

FOURTH EDITION

# PSYCHOLOGY



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# PSYCHOLOGY

FOURTH EDITION

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*To the researchers, past and present, whose work embodies psychology today, and to the students who will follow in their footsteps to shape the psychology of tomorrow.*

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# PREFACE

IN REVISING *PSYCHOLOGY* WE have rededicated ourselves to the goals we pursued in the first three editions:

- To explore the full range of psychology, from cell to society, in an eclectic manner as free as possible from theoretical bias.
- To balance our need to explain the content of psychology with an emphasis on the *doing* of psychology, through a blend of conceptual discussion and description of research studies.
- To foster scientific attitudes and to help students learn to think critically by examining the ways that psychologists have solved, or failed to solve, fascinating puzzles of behavior and mental processes.
- To produce a text that, without oversimplifying psychology, is clear, accessible, and enjoyable to read.
- To demonstrate that, in spite of its breadth and diversity, psychology is an integrated discipline in which each subfield is linked to other subfields by common interests and overarching research questions. The productive cross-fertilization among social, clinical, and biological psychologists in researching health and illness is just one example of how different types of psychologists benefit from and build on one another's work.

Preparing the Fourth Edition provided us with new ways to do justice to our goals.

We sought to respond to the needs of instructors who wanted us to reduce or expand coverage of various topics. For example, many instructors asked us to expand our coverage of the history of psychology and to show how scientific research methods appear in all of psychology's subfields. As a result, Chapter 1 now contains a section called "A Brief History of Psychology," and Chapters 3 through 18 each contain a feature called Focus on Research Methods (described in more detail below).

We sought to strike an ideal balance between classic and current research. The important historic findings of psychological research are here, but so is coverage of much recent work. Approximately one-third of the research citations are new to the Fourth Edition, and we have added the latest information on such topics as:

- Methods for evaluating claims for the effectiveness of eye movement desensitization (Chapter 2)
- Action potentials in dendrites as well as axons (Chapter 3)
- Genes for color vision (Chapter 4)
- Auditory scene analysis (Chapter 5)
- Mental processing without awareness (Chapter 6)

- Active learning in the classroom (Chapter 7)
- The repressed memory controversy (Chapter 8)
- The circle of thought (Chapter 9)
- Theories of intelligence (Chapter 10)
- The biological and environmental bases of sexual orientation (Chapter 11)
- Cognitive development (Chapter 12)
- Cynical hostility and health (Chapter 13)
- The big-five model of personality (Chapter 14)
- Child abuse and antisocial personality disorder (Chapter 15)
- Meta-analysis of psychotherapy effects (Chapter 16)
- Subconscious processes and prejudice (Chapter 17)
- Factors affecting helping (Chapter 18)

The Fourth Edition also contains abundant new material on culture and human diversity. Throughout the text students will encounter recent research on multicultural phenomena both domestic and global. We introduce this multicultural emphasis in Chapter 1, and follow it through such topics as:

- Selecting human participants for research (Chapter 2)
- Culture, experience, and perception (Chapter 5)
- Classrooms across cultures (Chapter 7)
- Cultural differences in formal reasoning (Chapter 9)
- Knowledge, language, and culture (Chapter 9)
- Bilingualism (Chapter 9)
- Cultural bias in mental ability testing (Chapter 10)
- Ethnic differences in IQ (Chapter 10)
- Flavor, cultural learning, and food selection (Chapter 11)
- Social and cultural factors in sexuality (Chapter 11)
- Cultural and gender differences in achievement motivation (Chapter 11)
- Cultural aspects of emotional expression (Chapter 11)
- Culture and cognitive development (Chapter 12)
- Cultural background and heart disease (Chapter 13)
- Personality, culture, and human development (Chapter 14)
- Ethnic bias in psychodiagnosis (Chapter 15)
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- Gender and cultural differences in depression and suicide (Chapter 15)
- Cultural factors in psychotherapy (Chapter 16)
- Ethnic differences in responses to drug treatment (Chapter 16)
- Cultural differences in attribution (Chapter 17)
- The roots of ethnic stereotyping and prejudice (Chapter 17)
- Cultural factors in social norms (Chapter 18)
- Culture and social loafing (Chapter 18)
- Cultural factors in aggression (Chapter 18)



We also have increased our coverage of behavioral genetics and evolutionary psychology. These topics are introduced in Chapters 1 and 2 and in a new behavioral genetics appendix. They are also explored wherever appropriate—for example, when we discuss:

- Gene manipulation research on the causes of Alzheimer's disease (Chapter 3)
- Biopreparedness for learning (Chapter 7)
- Genetic components of intelligence (Chapter 10)
- Genetic components of sexual orientation (Chapter 11)
- Evolutionary explanations of mate selection (Chapter 11)
- Innate expressions of emotion (Chapter 11)
- The genetics of prenatal development (Chapter 12)
- The heritability of personality (Chapter 14)
- Genetic factors in psychological disorders (Chapter 15)
- Evolutionary/genetic explanations for aggression, helping, and altruism (Chapter 18)

## CHAPTER ORGANIZATION

As always, we have refrained from grouping the book's eighteen chapters into sections. Indeed, we designed each chapter to be a freestanding unit so that you may assign chapters in any order you wish. For example, many instructors prefer to teach the material on human development relatively late in the course, which is why it appears as Chapter 12 in the Fourth Edition. But that chapter can be comfortably assigned earlier in the course as well.

## SPECIAL FEATURES

*Psychology* contains a number of special features designed to promote efficient learning and students' mastery of the material. Most of the features from previous editions have been revised and enhanced in the Fourth; two features are new to the Fourth Edition.

### Linkages

In our experience, most students enter the introductory course thinking that psychology concerns itself mainly with personality, psychological testing, mental disorders, psychotherapy, and other aspects of *clinical* psychology. They have little or no idea of how broad and multifaceted psychology is. Many students are surprised, therefore, when we ask them to read about neuroanatomy, neural communication, the endocrine system, sensory and perceptual processes and principles, prenatal risk factors, and many other topics that they tend to associate with disciplines other than psychology.

We have found that students are better able to appreciate the scope of psychology when they see it not as a laundry list of separate topics but as an interrelated set of subfields, each of which contributes to and benefits from the work going on in all of the others. To help students see these relationships, we have

built into the book an integrating tool called Linkages. There are four elements in the Linkages program:

1. Beginning with Chapter 2, a Linkages diagram at the top of the second page of each chapter presents a set of questions that illustrate three of the ways in which material in the chapter is related to other chapters in the book. For example, the Linkages diagram in Chapter 3 "Biological Aspects of Psychology" contains questions that show how biological psychology is related to consciousness ("Is there a way to drink alcohol without getting drunk?"), human development ("How do our brains change over a lifetime?"), and treatment of psychological disorders ("How do drugs help people who suffer from schizophrenia?").
2. The page numbers following each question in the Linkages diagram direct the student to pages that carry further discussion of that question. There, the linking question is repeated in the margin alongside the discussion.
3. One of the questions in each chapter's Linkages diagram is treated more fully in a special section later in the chapter entitled, appropriately enough, Linkages.
4. Each chapter contains at least one captioned photo illustrating yet another way in which the content of that chapter is related to the content of another chapter.

The Linkages elements combine with the text narrative to highlight the network of relationships among psychology's subfields. This Linkages program is designed to help students see the "big picture" that is psychology—no matter how many chapters their instructor assigns, or in what sequence.

### Thinking Critically

A section in each chapter is called Thinking Critically. We try throughout the book to describe research on psychological phenomena in a way that reveals the logic of the scientific enterprise, that identifies possible flaws in design or interpretation, and that leaves room for more questions and further research. In other words, we try to display critical thinking processes. The Thinking Critically sections are designed to make these processes more explicit and accessible by providing a framework for analyzing evidence before drawing conclusions. The framework is built around five questions that the reader should find useful in analyzing not only studies in psychology but other forms of communication as well. These questions, first introduced when we discuss the importance of critical thinking in Chapter 2, are

1. What am I being asked to believe or accept?
2. What evidence is available to support the assertion?
3. Are there alternative ways of interpreting the evidence?
4. What additional evidence would help to evaluate the alternatives?
5. What conclusions are most reasonable?

Thinking Critically sections new to the Fourth Edition include:

- Can traumatic memories be repressed, then recovered? (Chapter 8)
- Do genes determine sexual orientation? (Chapter 11)
- Is ethnic prejudice too ingrained ever to be eliminated? (Chapter 17)

### Focus on Research Methods

This new feature, appearing in Chapters 3 through 18, examines the ways in which the research methods described in Chapter 2, Research in Psychology, have been applied to help advance our understanding of some aspect of behavior and mental processes. By describing in some detail the design and methodology of one particularly interesting research project, the Focus on Research Methods section is designed to help students appreciate the value of a particular research method and the creativity with which psychologists have applied it. Examples of these sections include the use of case-study methods to track the problem-solving methods that led to the invention of the airplane (Chapter 9, Thought and Language), the use of experiments to study attention (Chapter 5, Perception), learned helplessness (Chapter 7, Learning), the development of physical knowledge (Chapter 12, Human Development), and attribution (Chapter 17, Social Cognition). Other sections illustrate the use of quasi-experimental, survey, longitudinal, laboratory analogue, and meta-analytical designs. A full list of topics appears on p. xv.

### Behavioral Genetics Appendix

This new feature is designed to amplify the coverage of behavioral genetics methodology that appears in Chapter 2, Research in Psychology. The appendix includes a section on the basic principles of genetics and heredity, a brief history of genetic research in psychology, a discussion of what it means to say that genes influence behavior, and an analysis of what behavioral genetics research can—and cannot—tell us about the origins of such human attributes as intelligence, personality, and mental disorders.

### In Review Charts

In Review charts summarize information in a convenient tabular format. We have placed two or three In Review charts strategically in each chapter to help students synthesize and assimilate large chunks of information—for example, on drug effects, key elements of personality theories, and stress responses and mediators.

### Future Directions

Each chapter concludes with Future Directions, a section intended to excite and inform students about new trends in psychology. Here we offer our views on the directions that theory, research, and applications are likely to take in future years.

We also suggest courses that an interested student could take in psychology and other disciplines to learn more about the chapter's topic.

### Chapter Summaries

These summaries are configured to reflect clearly the heading structure of each chapter. The chapters' key terms are integrated into the summaries rather than set off as a separate list. These terms are defined in the glossary.

## TEACHING AND LEARNING SUPPORT PACKAGE

Many useful materials have been developed to support *Psychology*. Designed to enhance the teaching and learning experience, they are well-integrated with the text and include some of the latest technologies. Several components are new to this edition.

### Annotated Instructor's Edition

To help instructors coordinate the many print, software, and video supplements available with the text, an Annotated Instructor's Edition shows which materials apply to the content on every page of the student text. These materials include learning objectives, test questions, discussion and lecture ideas, handouts, active learning activities from the study guide, videodisc segments, computer simulations, overhead transparencies, and so forth.

### Print Ancillaries

Accompanying this book are, among other ancillaries, a *Test Bank*, an *Instructor's Resource Manual*, and a *Study Guide*. Because these items were prepared by the lead author and his colleagues from the University of Illinois psychology department, you will find an especially high level of coordination between the textbook and these supplements. All three are unified by a shared set of learning objectives. Equally important, all three have been significantly revised and enhanced for the Fourth Edition.

**Test Bank** The *Test Bank*, by Graeme McGufficke, Sandra S. Goss, and Douglas A. Bernstein, contains more than 3,000 multiple-choice items plus three essay questions for each chapter of the text. Half of the multiple-choice questions are new; in all others, the foils have been scrambled.

All multiple-choice items are keyed to pages in the textbook and to the learning objectives listed in the *Instructor's Resource Manual* and *Study Guide*. In addition, questions that ask students to apply their knowledge are now distinguished from those that require factual recall. More than 1,600 questions have already been class-tested with between 500 and 2,500 students and are accompanied by graphs indicating the question's discriminative power, level of difficulty, the percentage of students who chose each response, and the relationship between

students' performance on a given item and their overall performance on the test in which the item appeared.

**Instructor's Resource Manual** The *Instructor's Resource Manual*, by Joel I. Shenker, Sandra S. Goss, and Douglas A. Bernstein, contains a complete set of lecture outlines, learning objectives, and numerous specific teaching aids—many of them new to the Fourth Edition—including handouts, demonstrations, and classroom exercises. It also contains a new section on active learning techniques and other material that will be useful to teachers of large introductory courses, such as a section on classroom management and administration of large multisection courses, and a discussion of careers in psychology that instructors may want to distribute to students.

**Study Guide** The *Study Guide*, by Amanda Allman, Bridget Schoppert, and Douglas A. Bernstein, employs numerous techniques that help students to learn. Each chapter contains a detailed outline, a key-terms section that presents fresh examples and aids to remembering, learning objectives, a Concepts and Exercises section that shows students how to apply their knowledge of psychology to everyday issues and concerns, a Critical Thinking exercise, and new Personal Learning Activities. In addition, each chapter concludes with a two-part self-quiz consisting of forty multiple-choice questions. An answer key tells the student not only which response is correct but also why each of the other choices is wrong, and new answer-key tables enable students to track patterns to their wrong answers, either by topic or by type of question—definitional, comprehension, or application.

**Succeed in College!** *Succeed in College!* is a skills-building booklet containing selected chapters from Walter Pauk's best-selling study skills text *How to Study in College*. This booklet, which offers time-tested advice on notetaking, test-taking, and other topics, as well as a section on Careers in Psychology, can be shrinkwrapped free of charge with new copies of the student text.

**Internet Guide for Psychology** Houghton Mifflin's *Internet Guide for Psychology*, by David Mahony of St. John's University, is available at no cost to students who purchase *Psychology*. This handy manual introduces students to electronic mail, discussion groups, on-line journals, Usenet newsgroups, the World Wide Web, APA Reference Style for the Internet, and more, and it provides students with step-by-step exercises and a wealth of addresses and sites relevant to psychology.

## Electronic and Video Ancillaries

In an effort to keep up with the technological developments on campus in the 1990s, we provide the following electronic and video supplements to *Psychology*:

**Power Presentation Manager Software** This powerful program allows instructors to create exciting and well-organized

classroom presentations. It provides line art, tables, lecture outlines, pre-planned PowerPoint® presentations, and access to *The Psychology Show* videodisc material. Instructors can also add their own PowerPoint® slides and presentations as well as access their own text and image files.

**Computerized Test Bank** The *Computerized Test Bank* allows instructors to generate exams and to integrate their own test items with those on the disk.

**Computerized Study Guide** The *Computerized Study Guide* is an interactive program that gives students feedback on incorrect as well as on correct answers.

**Psychabilities** *Psychabilities*, created by Sarah Ransdell, New College of the University of South Florida, consists of thirteen computer simulations, specially designed for use in either the classroom or the computer laboratory. The simulations illustrate intriguing phenomena and recreate important experiments, and they include a multiple-choice self-quizzing program to test progress and encourage mastery.

**The Psychology Show** Houghton Mifflin's video supplement for introductory psychology is available in both videodisc and videotape formats to qualified adopters. Containing nineteen motion segments plus nearly one hundred still images, *The Psychology Show* is designed to expand on text coverage and to stimulate class discussion through the length of your course. An accompanying instructor's guide offers information on each motion segment and still image and provides bar codes for videodisc use.

**Transparencies** The accompanying transparency set contains 100 images from the text, most in full color, plus over 60 images from outside the text.

**Other Multimedia Offerings** A range of videos, CD-ROMS, and other multimedia materials relevant to psychology are available free to qualified adopters. Houghton Mifflin sales representatives have further details.

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Finally, we want to express our deepest appreciation to our families and friends. Once again, their love saw us through an exhilarating but demanding period of our lives. They endured our hours at the computer, missed meals, postponed vacations, and occasional irritability during the creation of the First Edition of this book, and they had to suffer all over again during the lengthy process of revising it once more. Their faith in us is more important than they realize, and we will cherish it forever.

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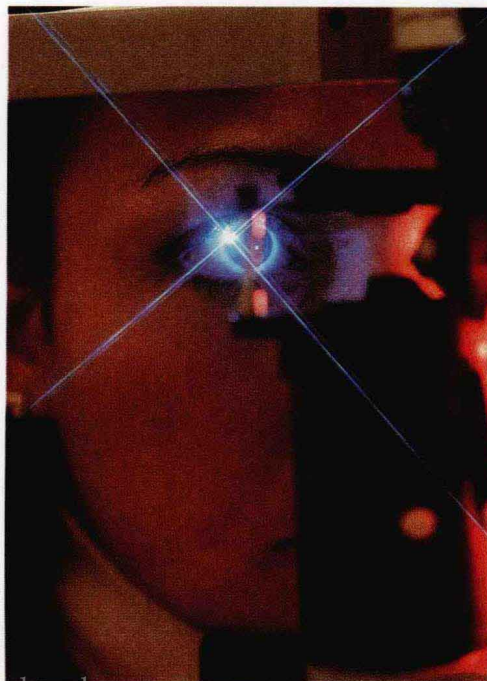
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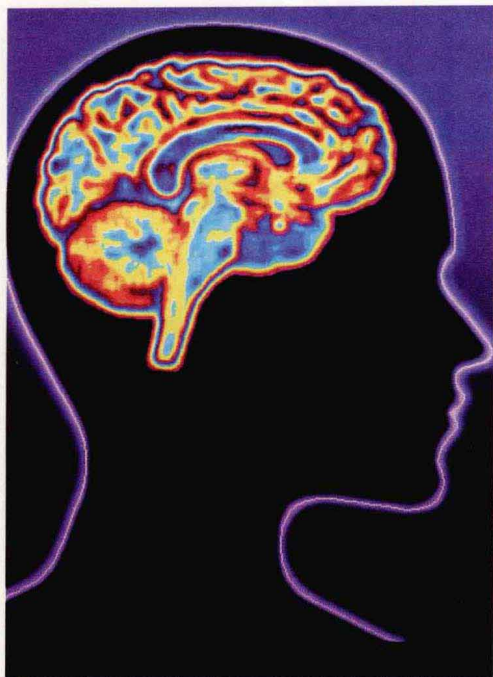
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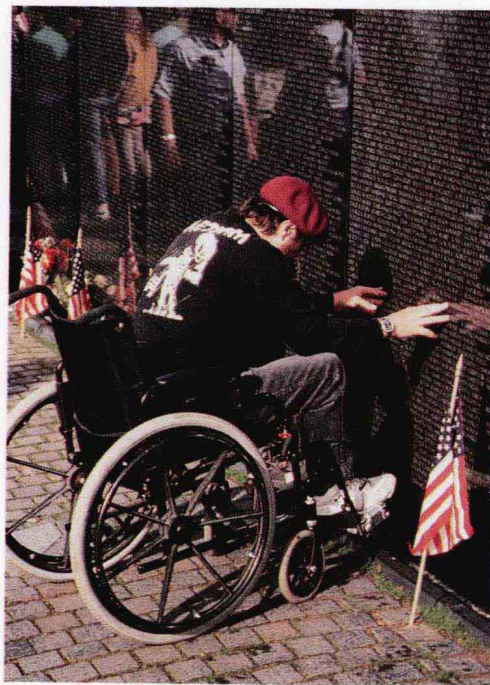
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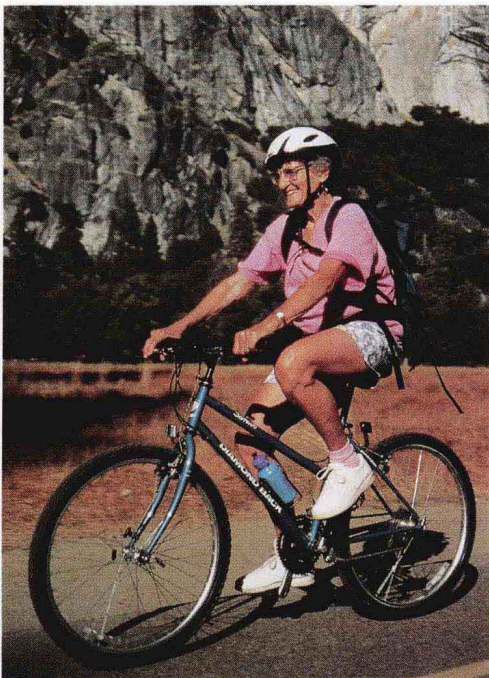
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