with P.O.W.E.R. Learning,* 4/e, reflects what instructors want: material that motivates students to understand, learn, and apply psychology in the context of their present and future careers. The book and online content are designed to expose readers to the content—and promise—of psychology, and to do so in a way that will nurture students' excitement about psychology and keep their enthusiasm alive for a lifetime.

Acknowledgments

Robert S. Feldman
Amherst, Massachusetts

To the Student

Making the Grade: A Practical Guide to Studying Effectively

If you're reading this page, you're probably taking an introductory psychology course. Maybe you're studying psychology because you've always been interested in what makes people tick. Or perhaps you've had a friend or family member who has sought assistance for a psychological disorder. Or maybe you have no idea what psychology is all about, but are taking introductory psychology because it is a required course.

Whatever your reason for taking the course, it's a safe bet you're interested in maximizing your understanding of the material and getting a good grade. And you want to do it as quickly and efficiently as possible.

Good news: You're taking the right course, and you're learning the right material. Several subfields of psychology have identified a variety of guidelines and techniques that will help you learn and remember material not only related to psychology, but also relevant to every other discipline that you will study.

We'll consider a variety of guidelines relating to doing well in your psychology class—and every other class you'll take in your college career. Here's my guarantee to you: If you learn and follow the guidelines in each of these areas, you'll become a better student and get better grades—not only in your introductory psychology classes, but in your other classes as well. Always remember that *good students are made, not born,* and these suggestions will help you become an all-around better student.

Adopt a General Study Strategy: Using P.O.W.E.R.

Let's begin with a brief consideration of a general study strategy, applicable to all of your courses, including introductory psychology. Psychologists have created several excellent (and proven) techniques for improving study skills, one of the best of which is built into this content: P.O.W.E.R, or *P*repare, *O*rganize, *W*ork, *E*valuate, and *R*ethink. By employing this strategy, you can increase your ability to learn and retain information and to think critically, not just in psychology classes but also in all academic subjects.

P.O.W.E.R. The *P.O.W.E.R.* learning strategy systematizes the acquisition of new material by providing a learning framework. It stresses the importance of learning outcomes and appropriate preparation before you begin to study, as well as the significance of self-evaluation and the incorporation of critical thinking into the learning process. Specifically, use of the P.O.W.E.R. learning system entails the following steps:

- *Prepare*. Before starting any journey, we need to know where we are headed. Academic journeys are no different; we need to know what our goals are. The *Prepare* stage consists of thinking about what we hope to gain from reading a specific section of text by identifying specific goals that we seek to accomplish. In *Psychology and Your Life with P.O.W.E.R. Learning,* 4/e, these goals are listed as Learning Outcomes at the beginning of every module.

Organize

- *Organize*. Once we know what our goals are, we can develop a route to accomplish those goals. The *Organize* stage involves developing a mental road map of where we are headed. *Psychology and Your Life with P.O.W.E.R. Learning,* 4/e, highlights the organization of each upcoming chapter. Read the outline at the beginning of each chapter and module, indicated by an Organize icon (see margin), to get an idea of what topics are covered and how they are organized.

Work

- *Work*. The key to the P.O.W.E.R. learning system is actually reading and studying the material presented in the content. Completing the *Work* will be easier because, if you have carried out the steps in the preparation and organization stage, you'll know where you're headed and how you'll get there. Remember, the main text isn't the only material that you need to read and think about. It's also important to read the boxes and the glossary terms in order to gain a full understanding of the material. *Work* is indicated by a Work icon (see margin).

Evaluate

- *Evaluate*. The fourth step, *Evaluate*, provides the opportunity to determine how effectively you have mastered the material. In *Psychology and Your Life with P.O.W.E.R. Learning,* 4/e, a series of questions at the end of each module permits a rapid check of your understanding of the material and they are indicated by an Evaluate icon (see margin). Your instructor may choose to offer additional opportunities to test yourself through McGraw-Hill Education's Connect Psychology. Evaluating your progress is essential to assessing your degree of mastery of the material.

Rethink

- *Rethink*. The final step in the *P.O.W.E.R.* learning system requires that you think critically about the content. Critical thinking entails reanalyzing, reviewing, questioning, and challenging assumptions. It affords you the opportunity to consider how the material fits with other information you have already learned. Every major section of *Psychology and Your Life with P.O.W.E.R. Learning*, 4/e, ends with a *Rethink* section, indicated by a Rethink icon (see margin). Answering its thought-provoking questions will help you understand the material more fully and at a deeper level.

Making use of the P.O.W.E.R. system embedded in this text will help you study, learn, and master the material more effectively. Moreover, it is a system that will be helpful in your other courses as well.

Manage Your Time

Without looking up from the page, answer this question: What time is it?

Most people are pretty accurate in their answer. And if you don't know for sure, it's very likely that you can find out. There may be a cell phone in your pocket; there may be a clock on the wall, desk, or computer screen; or maybe you're riding in a car that has a clock in the dashboard. Even if you don't have a timepiece of some sort nearby, your body keeps its own beat. Humans have an internal clock that regulates the beating of our heart, the pace of our breathing, the discharge of chemicals within our bloodstream, and myriad other bodily functions.

Managing your time as you study is a central aspect of a successful plan. But remember: The goal of time management is not to schedule every moment so we become pawns of a timetable that governs every waking moment of the day. Instead, the goal is to permit us to make informed choices as to how we use our time. Rather than letting the day slip by, largely without our awareness, the time management procedures we'll discuss can make us better able to harness time for our own ends.

We'll consider a number of steps to help you improve your time management skills.

Create a Time Log. A *time log* is simply a record of how you actually have spent your time—including interruptions—and is the most essential tool for improving your use of time. It doesn't have to be a second-by-second record of every waking moment. But it should account for blocks of time in increments as short as 15 minutes.

By looking at how much time you spend doing various activities, you now know where your time goes. How does it match with your perceptions of how you spend your time? Be prepared to be surprised, because most people find that they're spending time on a lot of activities that just don't matter very much.

You should also identify the "vacuums" that suck up your time. We all waste time on unimportant activities that keep us from doing the things we should be doing or want to do. Suppose you're studying and your cell phone rings. Instead of speaking with a friend for a half hour, you might (a) let the phone ring but not answer it; (b) answer it, but tell your friend you are studying and will call her back; or (c) speak with her for only a short while. If you do any of these three things, you will have taken control of your time.

Set Your Priorities. By this point you should have a good idea of what's taking up your time. But you may not know what you *should* be doing.

To figure out the best use of your time, you need to determine your priorities. *Priorities* are the tasks and activities you need and want to do, rank-ordered from most important to least important. There are no right or wrong priorities; maybe spending time on your studies is most important to you, or maybe your top priority is spending time with your family. Only you can decide. Furthermore, what's important to you now may be less of a priority to you next month, next year, or in five years.

The best procedure is to start off by identifying priorities for an entire term. What do you need to accomplish? Don't just choose obvious, general goals, such as "passing all my classes." Instead, think in terms of specific, measurable activities, such as "spend one hour each day reading the textbook to prepare for upcoming psychology classes."

Identify Your Prime Time. Do you enthusiastically bound out of bed in the morning, ready to start the day and take on the world? Or is the alarm clock a hated and unwelcome sound that jars you out of pleasant slumber? Are you zombielike by 10:00 at night, or a person who is just beginning to rev up at midnight? Each of us has our own style based on some inborn body clock. Being aware of the time or times of day when you can do your best work will help you plan and schedule your time most effectively. If you're at your worst in the morning, try to schedule easier, less-involving activities for those earlier hours. On the other hand, if morning is the best time for you, schedule activities that require the greatest concentration at that time.

Master the Moment. You now know where you've lost time in the past, and your priority list is telling you where you need to head in the future. You've reached the point where you can organize yourself to take control of your time. Here's what you'll need:

- *A master calendar* that shows all the weeks of the term on one page. It should include every week of the term and seven days per week. Using your class syllabi, write on the master calendar every assignment and test

you will have, noting the date that it is due. Pencil in tentative assignments on the appropriate date. Also include on the master calendar important activities from your personal life, drawn from your list of priorities. And don't forget to schedule some free time for yourself.

- *A weekly timetable,* a master grid with the days of the week across the top and the hours, from 6:00 a.m. to midnight, along the side. Fill in the times of all your fixed, prescheduled activities—the times that your classes meet, when you have to be at work, the times you have to pick up your child at day care, and any other recurring appointments. Add assignment due dates, tests, and any other activities on the appropriate days of the week. Then pencil in blocks of time necessary to prepare for those events.

- *A daily to-do list.* Your daily to-do list can be written on a small, portable calendar that includes a separate page for each day of the week, or you can maintain a calendar electronically, if that is your preference. List all the things that you intend to do during the next day, and their priority. Start with the things you know you must do and that have fixed times, such as classes, work schedules, and appointments. Then add in the other things that you should accomplish, such as an hour of study for an upcoming test; work on research for an upcoming paper; or finish up a lab report. Finally, list things that are a low priority but enjoyable, like a run or a walk.

Controlling Time. If you've followed the schedules that you've prepared and organized, you've taken the most important steps in time management. However, our lives are filled with surprises: Things always seem to take longer than we've planned. A crisis occurs; buses are late; computers break down; kids get sick.

The difference between effective time management and time management that doesn't work lies in how well you deal with the inevitable surprises. You can take control of your days and permit yourself to follow your intended schedule in several ways:

- **Just say no.** You don't have to agree to every request and every favor that others ask of you.

- **Get away from it all.** Lock yourself into your bedroom. Find an out-of-the-way unused classroom. Adopt a specific spot as your own, such as a corner desk in a secluded nook in the library. If you use it enough, your body and mind will automatically get into study mode as soon as you seat yourself at it.

- **Enjoy the sounds of silence.** Although many students insist they accomplish most while a television, radio, or CD is playing, scientific studies suggest otherwise—we are able to concentrate most when our environment is silent. Even experiment and work in silence for a few days. You may find that you get more done in less time than you would in a more distracting environment.

- **Take an e-break.** We may not control when communications arrive, but we can make the message wait until we are ready to receive it. Take an e-break and shut down your communication sources for a period of time. Phone calls can be stored on voicemail systems, and text messages, IMs, and e-mail can be saved on a phone or computer. They'll wait.

- **Expect the unexpected.** You'll never be able to escape from unexpected interruptions and surprises that require your attention. But by trying to

anticipate them in advance, and thinking about how you'll react to them, you'll be positioning yourself to react more effectively when they do occur.

■ **Combat procrastination.** Even when no one else is throwing interruptions at us, we make up our own. *Procrastination,* the habit of putting off and delaying tasks that are to be accomplished, is a problem that many of us face. If you find yourself procrastinating, several steps can help you:

1. Break large tasks into small ones.

2. Start with the easiest and simplest part of a task, and then do the harder parts.

3. Work with others—for example, a study session with several of your classmates.

4. Keep the costs of procrastination in mind.

Reading Your Textbook Effectively

Reading a textbook is different from reading for pleasure. With textbooks, you have specific goals: understanding, learning, and ultimately recalling the information. You can take several steps to achieve these goals:

■ **Read the front matter.** If you'll be using a text extensively throughout the term, start by reading the preface and/or introduction and scanning the table of contents—what publishers call the *front matter.* It is there that the author has a chance to explain, often more personally than elsewhere in the text, what he or she considers important. Knowing this will give you a sense of what to expect as you read. (Note: You're reading part of the front matter at this very moment!)

■ **Identify your personal objectives.** Before you begin an assignment, think about what your specific objectives are. Will you be reading a textbook on which you'll be thoroughly tested? Or will your reading provide background information for future learning but it won't itself be tested? Is the material going to be useful to you personally? In your program? Your objectives for reading will help you determine which reading strategy to adopt and how much time you can devote to the reading assignment. You aren't expected to read everything with the same degree of intensity. Some material you may feel comfortable skimming; for other material you'll want to put in the maximum effort.

■ **Identify and use the advance organizers.** The next step in reading a textbook is to become familiar with the *advance organizers*—outlines, overviews, section objectives, or other clues to the meaning and organization of new material—provided in the material you are reading. For example, *Psychology and Your Life with P.O.W.E.R. Learning*, 4/e, includes Learning Outcomes in every module. These learning outcomes direct you to the key points of every section in this textbook. If you can work through the concepts presented in the learning outcomes, you have gained an understanding of exactly what each module is designed to do!

■ **Stay focused as you read.** There are a million and one possible distractions that can invade your thoughts as you read. Your job is to keep distracting thoughts at bay and focus on the material you are supposed to be reading. Here are some things you can do to help yourself stay focused:

■ **Read in small bites.** If you think it is going to take you four hours to read an entire chapter, break up the four hours into more manageable time periods. Promise yourself that you'll read for one hour in the

afternoon, another hour in the evening, and the next two hours spaced out during the following day.

- **Take a break.** Actually, plan to take several short breaks to reward yourself while you're reading. During your break, do something enjoyable—eat a snack, watch a bit of a ball game on television, play a video game, or the like. Just try not to get drawn into your break activity to the point that it takes over your reading time.

- **Highlight and take notes as you read.** Highlighting and taking notes as you read a textbook are essential activities. Good annotations can help you learn and review the information prior to tests, as well as helping you to stay focused as you read. You can do several things to maximize the effectiveness of your notes:

  - **Rephrase key points.** Make notes to yourself, in your own words, about what the author is trying to get across. Don't just copy what's been said. Think about the material, and rewrite it in words that are your own. The very act of writing engages an additional type of perception—involving the physical sense of moving a pen or pressing a keyboard.

  - **Highlight or underline key points.** Often the first or last sentence in a paragraph, or the first or last paragraph in a section, will present a key point. Before you highlight anything, though, read the whole paragraph through. Then you'll be sure that what you highlight is, in fact, the key information. You should find yourself highlighting only one or two sentences or phrases per page. In *highlighting and underlining, less is more.* One guideline: No more than 10 percent of the material should be highlighted or underlined. You may find it helpful to highlight only the information that helps you work through the concepts presented in the Learning Outcomes.

  - **Use arrows, diagrams, outlines, tables, timelines, charts, and other visuals to help you understand and later recall what you are reading.** If three examples are given for a specific point, number them. If a sequence of steps is presented, number each step. If a paragraph discusses a situation in which an earlier point does not hold, link the original point to the exception by an arrow. Representing the material graphically will get you thinking about it in new and different ways. The act of creating visual annotations will not only help you to understand the material better but will also ease its later recall.

  - **Look up unfamiliar words.** Even though you may be able to figure out the meaning of an unfamiliar word from its context, look up unfamiliar words in a dictionary or online. You'll also find out what the word sounds like, which will be important if your instructor uses the word in class. *Psychology and Your Life with P.O.W.E.R. Learning*, 4/e, includes a glossary with definitions designed to help you gain a clear understanding of all the key terms in the text. Be sure to check it out if you need further clarification on any of the key terms within the modules.

Taking Good Notes in Class

Perhaps you know students who manage to write down nearly everything their instructors say in class. And perhaps you have thought to yourself: "If only I took such painstaking notes, I'd do much better in my classes." Contrary to what many students think, however, good note taking does not mean writing down

every word that an instructor utters. With note taking, less is often more. Let's consider some of the basic principles of note taking:

- **Identify the instructor's—and your—goals for the course.** On the first day of class, most instructors talk about their objectives for the course. Most review the information on the class syllabus, the written document that explains the assignments for the semester. The information you get during that first session and through the syllabus is critical. In addition to the instructor's goals, you should have your own. What is it you want to learn from the course? How will the information from the course help you to enhance your knowledge, improve yourself as a person, achieve your goals?

- **Complete assignments before coming to class.** Your instructor enthusiastically describes the structure of the neuron, recounting excitedly how electrons flow across neurons, changing their electrical charge. One problem: You have only the vaguest idea what a neuron is. And the reason you don't know is that you haven't read the assignment.

  Chances are you have found yourself in this situation at least a few times, so you know firsthand that sinking feeling as you become more and more confused. The moral: Always go to class prepared. Instructors assume that their students have done what they've assigned, and their lectures are based upon that assumption. Don't forget to bring your textbook to class—during those times when you aren't as prepared, you will at least be able to use your text to follow along with your class discussions!

- **Use a notebook that assists in note taking.** Loose-leaf notebooks are especially good for taking notes because they permit you to go back later and change the order of the pages or add additional material. Whatever kind of notebook you use, *use only one side of the page for writing; keep one side free of notes.* There may be times that you'll want to spread out your notes in front of you, and it's much easier if no material is written on the back of the pages.

- **Listen for the key ideas.** Not every sentence in a lecture is equally important. One of the most useful skills you can develop is separating the key ideas from supporting information. Good lecturers strive to make just a few main points. The rest of what they say consists of explanation, examples, and other supportive material that expand upon the key ideas. To distinguish the key ideas from their support, you need to be alert and always searching for the *meta-message* of your instructor's words—that is, the underlying main ideas that a speaker is seeking to convey.

  How can you discern the meta-message? One way is to *listen for keywords.* Phrases like "you need to know ...," "the most important thing that must be considered ...," "there are four problems with this approach ...," and—a big one—"this will be on the test ..." should cause you to sit up and take notice. Also, if an instructor says the same thing in several ways, it's a clear sign that the material being discussed is important.

- **Use short, abbreviated phrases—not full sentences—when taking notes.** Forget everything you've ever heard about always writing in full sentences. In fact, it's often useful to take notes in the form of an outline. An outline summarizes ideas in short phrases and indicates the relationship among concepts through the use of indentations.

- **Pay attention to what is written on the board or projected from overheads and PowerPoint slides.**
  - **Listening is more important than seeing.** The information that your instructor projects on-screen, although important, ultimately is less critical than what he or she is saying. Pay primary attention to the spoken word and secondary attention to the screen.
  - **Don't copy everything that is on every slide.** Instructors can present far more information on their slides than they would if they were writing on a blackboard. Oftentimes there is so much information that it's impossible to copy it all down. Don't even try. Instead, concentrate on taking down the key points.
  - **Remember that key points on slides are … key points.** The key points (often indicated by bullets) often relate to central concepts. Use these points to help organize your studying for tests, and don't be surprised if test questions directly assess the bulleted items on slides.
  - **Check to see if the presentation slides are available online.** Some instructors make their class presentations available on the Web to their students, either before or after class time. If they do this before class, print them out and bring them to class. Then you can make notes on your copy, clarifying important points. If they are not available until after a class is over, you can still make good use of them when it comes time to study the material for tests.
  - **Remember that presentation slides are not the same as good notes for a class.** If you miss a class, don't assume that getting a copy of the slides is sufficient. Studying the notes of a classmate who is a good note taker will be far more beneficial than studying only the slides.

Memorizing Efficiently: Using Proven Strategies to Memorize New Material

Here's a key principle of effective memorization: Memorize what you need to memorize. *Forget about the rest.*

The average textbook chapter has something like 20,000 words. But within those 20,000 words, there may be only 30 to 40 specific concepts that you need to learn. And perhaps there are only 25 keywords. *Those* are the pieces of information on which you should focus in your efforts to memorize. By extracting what is important from what is less crucial, you'll be able to limit the amount of the material that you need to recall. You'll be able to focus on what you need to remember.

You have your choice of dozens of techniques of memorization. As we discuss the options, keep in mind that no one strategy works by itself. Also, feel free to devise your own strategies or add those that have worked for you in the past.

Rehearsal. Say it aloud: rehearsal. Think of this word in terms of its three syllables: re–hear–sal. If you're scratching your head as to why you should do this, it's to illustrate the point of *rehearsal:* to transfer material that you encounter into long-term memory.

To test if you've succeeded in transferring the word *rehearsal* into your memory, put down this book and go off for a few minutes. Do something entirely unrelated to reading this book. Have a snack, catch up on the latest sports scores on ESPN, or read the front page of a newspaper. If the word *rehearsal* popped into your head when you picked up this book again, you've passed your first memory test—the word *rehearsal* has been transferred into your memory.

Rehearsal is the key strategy in remembering information. If you don't rehearse material, it will never make it into your memory. Repeating the information, summarizing it, associating it with other memories, and above all thinking about it when you first come across it will ensure that rehearsal will be effective in placing the material into your memory.

Mnemonics. This odd word (pronounced with the "m" silent—neh MON ix) describes formal techniques used to make material more readily remembered. *Mnemonics* are the tricks of the trade that professional memory experts use, and you too can use them to nail down the information you will need to recall for tests.

Among the most common mnemonics are the following:

- **Acronyms.** *Acronyms* are words or phrases formed by the first letters of a series of terms. The word *laser* is an acronym for "light amplification by stimulated emissions of radiation," and *radar* is an acronym for "radio detection and ranging."

  Acronyms can be a big help in remembering things. For example, Roy G. Biv is a favorite of physics students who must remember the colors of the spectrum (red, orange, yellow, green, blue, indigo, and violet). The benefit of acronyms is that they help us to recall a complete list of steps or items.

- **Rhymes and jingles.** "Thirty days hath September, April, June, and November." If you know the rest of the rhyme, you're familiar with one of the most commonly used mnemonic jingles in the English language.

Involve Multiple Senses. The more senses you can involve when you're trying to learn new material, the better you'll be able to remember. Here's why: Every time we encounter new information, all of our senses are potentially at work. Each piece of sensory information is stored in a separate location in the brain, and yet all the pieces are linked together in extraordinarily intricate ways.

What this means is that when we seek to remember the details of a specific event, recalling a memory of one of the sensory experiences can trigger recall of the other types of memories. You can make use of the fact that memories are stored in multiple ways by applying the following techniques:

- **When you learn something, use your body.** Don't sit passively at your desk. Instead, move around. Stand up; sit down. Touch the page. Trace figures with your fingers. Talk to yourself. Think out loud. By involving every part of your body, you've increased the number of potential ways to trigger a relevant memory later, when you need to recall it. And when one memory is triggered, other related memories may come tumbling back.

- **Draw and diagram the material.** It's often useful to structure written material by graphically grouping and connecting key ideas and themes. In contrast to an outline, such drawings help visually show how related ideas fit together. (The *Visual Summary* features at the end of each chapter in this book are an example of this.) Creating drawings, sketches, and even cartoons can help us remember better.

- **Visualize.** You already know that memory requires three basic steps: the initial recording of information, the storage of that information, and, ultimately, the retrieval of the stored information. Visualization is a technique by which images are formed to ensure that material is recalled. Don't stop at visualizing images just in your mind's eye. Actually drawing what you

visualize will help you to remember the material even better. Visualization is effective because it serves several purposes. It helps make abstract ideas concrete; it engages multiple senses; it permits us to link different bits of information together; and it provides us with a context for storing information.

Overlearning. Lasting learning doesn't come until you have overlearned the material. *Overlearning* consists of studying and rehearsing material past the point of initial mastery. Through overlearning, recall becomes automatic. Rather than searching for a fact, going through mental contortions until perhaps the information surfaces, overlearning permits us to recall the information without even thinking about it.

Test-Taking Strategies

Preparing for tests is a long-term proposition. It's not a matter of "giving your all" the night before the test. Instead, it's a matter of giving your all to every aspect of the course.

Here are some guidelines that can help you do your best on tests.

Know What You Are Preparing For. Determine as much as you can about the test *before* you begin to study for it. The more you know about a test beforehand, the more efficient your studying will be.

To find out about an upcoming test, first ask this question:

- Is the test called a test, exam, quiz, or something else? The names imply different things:
    - *Essay:* Requires a fairly extended, on-the-spot composition about some topic. Examples include questions that call on you to describe a person, process, or event, or those that ask you to compare or contrast two separate sets of material.
    - *Multiple-choice:* Usually contains a question or statement, followed by a number of possible answers (usually four or five of them). You are supposed to choose the best response from the choices offered.
    - *True–false:* Presents statements about a topic that are either accurate or inaccurate. You are to indicate whether each statement is accurate (true) or inaccurate (false).
    - *Matching:* Presents two lists of related information, arranged in column form. Typically, you are asked to pair up the items that go together (e.g., a scientific term and its definition, or a writer and the title of a book he wrote).
    - *Short-answer:* Requires brief responses (usually a few sentences at most) in a kind of mini-essay.
    - *Fill-in:* Requires you to add one or more missing words to a sentence or series of sentences.

Match Test Preparation to Question Types. Each kind of test question requires a somewhat different style of preparation.

- **Essay questions.** Essay tests focus on the big picture—ways in which the various pieces of information being tested fit together. You'll need to know not just a series of facts, but also the connections between them, and you will have to be able to discuss these ideas in an organized and logical way.

The best approach to studying for an essay test involves four steps:

1. Carefully reread your class notes and any notes you've made on assigned readings that will be covered on the upcoming exam. Also go through the readings themselves, reviewing underlined or highlighted material and marginal notes.

2. Think of likely exam questions. For example, use the key words, phrases, concepts, and questions that come up in your class notes or in your text. Some instructors give out lists of possible essay topics; if yours does, focus on this list, but don't ignore other possibilities.

3. Without looking at your notes or your readings, answer each potential essay question—aloud. Don't feel embarrassed about doing this. Talking aloud is often more useful than answering the question in your head. You can also write down the main points that any answer should cover. (Don't write out *complete* answers to the questions unless your instructor tells you in advance exactly what is going to be on the test. Your time is probably better spent learning the material than rehearsing precisely formulated responses.)

4. After you've answered the questions, check yourself by looking at the notes and readings once again. If you feel confident that you've answered specific questions adequately, check them off. You can go back later for a quick review. But if there are questions that you had trouble with, review that material immediately. Then repeat the third step above, answering the questions again.

- **Multiple-choice, true–false, and matching questions.** Whereas the focus of review for essay questions should be on major issues and controversies, studying for multiple-choice, true–false, and matching questions requires more attention to the details. Almost anything is fair game for multiple-choice, true–false, and matching questions, so you can't afford to overlook anything when studying. It's a good idea to write down important facts on index cards: They're portable and available all the time, and the act of creating them helps drive the material into your memory. Furthermore, you can shuffle them and test yourself repeatedly until you've mastered the material.

- **Short-answer and fill-in questions.** Short-answer and fill-in questions are similar to essays in that they require you to recall key pieces of information rather than—as is the case with multiple-choice, true–false, and matching questions—finding it on the page in front of you. However, short-answer and fill-in questions typically don't demand that you integrate or compare different types of information. Consequently, the focus of your study should be on the recall of specific, detailed information.

Test Yourself. Once you feel you've mastered the material, test yourself on it. There are several ways to do this. Often textbooks are accompanied by websites that offer automatically scored practice tests and quizzes. You can also create a test for yourself, in writing, making its form as close as possible to what you expect the actual test to be. For instance, if your instructor has told you the classroom test will be primarily made up of short-answer questions, your test should reflect that. Again, use the learning outcomes within each module to guide you.

You might also construct a test and administer it to a classmate or a member of your study group. In turn, you could take a test that someone else has constructed. Constructing and taking practice tests are excellent ways of studying the material and cementing it into memory.

Deal with Test Anxiety. What does the anticipation of a test do to you? Do you feel shaky? Is there a knot in your stomach? Do you grit your teeth? *Test anxiety* is a temporary condition characterized by fears and concerns about test taking. Almost everyone experiences it to some degree, although for some people it's more of a problem than for others. You'll never eliminate test anxiety completely, nor do you want to. A little bit of nervousness can energize us, making us more attentive and vigilant. Like any competitive event, testing can motivate us to do our best.

On the other hand, for some students, anxiety can spiral into the kind of paralyzing fear that makes their mind go blank. There are several ways to keep this from happening to you:

1. **Prepare thoroughly.** The more you prepare, the less test anxiety you'll feel. Good preparation can give you a sense of control and mastery, and it will prevent test anxiety from overwhelming you.

2. **Take a realistic view of the test.** Remember that your future success does not hinge on your performance on any single exam. Think of the big picture: Put the task ahead in context, and remind yourself of all the hurdles you've passed so far.

3. **Visualize success.** Think of an image of your instructor handing back your test marked with a big "A." Or imagine your instructor congratulating you on your fine performance the day after the test. Positive visualizations that highlight your potential success can help replace images of failure that may fuel test anxiety.

What if these strategies don't work? If your test anxiety is so great that it's getting in the way of your success, make use of your college's resources. Most provide a learning resource center or a counseling center that can provide you with personalized help.

Form a Study Group. *Study groups* are small, informal groups of students who work together to learn course material and study for a test. Forming such a group can be an excellent way to prepare for any kind of test. Some study groups are formed for particular tests, whereas others meet consistently throughout the term. The typical study group meets a week or two before a test and plans a strategy for studying. Members share their understanding of what will be on the test, based on what an instructor has said in class and on their review of notes and text material. Together, they develop a list of review questions to guide their individual study. The group then breaks up, and the members study on their own. If your class meets online, use online discussion tools as appropriate for your course. Ask your instructor if there is a way for you to hold these online discussions through your school.

A few days before the test, members of the study group meet again. They discuss answers to the review questions, go over the material, and share any new insights they may have about the upcoming test. They may also quiz one another about the material to identify any weaknesses or gaps in their knowledge.

Study groups can be extremely powerful tools because they help accomplish several things:

- They help members organize and structure the material to approach their studying in a systematic and logical way.
- They allow students to share different perspectives on the material.
- They make it more likely that students will not overlook any potentially important information.

- They force members to rethink the course material, explaining it in words that other group members will understand. This helps both understanding and recall of the information when it is needed on the test.
- Finally, they help motivate members to do their best. When you're part of a study group, you're no longer working just for yourself; your studying also benefits the other study group members. Not wanting to let down your classmates in a study group may encourage you to put in your best effort.

Some Final Comments

We have discussed numerous techniques for increasing your study, classroom, and test effectiveness. But you need not feel tied to a specific strategy. You might want to combine other elements to create your own study system. Additional learning tips and strategies for critical thinking are presented throughout *Psychology and Your Life with P.O.W.E.R. Learning,* 4/e.

Whatever learning strategies you use, you will maximize your understanding of the material in this book and master techniques that will help you learn and think critically in all of your academic endeavors. More important, you will optimize your understanding of the field of psychology. It is worth the effort: The excitement, challenges, and promise that psychology holds for you are significant.

Robert S. Feldman

CHAPTER

1

CHAPTER OUTLINE

High School Massacre

It started like any other school day on a balmy Wednesday at the Marjory Stoneman Douglas High School campus in Parkland, Florida. But it ended with one of the most horrific school shootings in U.S. history. By the time the shooter, 19-year-old Nikolas Cruz, finished walking the halls with a blazing AR-15 rifle, 17 students and teachers lay dead, and many others were wounded.

But in the midst of this carnage, the best of humanity was also on display. Teachers and staff put their own lives at risk in an effort to shield and protect their students, in some cases dying as a result. And despite the danger, first responders rushed to help the wounded, and many students sought to comfort and aid their wounded classmates. As people all around the world expressed their grief, many joined together to work toward legal change that would make such shootings less likely.

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INTRODUCTION TO PSYCHOLOGY

Looking Ahead

The Florida school massacre gives rise to a host of important psychological issues. For example, consider these questions asked by psychologists following the catastrophe:

- What motivated the shooter's rampage? Was he driven by political, social, or religious beliefs, or was he psychologically disturbed?
- What internal, biologically based changes occurred in those fleeing for their lives from the shooter?
- What memories did people have of the massacre afterward? How accurate were they?
- What will be the long-term effects of the massacre on the psychological and physical health of the survivors and witnesses?
- What are the most effective ways to help people cope with the sudden and unexpected loss of friends and loved ones?
- Could this tragedy have been prevented if the shooter had received psychological treatment?

As you'll soon see, the field of psychology addresses questions like these—and many, many more. In this chapter, we begin our examination of psychology, the types of psychologists, and the various roles that psychologists play.

» »

Psychologists at Work

Learning Outcomes

» **LO1.1** Define the science of psychology.

» **LO1.2** Describe the subfields of psychology.

» **LO1.3** List the major specialties for working in the field of psychology.

MODULE OUTLINE O Organize

What Is Psychology?

The Subfields of Psychology: Psychology's Family Tree

Try It! Psychological Truths?

Working at Psychology

W Work

psychology The scientific study of behavior and mental processes

» LO1.1 What Is Psychology?

Psychology is the scientific study of behavior and mental processes. The phrase *behavior and mental processes* means many things: it encompasses not just what people do but also their thoughts, emotions, perceptions, reasoning processes, memories, and even the biological activities that maintain bodily functioning.

Psychologists try to describe, predict, and explain human behavior and mental processes, as well as help to change and improve the lives of people and the world in which they live. They use scientific methods to find answers that are far more valid and legitimate than those resulting from intuition and speculation, which are often inaccurate. Test your own knowledge of psychology by completing the accompanying Try It! feature.

The questions in the Try It! provide just a hint of the topics that we will encounter in the study of psychology. Our discussions will take us through the range of what is known about behavior and mental processes.

» LO1.2 The Subfields of Psychology: Psychology's Family Tree

As the study of psychology has grown, it has given rise to a number of subfields (described in Figure 1). One way to identify the key subfields is to look at some of the basic questions about behavior that they address.

What Are the Biological Foundations of Behavior?

In the most fundamental sense, people are biological organisms. *Behavioral neuroscience* is the subfield of psychology that mainly examines how the brain and the nervous system—but other biological processes as well—determine behavior.

Try It!

Psychological Truths?

To test your knowledge of psychology, try answering the following questions:

1. Infants love their mothers primarily because their mothers fulfill their basic biological needs, such as providing food. True or false?
2. Geniuses generally have poor social adjustment. True or false?
3. The best way to ensure that a desired behavior will continue after training is completed is to reward that behavior every single time it occurs during training rather than rewarding it only periodically. True or false?
4. People with schizophrenia have at least two distinct personalities. True or false?
5. Parents should do everything they can to ensure children have high self-esteem and a strong sense that they are highly competent. True or false?
6. Children's IQ scores have little to do with how well they do in school. True or false?
7. Frequent masturbation can lead to mental illness. True or false?
8. Once people reach old age, their leisure activities change radically. True or false?
9. Most people would refuse to give painful electric shocks to other people. True or false?
10. People who talk about suicide are unlikely to actually try to kill themselves. True or false?

Scoring

The truth about each of these items is that they are all false. Based on psychological research, each of these "facts" have been proven untrue. You will learn the reasons why as we explore what psychologists have discovered about human behavior.

Source: Adapted from Lamal, 1979.

Thus, neuroscientists consider how our bodies influence our behavior. For example, they may examine the link between specific sites in the brain and the muscular tremors of people affected by Parkinson's disease or attempt to determine how our emotions are related to physical sensations (Willis, 2008; Paulmann & Pell, 2010; Albuquerque et al., 2016).

How Do People Sense, Perceive, Learn, and Think about the World?

If you have ever wondered why you are susceptible to optical illusions, how your body registers pain, or how to make the most of your study time, an experimental psychologist can answer your questions. *Experimental psychology* is the branch of psychology that studies the processes of sensing, perceiving, learning, and thinking about the world. (The term *experimental psychologist* is somewhat misleading: psychologists in every specialty area use experimental techniques.)

Several subspecialties of experimental psychology have become specialties in their own right. One is *cognitive psychology,* which focuses on higher mental processes, including thinking, memory, reasoning, problem solving, judging, decision making, and language.

STUDY ALERT

It is important to know the subfields of psychology in part because they allow us to look at the same behavior in multiple ways.

Subfield	Description
Behavioral genetics	*Behavioral genetics* studies the inheritance of traits related to behavior
Behavioral neuroscience	*Behavioral neuroscience* examines the biological basis of behavior
Clinical psychology	*Clinical psychology* deals with the study, diagnosis, and treatment of psychological disorders
Clinical neuropsychology	*Clinical neuropsychology* unites the areas of biopsychology and clinical psychology, focusing on the relationship between biological factors and psychological disorders
Cognitive psychology	*Cognitive psychology* focuses on the study of higher mental processes
Counseling psychology	*Counseling psychology* focuses primarily on educational, social, and career adjustment problems
Cross-cultural psychology	*Cross-cultural psychology* investigates the similarities and differences in psychological functioning in and across various cultures and ethnic groups
Developmental psychology	*Developmental psychology* examines how people grow and change from the moment of conception through death
Educational psychology	*Educational psychology* is concerned with teaching and learning processes, such as the relationship between motivation and school performance
Environmental psychology	*Environmental psychology* considers the relationship between people and their physical environment
Evolutionary psychology	*Evolutionary psychology* considers how behavior is influenced by our genetic inheritance from our ancestors
Experimental psychology	*Experimental psychology* studies the processes of sensing, perceiving, learning, and thinking about the world
Forensic psychology	*Forensic psychology* focuses on legal issues, such as determining the accuracy of witness memories
Health psychology	*Health psychology* explores the relationship between psychological factors and physical ailments or disease
Industrial/organizational psychology	*Industrial/organizational psychology* is concerned with the psychology of the workplace
Personality psychology	*Personality psychology* focuses on the consistency in people's behavior over time and the traits that differentiate one person from another
Program evaluation	*Program evaluation* focuses on assessing large-scale programs, such as the Head Start preschool program, to determine whether they are effective in meeting their goals
Psychology of women	*Psychology of women* focuses on issues such as discrimination against women and the causes of violence against women
School psychology	*School psychology* is devoted to counseling children in elementary and secondary schools who have academic or emotional problems
Social psychology	*Social psychology* is the study of how people's thoughts, feelings, and actions are affected by others
Sport psychology	*Sport psychology* applies psychology to athletic activity and exercise

Figure 1   The major subfields of psychology. Photos: (group indoors) ©Alina555/ Getty Images; (DNA) ©Lawrence Lawry/Getty Images; (two males) ©Design Pics/Don Hammond; (group outdoors) ©Exactostock-1527/Superstock

What Are the Sources of Change and Stability in Behavior across the Life Span?

A baby producing her first smile . . . taking her first step . . . saying her first word. These universal milestones in development are also singularly special and unique for each person. *Developmental psychology* studies how people grow and change from the moment of conception through death. *Personality psychology* focuses on the consistency in people's behavior over time and the traits that differentiate one person from another.

How Do Psychological Factors Affect Physical and Mental Health?

Frequent depression, stress, and fears that prevent people from carrying out their normal activities are topics that would interest a health psychologist, a clinical psychologist, and a counseling psychologist. *Health psychology* explores the relationship between psychological factors and physical ailments or disease. For example, health psychologists are interested in assessing how long-term stress (a psychological factor) can affect physical health and in identifying ways to promote behavior that brings about good health (Proyer et al., 2013; Boyraz et al., 2016; Sauter & Hurrell, 2017).

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Clinical psychology deals with the study, diagnosis, and treatment of psychological disorders. Clinical psychologists are trained to diagnose and treat problems that range from the crises of everyday life, such as unhappiness over the breakup of a relationship, to more extreme conditions, such as profound, lingering depression.

Like clinical psychologists, counseling psychologists deal with people's psychological problems, but the problems they deal with are more specific. *Counseling psychology* focuses primarily on educational, social, and career adjustment problems. Many large business organizations employ counseling psychologists to help employees with work-related problems.

Some clinical and counseling psychologists specialize in *forensic psychology,* which applies psychology to the criminal justice system and legal issues. For example, forensic psychologists may be asked to examine people accused of crimes to determine if they are competent to stand trial or have psychological disorders.

How Do Our Social Networks Affect Behavior?

Our complex networks of social interrelationships are the focus for a number of subfields of psychology. For example, *social psychology* is the study of how people's thoughts, feelings, and actions are affected by others. Social psychologists concentrate on such diverse topics as human aggression, liking and loving, persuasion, and conformity.

Cross-cultural psychology investigates the similarities and differences in psychological functioning in and across various cultures and ethnic groups. For example, cross-cultural psychologists examine how cultures differ in their use of punishment during child-rearing.

Expanding Psychology's Frontiers

The boundaries of the science of psychology are constantly growing. Three newer members of the field's family tree—evolutionary psychology, behavioral genetics, and clinical neuropsychology—have sparked particular excitement, and debate, within psychology.

Evolutionary Psychology. *Evolutionary psychology* considers how behavior is influenced by our genetic inheritance from our ancestors. The evolutionary approach suggests that the chemical coding of information in our cells not only determines traits such as hair color and race but also holds the key to understanding a broad variety of behaviors that helped our ancestors survive and reproduce.

For example, evolutionary psychologists suggest that behavior such as shyness, jealousy, and cross-cultural similarities in qualities desired in potential mates are at least partially determined by genetics, presumably because such behavior helped increase the survival rate of humans' ancient relatives (Blasi & Causey, 2010; Fost, 2015; Lewis et al., 2017).

Behavioral Genetics. Another rapidly growing area in psychology focuses on the biological mechanisms, such as genes and chromosomes, that enable inherited behavior to unfold. *Behavioral genetics* seeks to understand how we might inherit certain behavioral traits and how the environment influences whether we actually display such traits (Maxson, 2013; Vukasović & Bratko, 2015; Krüger, Korsten, & Hoffman, 2017).

Clinical Neuropsychology. *Clinical neuropsychology* unites the areas of neuroscience and clinical psychology: it focuses on the origin of psychological disorders in biological factors. Building on advances in our understanding of the structure and chemistry of the brain, this specialty has already led to promising new treatments for psychological disorders as well as debates over the use of medication to control behavior (Boake, 2008; Chelune, 2010; Craig, 2017).

❯❯ LO**1.3** Working at Psychology

Help Wanted: Instructor at a growing career college. Teach courses in introductory psychology and courses in specialty areas of cognitive psychology, perception, and learning. Strong commitment to quality teaching as well as evidence of scholarship and research productivity necessary.

• • •

Help Wanted: Industrial-organizational consulting psychologist. International firm seeks psychologists for full-time career positions as consultants to management. Candidates must have the ability to establish a rapport with senior business executives and help them find innovative and practical solutions to problems concerning people and organizations.

• • •

Help Wanted: Clinical psychologist. PhD, internship experience, and license required. Comprehensive clinic seeks psychologist to work with children and adults providing individual and group therapy, psychological evaluations, crisis intervention, and development of behavior treatment plans on multidisciplinary team.

As these job ads suggest, psychologists are employed in a variety of settings. Many doctoral-level psychologists are employed by universities and colleges or are self-employed, usually working as private practitioners treating clients (see Figure 2). Other work sites include businesses, hospitals, clinics, mental health centers, counseling centers, government human-services organizations, and even prisons. Psychologists are employed in the military, working with soldiers,