

#### Fourth Edition

# **Exploring Psychology**

**David G. Myers** 

Hope College, Holland, Michigan

#### To Carol, with love

**Exploring Psychology,** Fourth Edition

Copyright © 1999, 1996, 1993, 1990

by Worth Publishers, Inc.

All rights reserved.

Manufactured in the United States of America

Library of Congress Catalog Card Number: 98-85010

ISBN: 1-57259-416-0 (Paper edition) ISBN: 1-57259-656-2 (Cloth edition)

Printing: 1 2 3 4 5—03 02 01 00 99

Executive editor: Catherine Woods Project director: Penny Bice

Development editors: Betty Probert, Christine Brune

Design: Malcolm Grear Designers Design director: Jennie Nichols

Production editors: Laura Rubin, Elizabeth Geller Production managers: Sarah Segal, Patricia Lawson

Photo editor: Joan Meisel

Graphics art manager: Demetrios Zangos

Illustrations: Shawn Kenney, Bonnie Hofkin, and Demetrios Zangos

Composition and separations: TSI Graphics, Inc. Printing and binding: R.R. Donnelley and Sons

Cover and frontispiece: Kopf, by Alexej Jawlensky, 1920,

watercolor on paper, Christie's Images.

Illustration credits begin on page IC-1, and constitute

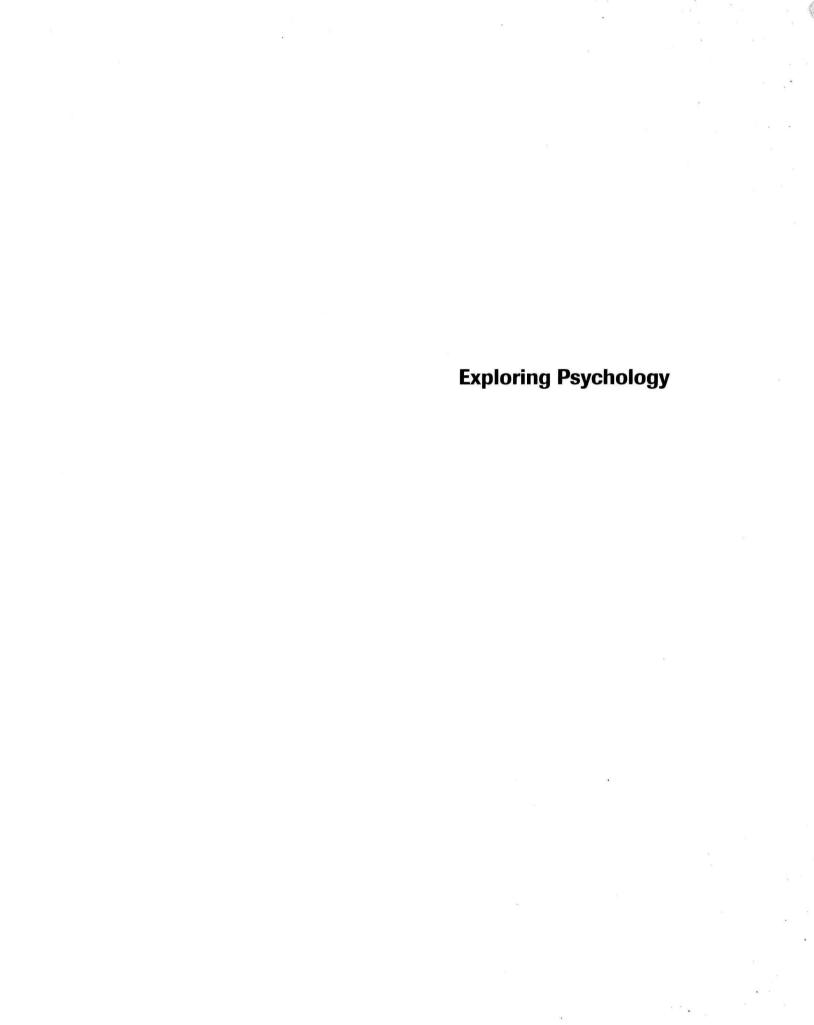
an extension of the copyright page.

All royalties from the sale of this book are assigned to the David and Carol Myers Foundation, which exists to receive and distribute funds to other charitable organizations.

#### Worth Publishers

33 Irving Place

New York, New York 10003



## **Preface**

ike the human beings whom psychologists study, textbooks, too, develop with age. From its conception in 1982 and through the first several editions of its childhood and youth, this book, like the field it reports, has matured. Today's psychological science is more attuned to gender and cultural diversity, evolutionary and genetic influences, and the neuroscience revolution. We today can also harness new ways to present information, both in books and via electronic media. These changes are exhilarating! Keeping up with new discoveries and technologies fills each day and connects me with many colleagues and friends.

The thousands of instructors and millions of students who have studied this book have contributed immensely to its development. Much of this has occurred spontaneously, through correspondence and conversations. I look forward to continued feedback as we strive, over future editions, to create an ever better book.

Throughout its four editions, however, my vision for *Exploring Psychology* has not wavered: to merge rigorous science with a broad human perspective in a book that engages both mind and heart. My aim has been to create a state-of-the-art introduction to psychology, written with sensitivity to students' needs and interests. I aspire to help students gain insight into, and appreciate the wonder of, important phenomena of their lives. I also want to convey the inquisitive, caring spirit in which psychologists do psychology. The study of psychology, I believe, enhances our abilities to restrain intuition with critical thinking, judgmentalism with compassion, and illusion with understanding.

Believing with Thoreau that "Anything living is easily and naturally expressed in popular language," I seek to communicate psychology's scholar-ship with crisp narrative and vivid storytelling. Writing as a solo author, I hope to tell psychology's story in a way that is warmly personal as well as rigorously scientific. I love to reflect on connections between psychology and other realms, such as literature, philosophy, history, religion, sports, politics, and popular culture. And I love to provoke thought, to play with words, and to laugh.

## Big Changes in the Fourth Edition

This new edition retains its predecessor's voice, and much of its content and organization. However, every page has been updated. The result is several hundred new references and many new sections and examples reflecting the psychology of the late 1990s. This edition also *looks* new. Its thoughtfully revised art program, including easier-to-read graphs, and many improved photos, should help it *work* better than ever.

## More Extensive Gender and Cultural Diversity Coverage

Thorough coverage of gender and cultural diversity is integrated throughout every chapter of the book. Topics range from the first chapter's discussions of the social-cultural perspective, of cultural and gender variations, and of "human diversity and kinship," through the last chapter's discussion of cultural and gender roles. In between are dozens more gender- and culture-related topics, including those itemized below and on the next page.

For this and succeeding editions I also am working to offer a world-based psychology for our worldwide student readership. Thus, I continually search the world for research findings and text and photo examples, conscious that readers may be in Melbourne, Sheffield, Vancouver, or Nairobi. North American and European examples come easily, given that I reside in the United States, maintain contact with colleagues in Canada, subscribe to several European periodicals, and live periodically in the United Kingdom. But this edition also offers more than 40 mentions of Australia and New Zealand. Thanks to increased migration and the growing global economy, we are all citizens of a shrinking world. Thus, American students, too, benefit from information and examples that internationalize their world-consciousness. And if psychology seeks to explain *human* behavior (not just American or Cana-

#### Coverage of the Psychology of Women and Men

#### Coverage of the psychology of women and men can be found on the following pages:

Abortion stress, pp. 370–371
Behavioral effects of gender, pp. 29–30
Biological sex/gender, p. 80
Dieting, p. 324
Dream content, p. 181
Eating disorders, p. 319
Emotion detecting, p. 306
Emotional expression, p. 352
Empty nest, p. 118
Freud's views, pp.392–393, 394–395, 396–397

Gender and child-rearing, pp. 97–98 Generic pronoun "he," p. 286 Happiness, p. 363 Heart disease, pp. 372–373 Hormones and aggression, p. 514 sexual behavior, pp. 328–329 sexual development, pp. 80, 100–101 Immune system, p. 374 Intelligence, pp. 304–306

Leadership, p. 342
Genital arousal in REM sleep, p. 175
Maturation, p. 101
Menarche, p. 100
Menopause, p. 110
Midlife crisis, pp. 136–137
Pornography, pp. 329–330
Psychological disorders, rates of, pp. 456–457
depression, pp. 442, 446, 447
Rape, pp. 214, 518–519

Sexual disorders, pp. 330–331
Sexual fantasies, pp. 171–172
Sexuality, pp. 326–332
Sexual orientation, pp. 332–336
Social clock, p. 115
Social connectedness, pp. 105–106
Suicide, p. 444
Weight discrimination, pp. 320–321
Women and work, pp. 118–119
Women in psychology, pp. 4, 7

#### Coverage of Culture and Multicultural Experience

From Chapter 1 to Chapter 14, coverage of culture and multicultural experience permeates the book in the following discussions:

Aggression, p. 516
Alcoholism, p. 428
Anger, pp. 357–358
Attractiveness, pp. 524–525
Behavioral effects of culture, pp. 29–30
Conformity, p. 498
Corporal punishment practices, p. 221
Culture context effects, p. 158
Culture shock, p. 417
Deaf culture, pp. 65, 140, 278, 282, 286, 287
Depression, p. 446
Development:
adolescence, pp. 99

child-rearing, pp. 96–97
moral development, p. 103
motor development, p. 84
Dieting, pp. 323–324
Drug use, pp. 199, 200–201
Emotion:
expressing, pp. 353–354
experiencing, p. 356
Human diversity/kinship, p. 31
Hunger, p. 318
Individualism/collectivism, pp. 411–413
Intelligence, pp. 295, 302–304
Language, pp. 286–287
Management styles, pp. 342–343

Marriage, p. 116
Obesity, p. 320
Participative management, p. 342
People with disabilities, pp. 359–360, 364–365
Personal space, pp. 17, 507
Prejudice prototypes, p. 269
Psychological disorders, pp. 428, 456–457
dissociative personality disorder, p. 439
eating disorders, p. 319
schizophrenia, pp. 451, 453
Psychotherapy, pp. 481–482
Self-esteem, p. 409

Self-serving bias, p. 410
Sexual orientation, pp. 332–333
Sexual standards, pp. 108–109
Social-cultural perspective, pp. 5–6
Social clock, p. 115
Suicide, p. 444
Teen sexuality, pp. 107–109
Testing bias, pp. 306–307
Work-related values, p. 115

dian or Australian behavior), the broader the scope of studies presented, the more accurate is our picture of this world's people. My aim is to expose all students to the world beyond their own country. Thus, I continue to welcome input and suggestions from readers everywhere.

## **Increased Evolution and Behavior Genetics Coverage**

The evolutionary and behavior genetics perspectives on psychology are now introduced in the first chapter, and coverage of these issues is extensively integrated throughout the book. Chapter 2 offers a new main section on "Genetics and Behavior," which includes subsections on evolutionary psychology and behavior genetics. This new section introduces students to basic concepts of evolution and behavior genetics that will recur throughout the book.

The integrated coverage of evolution and genetics appears in almost every chapter. For example, Chapter 3 (The Developing Person) discusses "The Genetics of Life" and "Sex Chromosomes, Sex Hormones, and Gender." Chapter 8 (Thinking, Language, and Intelligence) includes a lengthy section on "Genetic and Environmental Influences on Intelligence."

New discoveries from the neuroscience frontier have also been added, building on Chapter 2's axiom that "everything psychological is simultaneously biological." Rather than pack all this information into an early chapter or two, much of it is more palatably disseminated throughout the book. Chapter 2, "Biology and Behavior," thus aims not to overwhelm students with biology, but to introduce important concepts and to whet readers' appetite for more.

### **Evolution and Behavior Genetics Coverage**

The evolutionary perspective is covered on the following pages:

Anxiety disorders, p. 436 Attraction, pp. 524-525 Biological predispositions in learning, pp. 211-213, 222-223 Chapter 2, Biology and Behavior Charles Darwin, pp. 2, 3 Electromagnetic spectrum, sensitivity to, p. 131 Emotional expression, p. 354

Emotion detecting, pp. 358-359 Evolutionary perspective, defined, pp. 5-6

Hearing, p. 138 Instincts, p. 312

Intelligence, pp. 358-359

Language, pp. 277, 279-282

Love, p. 116

Need to belong, p. 337

Overconfidence, p. 274

Sensation, p. 126

Sensory adaptation, p. 129

Sleep, p. 178

Smell, p. 144

Stress and the immune system,

Behavior genetics is covered on the following pages:

Abuse, intergenerational transmission of, pp. 226-227

Adoption studies, pp. 72-73

Aggression, pp. 571-573 Behavioral effects of gender,

pp. 29-30 Behavior genetics perspective,

defined, pp. 5-6

Biomedical therapies, pp. 482-487,

Chapter 2, Biology and Behavior Development, p. 79

attachment, pp. 91-93

brain development, experience and, pp. 83-84

language development, pp. 279-282

motor development, pp. 84-85

physical development, pp. 100-101

prenatal development, p. 81

stranger anxiety, p. 91

temperament, pp. 92-93

Depth perception, p. 148

Drives and incentives. pp. 312-313

Drug use, pp. 199-201 Emotion and cognition,

pp. 365-367

Genetics of conception, p. 80

Happiness, pp. 262-263

Intelligence, pp. 299-306

Learning, pp. 211-213, 222-223

Nature/nurture debate, pp. 5-6, 79

Obesity and weight control, pp. 320-325

Perception, pp. 154-159

Personality traits, pp. 401-402

Psychological disorders:

anxiety disorders, pp. 436-437

bio-psycho-social perspective. p. 428

depression, pp. 443-445

dissociative identity disorder,

pp. 438-440

personality disorders, pp. 455-456

schizophrenia, pp. 451-455

Sex chromosomes and hormones,

p. 80

Sexuality, pp. 327-332

Sexual orientation, pp. 332-336

Smell, pp. 143-145

Stress, personality, and illness,

pp. 368-377

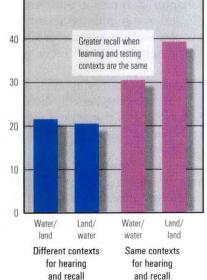
Test bias, pp. 306-307

Theories of emotion, pp. 364-367

Twin studies, pp. 71-72

Figure 7.17 The effects of context on memory Words heard underwater are best recalled underwater; words heard on land are best recalled on land. (Adapted from Godden & Baddeley, 1975)





## Thoughtfully Revised Art Program

The art for this edition has been carefully and creatively revised, with clearer, more helpful labels, and improved color and design of each figure. Improved labeling of graphs, such as in Figure 7.17 at left, will help students learn to read graphs and interpret data more effectively. Figure 8.6 at right exemplifies the creative combination of well-labeled art with illustrative photos. In addition, the faces pictured in our vastly improved photo program accurately reflect this book's diverse readership.

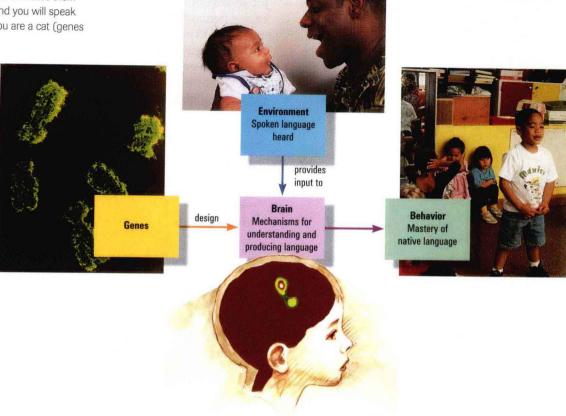
### **New Electronic Teaching and Learning Opportunities**

Using the best of the World Wide Web and CD-ROM technology, Worth Publishers has created a new teaching and learning application. MyersPlus for Exploring Psychology neatly integrates an instructor's content with the ancillaries and even more new resources in an easy-to-navigate, browser-like environment.

The CD-ROM component of MyersPlus includes a syllabus maker, video clips, critical thinking exercises, animated activities, quizzes, Web links, material from our printed Instructor's Resources and selected text illustrations. The Web component will offer periodic updates with new materials. Instructors or

xvii

**Figure 8.6 Nature and nurture** Genes design the mechanisms for a language, and experience activates them as it modifies the brain. Grow up in Paris and you will speak French (environment matters), but not if you are a cat (genes matter).



students who do not have a CD-ROM drive may download the *MyersPlus for Exploring Psychology* application and view content via the Web at

www.worthpublishers.com/exploring

#### MyersPlus enables instructors to:

- create an online syllabus that will then be used by the application to organize the wealth of CD-ROM and Web content,
- integrate their own content, such as course notes and Web links,
- receive periodic content updates via the Web throughout the school year,
- create annotated study or lecture aids for online "review" sessions or classroom presentations, and
- maintain a mailing list of students and colleagues.

#### MyersPlus allows students to:

- work through fun activities that help teach key concepts from the course,
- hone their critical thinking skills with exercises designed especially for MyersPlus,
- quiz themselves after completing study of each chapter in the book, and
- pursue areas of special interest via Web links for more information.

I am pleased to be part of an unprecedented collaborative effort to provide teaching resources and interactive learning opportunities for introductory psychology. Our team of psychology educators is working with Peregrine Publishers to create a one-stop Web site, *The Psychology Place* (www.psychplace.com). Instructors will find continuously updated teaching resources, including news,

teaching tips and thought-provoking Op-Ed essays from prominant colleagues for discussion. Student resources include interactive learning activities, online experiments, a Weekly Riddle contest, carefully reviewed "Best of the Web" links, and hyperlinked *Scientific American* articles.

Our award-winning student CD-ROM, *PsychQuest* (by Thomas Ludwig, Hope College), provides active learning of important concepts for higher student interest and better retention. *PsychQuest* contains eight modules, each exploring a high-interest topic:

- depth perception in sports,
- psychoactive drugs,
- · memory,
- weight regulation,
- depression,
- chronic stress.
- stereotyping, and
- mate selection.

PsychQuest is an interactive tool that allows students to explore various psychological research topics, participate in experiments and simulations, quiz themselves on content, and link to its World Wide Web component for additional information. Each module is designed to foster critical thinking and stimulate interest in key issues in psychology by relating psychological concepts to real-world issues.

## Successful SQ3R Study Aids

1. Exploring Psychology's complete system of learning aids includes numbered "preview questions," which appear in this format throughout the book.

Exploring Psychology has retained its popular system of study aids, integrated into an SQ3R structure that augments the narrative without disrupting it. Each chapter opens with a chapter outline that enables students to quickly survey its major topics. Numbered preview questions at the start of each new major topic define the learning objectives that will guide students as they read. Rehearse It quizzes at the end of each major section will stimulate students to rehearse what they have learned (see sample at right from Chapter 1). These test items offer a novel combination of crisp review of key ideas and practice with the multiple-choice test format. The chapter-ending Review answers each of the numbered preview questions and is followed by answers for each of the Rehearse It multiple-choice questions. All key terms are defined in the margins for ready reference while students are being introduced to the new term in the narrative (see sample at left). Key terms are also boldfaced in the Review section at the end of the chapter. Periodic "Thinking Critically," "Close-Up," and "Psychology Applied" boxes encourage development of critical thinking skills as well as application of the new concepts. A "Critical Thinking Exercise" at the end of each chapter allows practice of new skills as well as review of important chapter topics. The "Tips For Studying Psychology" section at the end of Chapter 1 explains the SQ3R-based system of study aids, suggesting how students can survey, question, read, rehearse, and review the material for maximum retention.

In the margins of this book, students will find interesting and informative review notes and quotes from researchers and others that will encourage them to be active learners and apply what they are learning.

**key terms** Look for complete definitions of each important term in the margin near its introduction in the narrative.

## REHEARSE IT!\*

- Psychology is the science of behavior and mental processes. The
  perspective in psychology that focuses on how behavior and
  thought differ from situation to situation and from culture to culture
  is the
  - a. cognitive perspective.
  - b. behavioral perspective.
  - c. social-cultural perspective.
  - d. neuroscience perspective.
- In the history of psychology, one of the main debates has been over the nature-nurture issue. Nature is to nurture as
  - a. personality is to intelligence.
  - **b.** biology is to experience.
  - c. intelligence is to biology.
  - d. psychological traits are to behaviors.
- The behavioral perspective in psychology emphasizes observable responses and how they are acquired and modified. A behavioral psychologist would be most likely to study
  - a. the effect of school uniforms on classroom behaviors.
  - **b.** the hidden meaning in children's themes and drawings.
  - c. the age at which children can learn algebra.
  - d. whether certain mathematical abilities appear to be inherited.

- A psychologist who treats emotionally troubled adolescents at the local mental health agency is most likely to be a/an
  - a. research psychologist.
  - b. psychiatrist.
  - c. industrial/organizational psychologist.
  - d. clinical psychologist.
- A psychologist who conducts basic research to expand psychology's knowledge base would be most likely to
  - a. design a computer screen with limited glare and assess the effect on computer operators' eyes after a day's work.
  - **b.** treat older people who are overcome by depression.
  - c. observe 3- and 6-year-old children solving puzzles and analyze differences in their abilities.
  - d. interview children with behavioral problems and suggest treatments.

### **Goals for the Fourth Edition**

Throughout this revision, I have steadfastly followed eight principles:

- 1. To exemplify the process of inquiry I strive to show students not just the outcome of research, but how the research process works. Throughout, the book tries to excite readers' curiosity. It invites them to imagine themselves as participants in classic experiments. Several chapters introduce research stories as mysteries that progressively unravel as one clue after another falls into place. (See, for example, the historical story of research on the brain's processing of language—page 60.)
- 2. To teach critical thinking By presenting research as intellectual detective work, I exemplify an inquiring, analytical mind-set. Whether students are studying development, cognition, or statistics, they will become involved in, and see the rewards of, critical reasoning. Moreover, they will discover how an empirical approach can help them evaluate competing ideas and claims for highly publicized phenomena—ranging from subliminal persuasion, ESP, and facilitated communication to astrology, basketball streak-shooting, and repressed and recovered memories.
- 3. To put facts in the service of concepts My intention is not to fill students' intellectual file drawers with facts, but to reveal psychology's major concepts—to teach students how to think and to offer psychological ideas worth thinking about. In each chapter I place emphasis on those concepts I hope students will carry with them long after they complete the course. Always, I try to follow Albert Einstein's dictum: "Everything should be made as simple as possible, but not simpler."

<sup>\*</sup>You can use these Rehearse It questions to gauge whether you are ready for the next section. The answers are at the end of the chapter.

XX

- 4. To be as up-to-date as possible Few things dampen students' interest as quickly as the sense that they are reading stale news. While retaining psychology's classic studies and concepts, I also present the discipline's most important recent developments. Fully 24 percent of the references in this edition are dated 1994 to 1998.
- 5. *To integrate principles and applications* Throughout—by means of anecdotes, case histories, and the posing of hypothetical situations—I relate the findings of basic research to their applications and implications. Where psychology can illuminate pressing human issues—be they racism and sexism, health and happiness, or violence and war—I have not hesitated to shine its light.
- 6. To enhance comprehension by providing continuity Many chapters have a significant issue or theme that links subtopics, forming a thread that ties the chapter together. Chapter 6, "Learning" conveys the idea that bold thinkers can serve as intellectual pioneers. Chapter 8, "Thinking, Language, and Intelligence," raises the issue of human rationality and irrationality. Chapter 12, "Psychological Disorders," conveys empathy for, and understanding of, troubled lives. "The uniformity of a work," observed Edward Gibbon, "denotes the hand of a single artist." Because the book has a single author, other threads, such as behavior genetics and cultural diversity, weave throughout the whole book, and students hear a consistent voice.
- 7. To reinforce learning at every step Everyday examples and rhetorical questions encourage students to process the material actively. Concepts presented earlier are frequently applied, and thereby reinforced, in later chapters. For instance, in Chapter 4, "Sensation and Perception," students learn that much of our information processing occurs outside of our conscious awareness. Ensuing chapters reinforce this concept. The SQ3R system of pedagogical aids augments learning without interrupting the text narrative. A marginal glossary helps students master important terminology. Major sections begin with numbered preview questions and end with Rehearse It sections for self-testing on key concepts. End-of-chapter reviews repeat the preview questions and answer them, incorporating all key terms from that section for further review.
- 8. To convey respect for human unity and diversity Time and again, readers will see evidence of our human kinship—our shared biological heritage, our common mechanisms of seeing and learning, hungering and feeling, loving and hating. They will also better understand the dimensions of our diversity—our individual diversity in development and aptitudes, temperament and personality, and disorder and health; and our cultural diversity in attitudes and expressive styles, child-rearing and care for the elderly, and life priorities.

## The Supplements Package

Exploring Psychology is accompanied by widely acclaimed materials to enhance teaching and learning. Please see pages xvi–xviii, "New Electronic Teaching and Learning Opportunities," for a description of our new *MyersPlus for Exploring Psychology* CD-ROM/Web application, *The Psychology Place* Web site, and our new *PsychQuest* student CD-ROM.

For students who desire additional help mastering the text, there is Richard O. Straub's (University of Michigan, Dearborn) *Study Guide*. Each chapter follows the text's SQ3R format to guide students at each step of their study. For each section of the text chapter, an explanation is provided of the idioms and other phrases potentially unfamiliar to students for whom

xxi

English is a second language. Several new Internet activities, called "Web Sightings," have been included, along with new crossword puzzles and pedagogically effective new fill-in-the-blank flow charts. The study guide is also computerized in a highly interactive program for use in the Windows or Macintosh formats.

The Instructor's Resources, created by Martin Bolt (Calvin College) for Exploring Psychology, has been hailed as the finest set of psychology teaching resources ever assembled. With 20 percent new items in this edition, it features dozens of ready-to-use demonstration handouts and video and film suggestions, along with learning objectives, lecture/discussion ideas, student projects, and classroom exercises, all of which incorporate numerous Internet exercises. Martin Bolt's Lecture Guides, which come in both printed and easily modifiable WordPerfect formats, offer instructors an additional resource for lecture preparation. A complete set of transparency images, from this book and other sources, is also available.

PsychSim 4, developed by Thomas Ludwig (Hope College), brings some of psychology's most important concepts and methods to life. PsychSim 4 (available on CD-ROM or floppies) contains 19 programs for use in the Windows and Macintosh formats. Some simulations engage the student as experimenter conditioning a rat, electrically probing the hypothalamus, or working in a sleep lab. Others engage the student as subject—responding to tests of memory or visual illusions, or interpreting facial expressions. Still others provide a dynamic tutorial/demonstration of, say, hemispheric processing or cognitive development principles. Student worksheets are provided. PsychSim 4 is significantly enhanced over the earlier, award-winning PsychSim.

The Test Banks, by John Brink (Calvin College), provide over 4000 multiplechoice questions, plus essay questions. Each question is keyed to a learning objective, page-referenced to the textbook, and rated in level of difficulty. Optional questions are also included for the PsychQuest and PsychSim programs, and for The Brain and The Mind modules (see below). User-friendly computerized test generation is also available.

Our Psychology Videodisc contains 26 brief, exciting video clips and animated segments, as well as hundreds of still images. This videodisc is accompanied by an extensive Instructor's Guide, by Martin Bolt and Richard O. Straub, complete with bar codes, descriptions of each item and suggestions for how to incorporate the material into your lecture, and a subject index that references and cross-references all items by topic. Thomas Ludwig's accompanying presentation software package, which includes a barcode generator, is also available for use on IBM-PC or Macintosh computers.

We also have available a Study Guide and a Faculty Guide designed for use with this text and with the Discovering Psychology telecourse, narrated by Philip Zimbardo and produced by the Annenberg/CPB Project.

In addition, Worth Publishers has produced 38 video modules from The Mind series, in association with WNET. These modules were edited by Frank J. Vattano (Colorado State University) with the consultation of Charles Brewer (Furman University) and myself. Rather than displace the instructor, as do longer films, these brief clips (which can be dubbed onto individual cassettes) dramatically enhance and illustrate lectures. They do so in ways that written and spoken words cannot-by introducing students to a split-brain patient being tested, a sleeping subject being monitored in a lab, a patient suffering the ravages of schizophrenia, and so forth. In addition to the 38 modules on videocassettes, Worth Publishers also offers The Mind laser disc, with 14 highlights from The Mind modules. The laser disc is accompanied by a bar-coded Faculty Guide.

The new Second Edition of The Brain teaching modules by Frank J. Vattano, Thomas L. Bennet, and Michelle Butler (all of Colorado State University) is

xxii

also available with this text. Accompanied by a Faculty Guide keyed specifically to the chapters in this book, these video modules effectively capture students' interest and vividly illustrate the important role of biological processes in human behavior. There are 11 new and 12 significantly updated modules in addition to nine from the original series.

Worth Publishers has created the Scientific American Frontiers Video Collection for Introductory Psychology. These 25 video segments, each 8 to 25 minutes long, are another excellent resource for stimulating class discussion and interest on a variety of topics.

## In Appreciation

If it is true that "whoever walks with the wise becomes wise" then I am wiser for all the wisdom and advice received from colleagues. With the aid of several hundred consultants and reviewers over the last decade, this has become a better, more accurate book than one author alone (this author, at least) could write. My indebtedness continues to each of the teacher-scholars whose influence I acknowledged in the three previous editions.

My gratitude now extends to the colleagues who contributed criticism, corrections, and creative ideas to this new edition. For their expertise and encouragement, I thank the following reviewers:

David Baskind, Delta College

Linda Brunton, Columbia State Community College

Terry Darling, Spring Arbor College

Timothy K. Daugherty, Valparaiso University

George Demakis, Elmhurst College

Douglas N. Dunham, Northwest Missouri State University

Paul Fenton, University of Wisconsin, Stout

Peter Flynn, Northern Essex Community College

Sam Gaft, Macomb Community College

Patrick M. Ghezzi, University of Nevada, Reno

**Vernon Haynes**, Youngstown State University

Robert D. Johnson, Jr., Pierce College

Robert Kraft, Otterbein College

Carole Ann Pierce, Austin Community College

Holly R. Straub, University of South Dakota

Patrick S. Williams, University of Houston, Downtown

Jan Yeaman, Spring Arbor College

Charles Brewer (Furman University) enhanced this book with meticulous critiques, probing questions, and spirit-sustaining encouragement through its early editions, and has continued to help define priorities as a special consultant.

At Worth Publishers a host of people played key roles in creating this fourth edition. Christine Brune, chief editor for the first three editions and associate

XXIII

editor for this fourth edition, is a wonder worker. She offers just the right mix of encouragement, gentle admonition, attention to detail, and passion for excellence. An author could not ask for more. But for this fourth edition I have had more—the additional support of Betty Probert. Her wise and sensitive editing helped us take our game to a new level. Betty also ably edited and produced the enormous supplements package.

Others at Worth also played essential roles. Worth president Susan Driscoll, managing editor Suzanne Thibodeau, and psychology executive editor Catherine Woods helped construct and execute the plan for this new edition and its teaching and learning supplements. Copyeditor Nancy Fleming sensitively finetuned the final manuscript. Production editors Elizabeth Geller and Laura Rubin effectively guided the transformation of manuscript into book. The hard work of Project Director Penny Bice, Production Manager Sarah Segal, Supplements Production Manager Stacey Alexander, and others made for a smooth and timely production process. And psychology marketing manager Kate Steinbacher has led the effort to make this new edition available to psychology instructors. To all of them I am deeply grateful for an extraordinary effort.

At Hope College the supporting team members for this edition included Gretchen Rumohr-Voskuil, who researched countless bits of information, proofed hundreds of pages, and prepared the name index. With good cheer, Kathy Adamski served ably as administrative assistant. Typesetters Phyllis and Richard Vandervelde met or exceeded all deadlines, often by working into the wee hours to enter or revise every one of the more than 300,000 words, and finally to code them for electronic delivery.

Again, I gratefully acknowledge the influence of my writing coach, poet Jack Ridl, whose influence lingers in the voice you will be hearing in the pages that follow. He more than anyone cultivated my delight in dancing with the language and taught me to approach writing as a craft that shades into art.

After hearing countless dozens of people say that this book's supplements have taken their teaching to a new level, I reflect on how fortunate I am to be a part of a team on which everyone has produced on-time work marked by the highest professional standards. For their remarkable talents, their dedication, and their friendship, I thank Martin Bolt, John Brink, Thomas Ludwig, and Richard Straub. Rick Straub also authored the critical thinking exercises that appear at the end of each chapter.

Finally, my gratitude extends to the students and instructors who have written to offer suggestions, or just an encouraging word. It is for them, and those about to begin their study of psychology, that I have done my best to introduce the field I love.

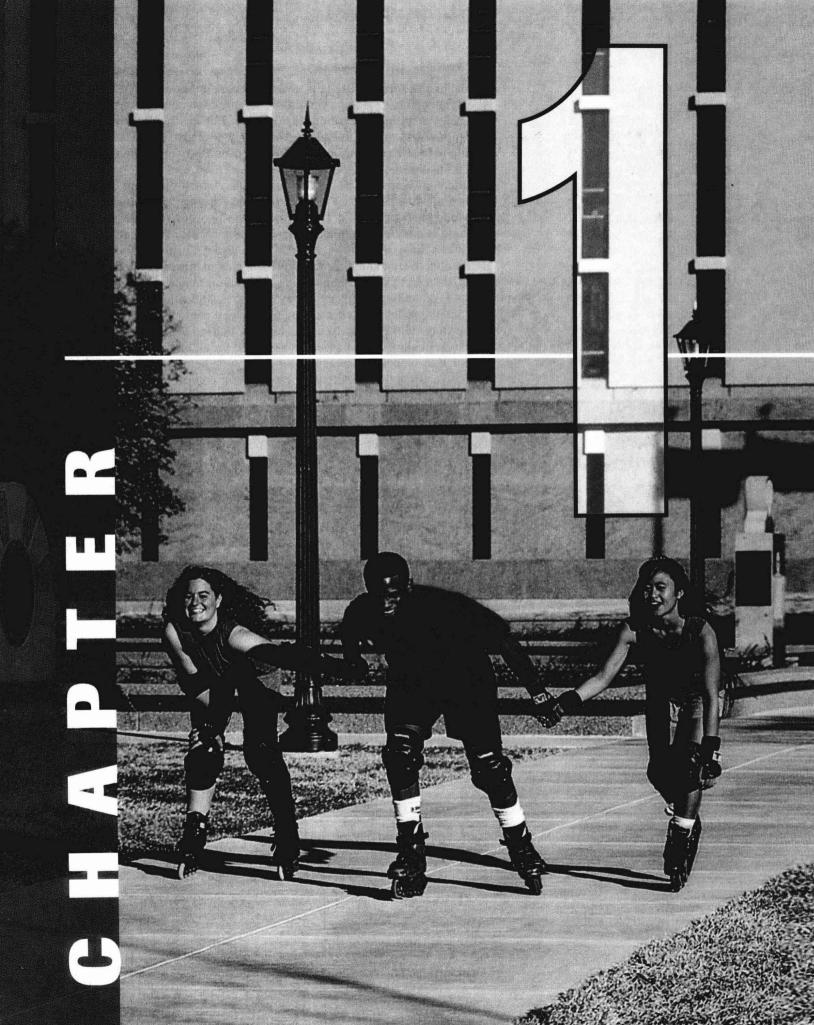
Those who paint the Golden Gate Bridge never finish. So it is with this book. The ink is barely dry before one begins envisioning the next edition. By the time you read this, I will be gathering information for the fifth edition. Your input will again influence how this book continues to evolve. So, please, do share your thoughts.

Hope College

Holland, Michigan 49422-9000

USA

E-mail: myers@hope.edu



## Contents in Brief

Preface xiii

CHAPTER 1

Introduction: Thinking Critically With Psychology 1

CHAPTER 2

Biology and Behavior 39

CHAPTER 3

The Developing Person 79

CHAPTER 4

Sensation and Perception 125

CHAPTER 5

States of Consciousness 169

CHAPTER 6

Learning 205

CHAPTER 7

Memory 231

CHAPTER 8

Thinking, Language, and Intelligence 267

CHAPTER 9

Motivation 311

CHAPTER 10

Emotions, Stress, and Health 347

CHAPTER 11

Personality 389

CHAPTER 12

Psychological Disorders 425

CHAPTER 13

Therapy 461

CHAPTER 14

Social Psychology 491

APPENDIX A

Statistical Reasoning 536

APPENDIX B

Sample Answers to Critical Thinking Exercises 545

Glossary G-0

References R-0

Illustration Credits IC-0

Name Index NI-1

Subject Index SI-1