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Psychology AND LIFE

SIXTEENTH EDITION

and life

SIXTEENTH EDITION



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To Phil Zimbardo, who has served as an excellent model in psychology and in life —R. J. G.



To my family, who have always given me deep support for the time and energy required in generating this text; to my colleagues, whose ideas, research, and practice have influenced my thinking; and to my students, whose enthusiasm continues to fan my passion for psychology —P. G. Z.

■ Preface

Teaching introductory psychology is one of the greatest challenges facing any academic psychologist. Indeed, because of the range of our subject matter, it is probably the most difficult course to teach effectively in all of academia. We must cover both the micro-level analyses of nerve cell processes and the macro-level analyses of cultural systems; both the vitality of health psychology and the tragedy of lives blighted by mental illness. Our challenge in writing this text—like your challenge in teaching—is to give form and substance to all this information: to bring it to life for our students.

More often than not, students come into our course filled with misconceptions about psychology that they have picked up from the infusion of “pop psychology” into our society. They also bring with them high expectations about what they want to get out of a course in psychology—they want to learn much that will be personally valuable, that will help them improve their everyday lives. Indeed, that is a tall order for any teacher to fill. But we believe that *Psychology and Life* can help you to fill it.

Our goal has been to design a text that students will enjoy reading as they learn what is so exciting and special about the many fields of psychology. In every chapter, in every sentence, we have tried to make sure that students will want to go on reading. At the same time, we have focused on how our text will work within the syllabi of instructors who value a research-centered, applications-relevant approach to psychology.

This 16th edition of *Psychology and Life* is the third collaboration between Philip Zimbardo and Richard Gerrig. Our partnership was forged because we shared a commitment to teaching psychology as a science relevant to human welfare. We both could bring our teaching experience to bear on a text that balances scientific rigor with psychology’s relevance to contemporary life concerns. Furthermore, Richard’s expertise in cognitive psychology provided an important complement to Phil’s expertise in social psychology. With Richard as a coauthor, *Psychology and Life* has been able to keep pace with rapid changes in psychology, particularly in areas such as cognitive neuroscience. To signal his increasing involvement with the text, on this edition Richard has served as lead author. Even so, *Psychology and Life* remains a collaboration of like minds: Together, we celebrate both an ongoing tradition and a continued vision of bringing the most important psychological insights to bear on your students’ lives. The 16th edition is a product of this fine collaboration.

■ Text Theme: The Science of Psychology

The aim of *Psychology and Life* is to use solid scientific research to combat psychological misconceptions. In our experience as teachers, one of the most reliable occurrences on the first day of introductory psychology is the throng of students who push forward at the end of class to ask, in essence, “Will this class teach me what I need to know?”:

- My mother is taking Prozac: Will we learn what it does?
- Are you going to teach us how to study better?
- I need to put my son in day care to come back to school. Is that going to be all right for him?
- What should I do if I have a friend talking about suicide?

We take comfort that each of these questions has been addressed by rigorous empirical research. *Psychology and Life* is devoted to providing students with scientific analyses of their foremost concerns. As a result, the features of *Psychology and Life* support a central theme: psychology as a science, with a focus on *applying* that science to your students’ lives.

■ How We Know

An important goal of *Psychology and Life* is to teach the scientific basis of psychological reasoning. When our students ask us questions—what they need to know—they quite often have acquired partial answers based on the types of information that are available in the popular media. Some of that information is accurate, but often students do not know how to make sense of it. How do they learn to interpret and evaluate what they hear in the media? How can they become wiser consumers of the overabundance of research studies and surveys cited? How can they judge the credibility of these sources? To counteract this infusion of so-called reliable research, we provide students with the scientific tools to scrutinize effectively the information with which they are surrounded and to draw generalizations appropriate to the goals and methods of research.

With a feature we call “How We Know,” we seek several times in each chapter to confront students directly with the experimental basis of critical conclusions. We give

Chapter 8). There is considerable clinical evidence to support this view, notably from studies of a patient, H.M., perhaps psychology's most famous subject:

HOW WE KNOW

SOME CONSEQUENCES OF HIPPOCAMPAL DAMAGE When he was 27, H.M. underwent surgery in an attempt to reduce the frequency and severity of his epileptic seizures. During the operation, parts of his hippocampus were removed. As a result, H.M. could only recall the very distant past; his ability to put new information into long-term memory was gone. Long after his surgery, he continued to believe he was living in 1953, which was the year the operation was performed.

Damage to the hippocampus does not, on the other hand, impair the ability to acquire *implicit* memories, outside of conscious awareness. Thus, H.M. was able to

each “How We Know” study a title—“Friendship and Self-Serving Biases,” “Behavioral Treatments for Drug Addiction,” “Mood Effects on Language Use”—so that students can access them easily. Nearly 200 “How We Know” studies appear throughout the text. Our intention is not to maintain that each of these studies is the definitive answer to a particular research area but rather that each opens the door for further questions. Our mission is to reinvent the use of primary research in psychology and describe methodologies clearly, in language accessible to your students. In this way, your students have repeated opportunities to understand how progress is made in psychological research.

Psychology in the 21st Century

At the beginning of the 21st century, our students feel as if they are living in very special times—times that are bringing with them rapid changes. Those changes provide researchers in psychology and related fields with a host of new topics to address as well as a range of new techniques to do so. To reflect these new realities, in this edition of *Psychology and Life* we have added a special feature, boxes we call “Psychology in the 21st Century.” These boxes cover a diversity of topics, all at the cutting edge: “Can Technology Restore Sight?,” “Relationships and the Internet,” “Expert Systems and Medicine.” Each Psychology in the 21st Century box demonstrates the flexibility with which psychological research tackles new issues and creates new applications.

Psychology in Your Life

The questions we cited earlier are real questions from real students, and your students will find the answers throughout the book. These questions represent data we collected from students over the years. We asked them, “Tell us what you need to know about psychology,” and we have placed those questions—your students’ own

PSYCHOLOGY IN THE 21ST CENTURY

VIRTUAL REALITY

Here is a plot device that has become commonplace in TV shows and movies at the turn of the century: The hero and heroine becomes immersed in some virtual world—a world generated by a computer—with dramatic consequences. For example, in *The Matrix* (spoiler: don't read the rest of this sentence if you haven't seen the movie) the hero discovers that everything that he took to be “real” is actually a highly elaborate virtual reality, enacted by the supercomputers that have come to dominate the planet. Fortunately, the versions of virtual re-

onment. Presence has been defined along several different dimensions, including the virtual world's ability to draw participants into a socially rich

How does this apply in virtual environments? The researchers found that participants' lane-keeping performance was improved when the di-

PSYCHOLOGY IN YOUR LIFE

WHEN DO CHILDREN ACQUIRE CONSCIOUSNESS?

It seems very likely that at some point in your life you've looked down into a crib at a newborn, or very young child, and wondered to yourself: “What's going on in this child's head?” Often, this question translates into an issue of consciousness: When does the child become conscious of him- or herself as a self? Research has suggested that children acquire, in turn, a subjective self and then an objective self (Lewis, 1991; 1999):

- Children have acquired a *subjective self*, or *subjective self-awareness*, when they have come to the real-

do they realize that the image in the mirror is them? To answer this question, researchers asked mothers to put a small dot of rouge on their children's noses, without allowing the children to know that they were being marked—this is the *nose dot test*. Children understand some of the properties of mirrors at a fairly young age. For example, as early as 6 months, children will reach out and touch some parts of the image in the mirror. However, it isn't until about age 18 months that most children touch their noses in response to the dot of rouge (Bertenthal & Fischer, 1978). Apparently, it is not

an experimenter secretly put a sticker in the child's hair. Some of the children were shown videotape of themselves with the sticker in a *live* recording: They could see the sticker in their hair while they were doing the thing they were doing. The other half of the children watched a videotape about a three-minute delay: They were watching a tape of themselves, with the sticker in their hair, carrying out activities from the recent past. About two-thirds of the children in the *live* group reached up to the stickers, but only about one-third of the children did so in the delay group. In fact, it was only

voices—directly into the text in the form of “Psychology in Your Life” boxes. Each chapter includes a box that addresses questions such as “Why Study Psychology?” (Chapter 1), “When Do Children Acquire Consciousness?” (Chapter 6), and “Why Do People Join Cults?” (Chapter 18). Our hope is that your students will see, in each instance, exactly why psychological knowledge is directly relevant to the decisions they make every day of their lives.

■ Text Organization

Psychology is a field that continues to evolve. We intend the revised organization of this edition of *Psychology and Life* to reflect the way in which psychological research is configured at the turn of the 21st century. Our text organization also incorporates feedback from the text’s reviewers and users—both students and professors. They have helped us devise an organization that provides even more support to our theme of psychology as a science.

For example, this edition of *Psychology and Life* features a separate chapter (Chapter 2) on research methods. The goal of that chapter is to acquaint your students with the challenges that researchers face when they attempt to answer important questions and the methods those researchers have devised to overcome those challenges. We also hope that this chapter will inspire your students to undertake the type of critical thinking that we encourage throughout the text. Also new to this edition is a separate chapter on intelligence and intelligence testing (Chapter 10). We found in our own teaching of introductory psychology that the domain of intelligence was one about which students often had the most questions before they enrolled in our courses. To address students’ concerns, we now highlight that material in a separate chapter.

Because professors have responded with consistent enthusiasm, other aspects of *Psychology and Life* have remained unchanged. For example, we retain two chapters to cover material on sensation (Chapter 4) and perception (Chapter 5). Students have great intrinsic interest in the processes that make the external world accessible to internal processing. These two chapters are rich with descriptions and demonstrations that allow students to rethink their experience of the world. Similarly, we retained separate chapters on social processes and relationships (Chapter 17) and social psychology, society, and culture (Chapter 18). Researchers in the field of social psychology have most often assumed the burden of tackling the new research issues that arise from different historical circumstances. We have divided the social psychological material into two chapters to enable us to show students how this type of research can have broad

implications for their most pressing issues at both personal and societal levels.

■ Pedagogical Features

Psychology and Life has maintained a reputation for presenting the science of psychology in a way that is challenging, yet accessible, to a broad range of students, and the 16th edition is no exception. To enhance students’ experience with the book, we include several pedagogical features:

- **Chapter-opening vignettes.** Each chapter opens with a brief vignette designed to draw students into the chapter content. We have drawn from sources as diverse as Helen Keller’s *The Story of My Life*, for the cognitive chapter, and Colin Turnbull’s observations in the African plains for the perception chapter.
- **Summing Up.** In each chapter, *Summing Up* sections are located at the end of each major section. These summaries provide students with a quick check of the main points as they read, and help students locate key ideas in later review.
- **Recapping Main Points.** Each chapter concludes with a chapter summary, *Recapping Main Points*, which summarizes the chapter content and is organized according to major section headings.
- **Key Terms.** Key terms are boldfaced in the text as they appear and are listed, with page references, at the end of each chapter for quick review.
- **New marginal glossary.** In addition to our end-of-text glossary, which functions as a minidictionary of psychology to provide students with a comprehensive resource they can use now and in future courses, we have added a marginal glossary in this edition. The marginal glossary allows students to check their understanding of key concepts as they read the text.

Also, your students can learn how to get the most out of their text by consulting “To the Student: How to Use This Book,” which begins on page xxv.

- **Genotype** The genetic structure an organism inherits from its parents.
 - **Phenotype** The observable characteristics of an organism, resulting from the interaction between the organism’s genotype and its environment.

■ New in the 16th Edition

In addition to the new features mentioned earlier, *Psychology and Life* is fresh with the most up-to-date coverage and brimming with over 300 new references. Our goal is to be the most current, most accurate, and most accessible treatment of our discipline today. The 16th edition of *Psychology and Life* also incorporates new research on the diversity of people's life experiences. We intend our book to have meaning for the whole range of students who enroll in introductory psychology—men and women, members of diverse cultural and racial groups, traditional and nontraditional students. Wherever possible, we have brought new research to bear on cultural issues.

We have already noted organizational changes we undertook in response to feedback from our users: We have separate chapters on research methods and intelligence. In addition, the 16th edition of *Psychology and Life* has been streamlined to be slimmer than its predecessors. We have sought and used much careful advice to make the book briefer without shirking either classic or cutting-edge research. Finally, *Psychology and Life* is now the sole, premiere text accompanying the revised *Discovering Psychology* telecourse. This course supplement, which includes 26 half-hour video programs, study and faculty guides, and a coordinated Web site, is a landmark educational resource that reveals psychology's contribution not only to understanding the puzzles of behavior but also to identifying solutions and treatments to ease the problems of mental disorders.

■ Specific Content Changes

- Our expanded **cultural coverage** looks to the past, present, and future. For example, in Chapter 1 we include expanded discussion of the contributions made by women in psychology's early history. In Chapter 13, we describe important new research on gender differences in physiological responses to stress. In Chapter 18, the "Psychology in the 21st Century" box discusses consequences of the way in which the Internet has made the world seem smaller.
- We examine the **impact of technology on psychological research**. Chapter 3 provides information on the very newest techniques that are being used to localize function in the brain. We also consider advances in knowledge based on genetic analyses. For example, in Chapter 12 we describe research that examines genes and obesity.
- Several of our "Psychology in the 21st Century" boxes document the **impact of technology on people's lives**. For example, in Chapter 14 we describe

how people can explore different "possible selves" on the Internet. Similarly, in Chapter 17 we describe cutting-edge research on the impact the Internet has on social relationships.

- Our coverage of **psychopathology and treatment** includes the latest version of the *DSM*—*DSM-IV-TR*. In addition, we have enhanced our coverage of sociocultural perspectives on psychopathology. Our "Psychology in the 21st Century" boxes discuss the diagnosis of "Internet addiction" (Chapter 15) and the prospects for therapy and self-help on the World Wide Web (Chapter 16).
- We have enhanced our coverage of **intelligence assessment** with new examples of test questions and an analysis of assessment on the World Wide Web (Chapter 10). We have moved coverage of **personality assessment** to the chapter on personality (Chapter 14) to facilitate greater integration of topics.

■ The Total *Psychology and Life* Teaching Program

A good textbook is only one part of the package of educational materials that makes an introductory psychology course valuable for students and effective for instructors. To make the difficult task of teaching introductory psychology easier for you and more interesting for your students, we have prepared a number of valuable ancillary materials in both electronic and print form.

- **Instructor's Manual.** Written by John Boyd, this unique instructor's manual offers both general teaching strategies and specific tactics that have been class-tested and are known to succeed. For each chapter of the text, you will find detailed learning objectives and outlines, innovative lecture ideas and discussion topics, student activities and demonstrations, biographical profiles, comprehensive timelines, suggestions for further reading, and a complete media resource section.
- **Test Bank.** Written by John Caruso of the University of Massachusetts, Dartmouth, this test bank includes more than 2,000 multiple-choice and essay items. Each question is page-referenced; keyed according to chapter, type, topic, and skill level (factual, applied, or conceptual); and cross-referenced to the Study Guide.
- **Allyn and Bacon Test Manager—Computerized Test Bank.** (Available for Windows and Macintosh; DOS disk available upon request.) Allyn and Bacon Test Manager is an integrated suite of testing and assessment tools for Windows and Macintosh. You can use Test Manager to create professional-looking

exams in just minutes by building tests from the existing database of questions, editing questions, or adding your own. Course management features include a class roster, gradebook, and item analysis. *Test Manager* also has everything you need to create and administer online tests. For first-time users, there is a guided tour of the entire *Test Manager* system and screen wizards to walk you through each area.

- ***Allyn and Bacon Transparencies for Introductory Psychology, 2001.*** A full set of color acetate transparencies is available to enhance classroom lectures and discussion. These images come from a wide range of sources, to support and extend teaching and learning.
- ***Discovering Psychology Telecourse Videos.*** Written, designed, and hosted by Philip Zimbardo, this set of 26 half-hour videos is available for class use from the Annenberg/CPB collection. Revised for 2001, the collection includes two completely new programs and more than 15 new sequences that bring students up-to-date on some of the latest developments in the field. A perfect complement to *Psychology and Life*, this course supplement has won numerous prizes and is widely used in the United States and internationally. Contact 1-800-LEARNER for more information.
- ***Discovering Psychology Telecourse Study Guide.*** In consultation with Phil Zimbardo, Nancy Franklin of the State University of New York at Stony Brook authors the fully revised *Telecourse Study Guide* and *Telecourse Faculty Guide*. In this *Telecourse Study Guide*, each chapter corresponds to one program, expands upon the material covered in the program, specifies appropriate reading assignments, and reviews material covered in the text. In addition, the study guide includes learning objectives; reading assignments; key people and terms; video program summaries and test questions with answer key; textbook test questions with answer key; essay questions; student activities; additional book, article, and film resources; and annotated Web sites. All vocabulary and review questions are keyed to *Psychology and Life*.
- ***Discovering Psychology Telecourse Faculty Guide.*** The *Telecourse Faculty Guide* provides guidelines for using *Discovering Psychology* as a resource within your course. Keyed directly to *Psychology and Life*, the faculty guide includes the complete *Telecourse Study Guide* plus suggested activities; suggested essays; cited studies; instructional resources including books, articles, films, and Web sites; video program test questions with answer key; textbook test questions with answer key; and a key-term glossary.
- ***Student Study Guide with Practice Tests.*** Authored by Richard Gerrig, this innovative workbook provides students with a variety of dynamic activities designed to strengthen the learning experience. Each

chapter begins with an outline and “what you need to know” questions for each major topic. Next, a “Guided Study” section directs the students’ learning by providing a variety of questions and exercises. Each chapter also includes suggestions “For Group Study” in which students are encouraged to master and extend course material with the help of their classmates. Finally, the *Study Guide* provides students with two practice multiple-choice tests and answers for each chapter.

- ***Practice Test Booklet.*** This booklet, written by Marjorie Hardy at Eckerd College, provides 25 multiple-choice questions for each chapter, allowing students to practice what they have learned using a simulated classroom quiz. The booklet also includes answers and page references to the text.
- ***Gerrig and Zimbardo PowerPoint Presentation CD-ROM.*** This book-specific presentation provides detailed outlines of key points for each chapter, supported by charts, graphs, diagrams, and other visuals from the textbook. Resources from the *Gerrig and Zimbardo Companion Web Site* are also integrated for easy access to this Web site from your classroom as well as the full set of electronic instructor’s manual files. This material is also available in a Web format accessible at www.abacon.com/ppt.
- ***Companion Web Site.*** The companion Web site for *Psychology and Life*, which can be accessed at www.ablongman.com/gerrig, offers a wide range of resources for both instructors and students. Each chapter contains learning objectives, annotated Web-links, Web activities, interactive online quizzes, labeling activities, and multiple-choice practice tests.
- ***Mind Matters CD-ROM.*** Developed by James Hilton, University of Michigan, and Charles Perdue, West Virginia State College, Mind Matters provides an in-depth, interactive experience in psychology that will enhance students’ success in the introductory course. This engaging CD-ROM presents and integrates concepts in ways that invite students to explore the “science of the mind” in an environment that combines text, graphics, humor, and interactivity. Rather than rewarding memorization, Mind Matters nurtures exploration and integration by means of a series of self-contained units. Flexibly organized, it can be used in conjunction with any introductory text. This CD is accompanied by a Faculty Guide with detailed descriptions and test questions.
- ***Psychology on the Net, 2002.*** Updated to reflect the most current URLs related to the study of psychology, this easy-to-read guide helps point you and your students in the right direction when looking at the tremendous array of information related to psychology on the Internet.

■ Additional Resources

- ***How to Think Straight about Psychology, 6th edition.*** This well-known critical thinking manual by Keith Stanovich helps students become educated consumers of psychological information, particularly those topics they may encounter in the media or self-help literature.
- ***Diversity Activities for Psychology.*** This student manual, developed by Valerie Whittlesey, offers a wide variety of hands-on activities to help incorporate issues of diversity into your classroom. Activities are correlated with all major areas of psychological research, making it easy to assign this supplement with the Gerrig and Zimbardo textbook.
- ***Ask Dr. Mike: Frequently Asked Questions about Psychology.*** Developed by Mike Atkinson, author of the popular “Ask Dr. Mike” column on the Psychology Place™ Web site, this manual contains a collection of commonly asked student questions with in-depth answers, organized by major topics in the introductory psychology course.
- ***Evaluating Psychological Information: Sharpening Your Critical Thinking Skills, 3rd edition.*** Developed by James Bell, this workbook focuses on helping students to evaluate psychological research systematically and to improve their critical thinking skills.
- ***Tools of Critical Thinking.*** This critical thinking text by David A. Levy provides tools and skills for approaching all forms of problem solving, particularly in psychology.
- ***Handbook for Psychology.*** This helpful handbook, created by Drew Appleby, provides students with a wide array of information ranging from majoring in psychology to graduate school and job opportunities with a psychology degree.
- ***How to Write Psychology Papers, 2nd edition.*** Les Parrott provides a brief overview for writing APA-style psychology papers, including information on overcoming paper panic, using the Internet, preparing a working reference list, avoiding plagiarism, and using inclusive language.

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■ To the Student

■ How to Use This Book

You are about to embark with us on an intellectual journey through the many areas of modern psychology. Before we start, we want to share with you some important information that will help guide your adventures. “The journey” is a metaphor used throughout *Psychology and Life*; your teacher serves as the tour director, the text as your tour book, and we, your authors, as your personal tour guides. The goal of this journey is for you to discover what is known about the most incredible phenomena in the entire universe: the brain, the human mind, and the behavior of all living creatures. Psychology is about understanding the seemingly mysterious processes that give rise to your thoughts, feelings, and actions.

This guide offers general strategies and specific suggestions about how to use this book to get the quality grade you deserve for your performance and to get the most from your introduction to psychology.

■ Study Strategies

1. **Set aside sufficient time** for your reading assignments and review of class notes. This text contains much new technical information, many principles to learn, and a new glossary of terms to memorize. To master this material, you will need at least three hours reading time per chapter.
2. **Keep a record of your study time** for this course. Plot the number of hours (in half-hour intervals) you study at each reading session. Chart your time investment on a cumulative graph. Add each new study time to the previous total on the left-hand axis of the graph and each study session on the baseline axis. The chart will provide visual feedback of your progress and show you when you have not been hitting the books as you should.
3. **Be an active participant.** Optimal learning occurs when you are actively involved with the learning materials. That means reading attentively, listening to lectures mindfully, paraphrasing in your own words what you are reading or hearing, and taking good notes. In the text, underline key sections, write notes to yourself in the margins, and summarize points that you think might be included on class tests.
4. **Space out your studying.** Research in psychology tells us that it is more effective to do your studying regularly rather than cramming just before tests. If you let yourself fall behind, it will be difficult to catch up with all the information included in introductory psychology at last-minute panic time.
5. **Get study-centered.** Find a place with minimal distractions for studying. Reserve that place for studying, reading, and writing course assignments—and do nothing else there. The place will come to be associated with study activities, and you will find it easier to work whenever you are seated at your study center.
6. **Encode reading for future testing.** Unlike reading magazines and watching television (which you do usually for their immediate impact), reading textbooks demands that you process the material in a special way. You must continually put the information into a suitable form (encode it) that will enable you to retrieve it when you are asked about it later on class examinations. Encoding means that you summarize key points, rehearse sections (sometimes aloud), and ask questions you want to be able to answer about the contents of a given section of a chapter as you read.
You should also take the teacher’s perspective, anticipating the kinds of questions she or he is likely to ask, and then making sure you can answer them. Find out what kind of tests you will be given in this course—essay, fill-in, multiple choice, or true–false. That form will affect the extent to which you focus on the big ideas and/or on details. Essays and fill-ins ask for recall-type memory, while multiple-choice and true–false tests ask for recognition-type memory. (Ask the teacher for a sample test to give you a better idea of the kinds of questions for which you need to prepare.)

■ Study Tactics

1. Review the **outline of the chapter.** It shows you the main topics to be covered, their sequence, and their relationship, giving you an overview of what is to come. The outline at the start of each chapter contains first-level and second-level headings of the major topics. The section headings indicate the structure of the chapter, and they are also convenient break points, or time-outs, for each of your study periods.

2. Jump to the end of the chapter to read the “**Recap-ing Main Points**” section. There you will find the main ideas of the chapter organized under each of the first-level headings, which will give you a clear sense of what the chapter will be covering.
3. Skim through the chapter to get the gist of its contents. Don’t stop, don’t take notes, and read as quickly as you can (one hour maximum time allowed).
4. Finally, dig in and master the material by actively reading, underlining, taking notes, questioning, rehearsing, and paraphrasing as you go (two hours minimum time expected). Pay particular attention to the “**Summing Up**” paragraphs that appear at the end of each section. They serve as an outline of the entire chapter.

■ Special Features

1. Each chapter opens with a brief **vignette** designed to draw you into the chapter content. These openings have two purposes: to grab and focus your attention and to show you the broader relevance of the material to be covered. These openings underscore a basic theme of the chapter. Be especially alert when we refer back to them, because we’ll use them to tie together the loose ends of the chapter.
2. The purpose of the “**How We Know**” feature is to help you see the direct link between the experiments researchers conduct and the conclusions they draw. This feature allows you to see the close relationship between psychological research and application.
3. The “**Psychology in Your Life**” boxes also present applications of psychological research to your everyday life. Each of these boxes presents an answer to a question that we have been asked in class by our own students and that we imagine you might ask us.
4. The “**Psychology in the 21st Century**” boxes describe topics and techniques for research that are on the cutting edge at the beginning of the new century. Each box presents applications of psychological research relevant to your experience of these swiftly changing times.
5. **Key terms** and **major contributors** are highlighted within the chapter in **boldface type** so they will stand out for you to notice. When you study for a test, be sure you can define each term and identify each major researcher. In addition, all key terms are listed alphabetically at the end of the chapter.
6. A definition for each key term is provided in a **marginal glossary**. You should use these definitions to test your understanding of these important concepts as you read the text. These key terms are also gathered together in the **glossary**, found at the end of

the text. The glossary provides formal definitions of all key terms that appear in the text, and the page numbers on which they appear. Use it to refresh your memory while studying for tests.

7. The “**Summing Up**” sections encapsulate the key points that you should know before going ahead to the next section. Review the summaries as you finish your in-depth reading of each main section. If you don’t understand a summary point, plunge back into the text and reread the appropriate material until you feel confident that you understand. Similarly, use these summaries as a starting point for your studying before tests.
8. The **references**, also at the end of the text, present bibliographic information on every book, journal article, or media source cited in the text. They are a valuable resource in case you wish to find out more about some topic for a term paper in this or another course or just for your personal interest. A name and date set off by parentheses in the text—(Freud, 1923)—identifies the source and publication date of the citation. You will then find the full source information in the references section. Citations with more than two authors list the senior author followed by the notation *et al.*, which means “and others.”
9. The **Name Index** and **Subject Index**, also at the end of the text, provide you with alphabetized listings of all terms, topics, and individuals that were covered in the text, along with their page citations.
10. Finally, your study and test performance is likely to be enhanced by using the *Student Study Guide and Practice Tests* that accompanies *Psychology and Life*. It was prepared to give students a boost in studying more efficiently and taking tests more effectively. The *Study Guide* contains helpful tips for mastering each chapter, sample practice tests and answers, and interesting experiments and demonstrations (especially valuable if your course has sections or a laboratory component).

So, there you have it—some helpful hints to increase your enjoyment of this special course and to help you get the most out of it. Our text will demand concentrated attention when you are studying to master its wealth of information. Other texts may seem to be easier because they do not give you as much depth as *Psychology and Life*, but then less in means less out.

We appreciate the opportunity your teacher has provided in selecting *Psychology and Life*. You will find it a source of valuable knowledge about a wide range of topics. Many students have reported that *Psychology and Life* has proven to be an excellent reference manual for term papers and projects in other courses as well. You might consider keeping it in your personal library of valuable resources. However, we must begin at the beginning, with the first steps in our journey.

■ A Final Request

Throughout this book, and through many previous editions, we have tried to make *Psychology and Life* interesting and relevant to you. We have done our best to show you the link between psychological research and your daily life—to show you that what happens in a psychologist's laboratory or clinic explains and elucidates the everyday mysteries of your mind. To do this, we have described why people react the way they do to horror movies, why some people like to eat hot peppers, and why many messages have multiple meanings. As you read, we would like you to think of relevant and interesting examples from your own life, and to send them to us (use the student feedback form on our Web site at www.ablongman.com/gerrig). We might even ask to **publish your examples in future editions of this book!**

We invite you to become part of *Psychology and Life* with us. And we can't wait to start on our journey with you.

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Gerrig is the proud father of Alexandra, who at age 10 provides substantial and valuable advice about many aspects of psychology and life in the 21st century. Life on Long Island is greatly enhanced by the guidance and support of Timothy Peterson.

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Zimbardo is the proud father of Adam, Zara, and Tanya. His wife, Christina Maslach, is a professor of psychology at the University of California, Berkeley, and also an award-winning distinguished teacher.

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