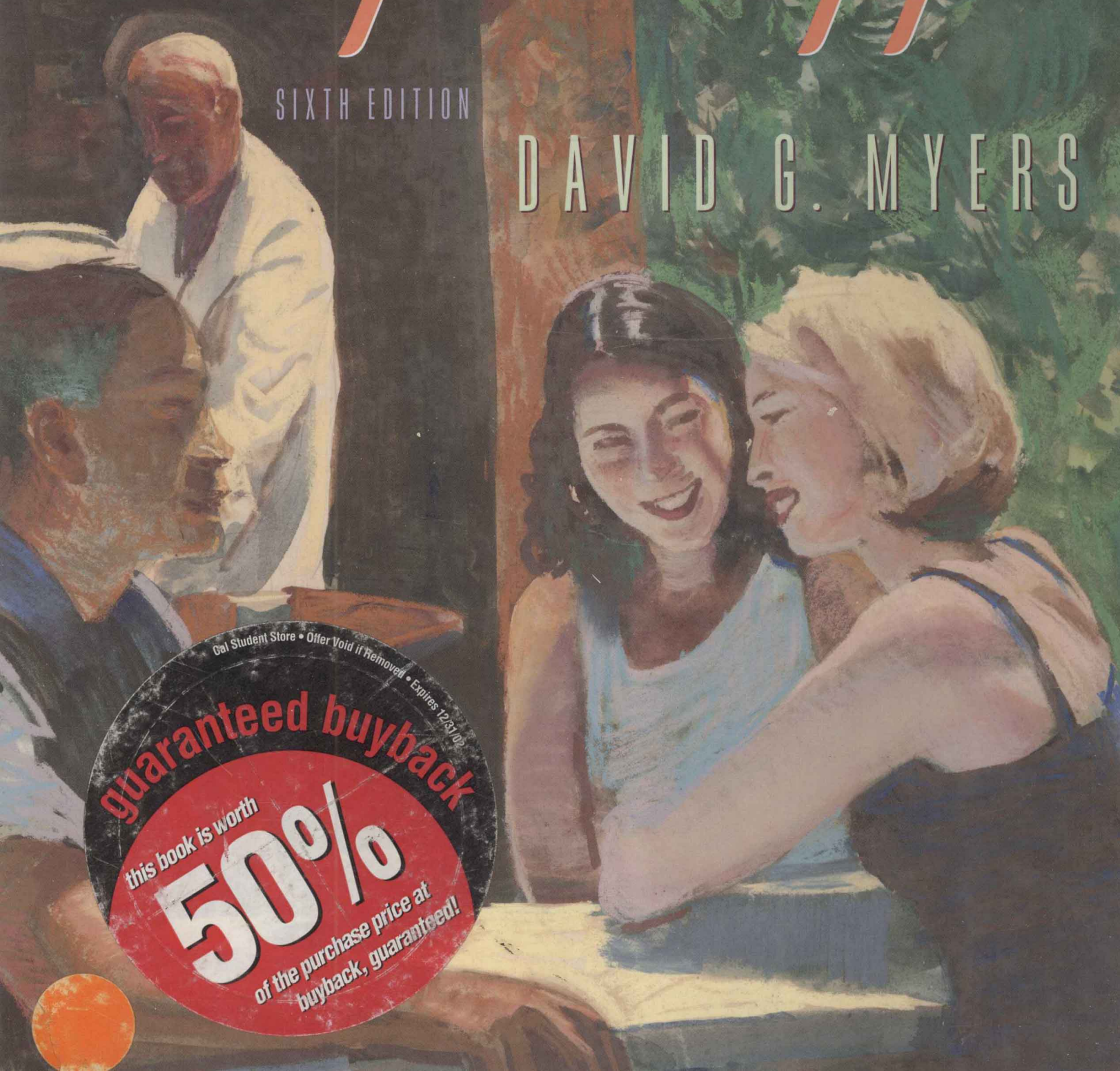


# Psychology

SIXTH EDITION

DAVID G. MYERS



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# *Psychology*

SIXTH EDITION

DAVID G. MYERS

Hope College  
Holland, Michigan

WORTH PUBLISHERS

**To Phil and Rick Vandervelde  
for millions of words processed  
and thirty-three years of faithful friendship**

Psychology, Sixth Edition

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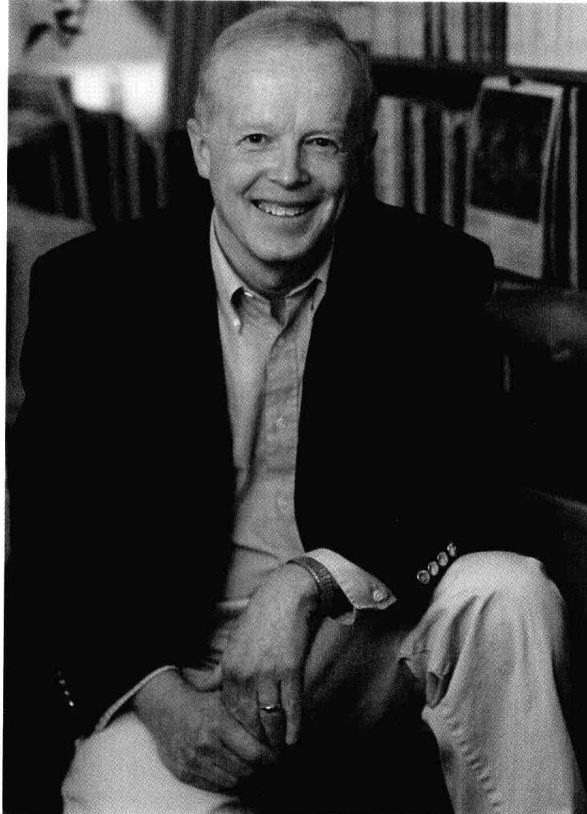
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# About the Author

David G. Myers is professor of psychology at Michigan's Hope College, where he has spent his career and been voted "outstanding professor" by students. His writings have appeared in more than four dozen journals and magazines, from *Science* to *Scientific American*, and in a dozen books.



# Preface

As a reporter, there is no beat I'd rather cover than psychology. Week by week, new information surprises us with discoveries about how the brain's chemical messengers control moods, about animal abilities, about unconscious ("automatic") thinking, about the roots and fruits of happiness, about the effects of stress on our capacity to fight disease. Indeed, following the field, this book has changed dramatically since I set to work on the first edition nearly 20 years ago. Today's psychological science is more attuned to the relative effects of nature and nurture, to gender and cultural diversity, and to 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 across the globe who have studied this book have contributed immensely to its development. Much of this has occurred spontaneously, through correspondence and conversations. For this edition, we also welcomed extensive input on design and pedagogy from twelve instructors and their students, and we solicited nearly six dozen other content reviews from teaching psychologists and researchers around the world. I look forward to continuing feedback as we strive, over future editions, to create an ever better book.

Throughout its six editions, however, my vision for *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 understand 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 scholarship 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, sports, religion, politics, and popular culture. And I love to provoke thought, to play with words, and to laugh.

## What's New?

This new edition retains its predecessor's voice, and much of its content and organization. Yet change is reflected on every page. In addition to the 800 new references in this edition and updates on every page, I have introduced the following major changes to *Psychology*, sixth edition:

### **NEW Chapter 3, The Nature and Nurture of Behavior**

Introducing psychology in the new millennium calls for an understanding of the relative effects of nature and nurture on so many of our behaviors. This new chapter introduces students to the nature and nurture concepts that they will encounter throughout

the book. I have taken a developmental approach, attempting to weave new thinking and research—from evolutionary psychology and behavior genetics on the “nature” side, and cultural influences on the “nurture” side—into a coherent story of the origins of our human kinship and our human diversity. Later chapters will apply these concepts when considering topics such as the evolutionary psychology of sleep, the genetics of altruism, gender and intelligence domains, and culture and physique. For a complete list of integrated coverage of these issues, see the tables at right.

### Increasingly Global Perspective on Psychology

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 friends and colleagues in Canada, subscribe to several European periodicals, and live periodically in the U.K. But this edition also offers 56 mentions of Australia and New Zealand. We are all citizens of a shrinking world, thanks to increased migration and the growing global economy. Thus, American students, too, benefit from information and examples that internationalize their awareness. And if psychology seeks to explain *human* behavior (not just American or Canadian 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 countries. Thus, I continue to welcome input and suggestions from all readers.

### Statistical Methods Now Covered in Chapter 1

In an effort to complete Chapter 1’s story of Thinking Critically With Psychological Science, I have incorporated a concise version of the previous edition’s Statistics Appendix. This new coverage explains what psychologists *do* with data after collecting it—how we interpret data with statistics—and why statistical reasoning is so important in everyday life. Now a friendly introduction to statistical methods is available to students right up front—where they need to know it.

### Streamlined Development Coverage

I have also streamlined coverage of development, with Chapter 4 now exploring development across the life span. This chapter is complemented nicely by new Chapter 3, The Nature and Nurture of Behavior, which also takes a developmental perspective.

### New “Review and Reflect” Sections

These new study aids, which appear at the end of each main section of narrative, promote both comprehension and critical thinking. They contain paragraph summaries of the key concepts from the section, a Review Question that addresses a key message from the section (with answers in an appendix at the back of the text), and a Reflect Question designed to get students thinking about what they are learning in terms of their own life experiences.

### New, Comprehensive Online Teaching and Learning Resources

**PsychOnline** is a wonderful new set of online resources authored by Thomas Ludwig (Hope College) and a team of contributors and keyed to the organization and coverage of *Psychology*, sixth edition. With PsychOnline, you pick and choose from a buffet

## Coverage of Evolution and Behavior Genetics

In addition to the coverage found in new Chapter 3, the evolutionary perspective is covered on the following pages:

Aging, pp. 155–156  
 Anxiety disorders, pp. 542–544  
 Attraction, p. 679  
 Biological predispositions in learning, pp. 295–297, 309  
 Charles Darwin, p. 2  
 Electromagnetic spectrum, sensitivity to, p. 178  
 Emotional expression, p. 174  
 Evolutionary perspective, defined, pp. 6–7  
 Fear, p. 478  
 Hearing, p. 189  
 Instincts, p. 424  
 Intelligence, pp. 416–417  
 Language, pp. 373, 376  
 Love, p. 164  
 Need to belong, p. 448  
 Overconfidence, p. 366  
 Sensation, pp. 172, 196–197  
 Sensory adaptation, p. 176  
 Signal detection theory, p. 173  
 Sleep, pp. 254–255  
 Smell, pp. 201–203  
 Stress and the immune system, pp. 618–619

In addition to the coverage found in new Chapter 3, behavior genetics is covered on the following pages:

Abuse, intergenerational transmission of, p. 314  
 Aggression, pp. 666–674  
 Biomedical therapies, pp. 596–602  
 Body type, p. 503  
 Depth perception, pp. 215–216  
 Drives and incentives, p. 425  
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 Perception, pp. 226–232  
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 bio-psycho-social perspective, p. 534  
 depression, pp. 551–552  
 personality disorders, pp. 565–567  
 schizophrenia, pp. 560–562  
 Romantic love, p. 164  
 Sexuality, pp. 436–442  
 Sexual orientation, pp. 443–446  
 Smell, p. 203  
 Stress, personality, and illness, pp. 613–619

## Coverage of the Psychology of Men and Women

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

Behavioral effects of gender, p. 40  
 Biological sex/ gender, pp. 110–111  
 Body image, pp. 432–434  
 Chapter 18, Social Psychology, p. 643  
 Dieting, p. 637  
 Dream content, p. 257  
 Eating disorders, pp. 432–433  
 Emotional expression, pp. 472–473  
 Empty nest, p. 165  
 Freud's views, pp. 492–493, 495, 496  
 Gender and childrearing, pp. 112–113  
 Gender roles, pp. 111–112  
 Generic pronoun “he,” p. 381  
 Happiness, pp. 486–487  
 Heart disease, p. 609  
 Help-receiving, p. 684  
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 Arousal in REM sleep, p. 251  
 Maturation, pp. 144–145  
 Menarche, p. 145  
 Menopause, p. 154  
 Midlife crisis, pp. 162–163  
 Pornography, p. 438  
 Psychological disorders, rates of, pp. 464–465  
 Depression, pp. 451, 546  
 Rape, pp. 299, 673–674  
 Sexual disorders, p. 441  
 Sexual fantasies, p. 243  
 Sexuality, pp. 89–93, 438–443  
 Sexual orientation, pp. 444–447  
 Smoking, pp. 629–630  
 Social connectedness, pp. 150–151  
 Stereotyping, pp. 231–233  
 Suicide, p. 548  
 Weight discrimination, p. 634  
 Women and work, p. 165  
 Women in psychology, p. 9

## Coverage of Culture and Multicultural Experience

From the Introduction to Chapter 18, coverage of culture and multicultural experience permeates the book in the following discussions:

Aging population, pp. 155–156  
 Aggression, pp. 669–671  
 Alcoholism, p. 534  
 Anger, pp. 479–480  
 Attractiveness, pp. 679–680  
 Behavioral effects of culture, p. 40  
 Conformity, p. 653  
 Corporal punishment practices, pp. 306–307  
 Culture context effects, pp. 231–232  
 Culture shock, p. 524  
 Deaf culture, pp. 75, 193–195, 373, 377, 379, 381–382  
 Depression, p. 546  
 Development  
 adolescence, pp. 142–153  
 attachment, p. 140  
 child-rearing, pp. 108–109  
 cognitive development, pp. 145–146  
 developmental similarities, pp. 109–110  
 fetal alcohol syndrome, pp. 121–122  
 moral development, pp. 146–148  
 motor development, p. 126  
 social development, p. 134  
 Dieting, p. 637  
 Drugs, psychological effects of, p. 274  
 Emotion:  
 expressing, pp. 473–475  
 experiencing, p. 477  
 Human diversity/kinship, p. 40  
 Hunger, p. 431  
 Individualism/collectivism, pp. 517–519  
 Intelligence, pp. 402, 415–417  
 Language, pp. 373, 381–382  
 Life-expectancy, pp. 155–156  
 Management styles, pp. 454–456  
 Marriage, p. 164  
 Obesity, pp. 632–633  
 Participative management, p. 455  
 People with disabilities, pp. 482, 485–486  
 Perception, pp. 221–222  
 Personal space, p. 107  
 Prejudice prototypes, p. 359  
 Psychological disorders, pp. 534, 564  
 dissociative personality disorder, pp. 554–555  
 eating disorders, pp. 432–434  
 schizophrenia, pp. 558–559  
 Psychotherapy, pp. 591–592  
 Self-esteem, p. 515  
 Self-serving bias, pp. 516–517  
 Sensory restriction, pp. 205–206  
 Sexual orientation, p. 442  
 Sexual standards, pp. 440–442  
 Size-distance relationship, pp. 222–223  
 Smoking, pp. 629–630  
 Social-cultural perspective, p. 6  
 Social clock, p. 163  
 Suicide, p. 548  
 Teen sexuality, pp. 440–442  
 Testing bias, pp. 419–420  
 Work-related values, pp. 162–163  
 See also Chapter 18, Social Psychology

of resources that can be used as a complete online course or a component of a more traditional lecture-based course. Students who purchase this book will have the opportunity to receive a special discount on these materials.

Choose from over 100 **interactive tutorials**, which review the key concepts in each chapter. Dozens of **Demonstrations, Simulations, Critical Thinking Activities**, and data-collecting **Research Projects** give students an opportunity to learn the core concepts hands-on (Figure 1). Students have many opportunities for review. PsychOnline includes hundreds of periodic **Concept Checks** within the tutorials, a **Practice Quiz** at the end of each tutorial, key concept **Flashcards**, and drag-and-drop-style **labeling** of anatomical and other art.

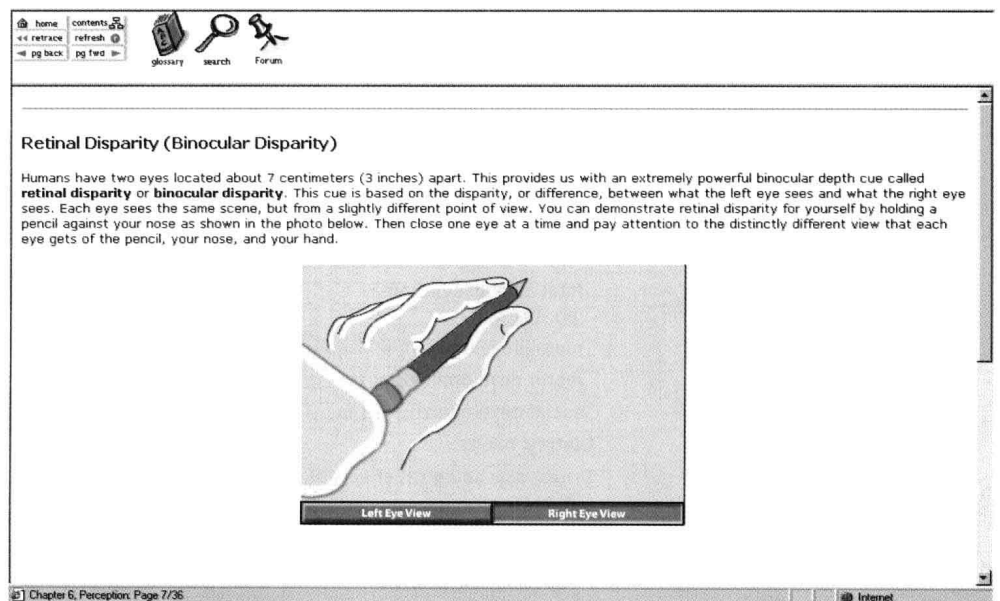
PsychOnline includes an **Instructor's Resource Library**, with the illustrations from the tutorials and activities in an easy-to-pick-up format for lecture presentations. This section also includes other useful resources for instructors, such as lecture suggestions and classroom activities from Martin Bolt's printed Instructor's Resources, the complete Myers, *Psychology*, sixth edition Test Bank, and case studies of instructors teaching online successfully.

Additional resources within PsychOnline include:

- + **Psychology in the News**—summaries of general news and journal news about human behavior
- + **Psychology in Everyday Life**—stories, jokes, and anecdotes related to teaching and learning specific, important topics in the introductory course
- + **Psychology Around the Globe**—cross-cultural and international applications
- + **Psychology on the Web**—carefully selected, informative sites keyed to important topics in the Myers book
- + the **Psychology Testing Center**—making it easy for instructors to create and administer secure quizzes and exams over the Web on the material in Myers' *Psychology*, sixth edition
- + the **Psychology Forum**—with discussion topics, organized by text chapter, designed to encourage student participation

**FIGURE 1**  
PsychOnline

Here's a sample screen from the "Identifying Depth Cues" activity in the Depth Perception tutorial.





## Goals for the Sixth 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 the reader's curiosity. It invites readers 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—pages 69–70.)
2. **To teach critical thinking** By presenting research as intellectual detective work, I exemplify an inquiring, analytical mind-set. Whether students are studying statistics, development, or cognition, 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 that "Everything should be made as simple as possible, but not simpler."
4. **To be as up-to-date as possible** Few things dampen students' interests 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. Nearly 600 references in this edition are dated 1998 to 2000.
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. The Learning chapter conveys the idea that bold thinkers can serve as intellectual pioneers. The Thinking and Language chapter raises the issue of human rationality and irrationality. The Psychological Disorders chapter 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 5 students learn that much of our information processing occurs *outside* of our conscious awareness. Ensuing chapters reinforce this concept. A marginal glossary and end-of-chapter key terms list help student master important terminology. Major sections begin with Previews and end with Review and Reflect sections that highlight the organization and key concepts.

**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 Multimedia Supplements Package

Worth Publishers has outdone itself with this edition. *Psychology*, sixth edition, boasts a host of new electronic and print supplements titles, making this package by far the most impressive thus far in a history of impressive ancillary packages. And the book itself is now available for purchase **electronically** in a user-friendly format from our partners at WiZeUp.

**NEW! PsychOnline** offers comprehensive resources for the introductory course. This exciting new project is detailed on pages xvi–xviii.

**NEW! ProQuest Academic Edition to Accompany *Psychology*, sixth edition**, provides a vast and continually-updated archive accessible through the Myers Web site. Worth Publishers and Bell & Howell Information and Learning have teamed up to put thousands of psychology-related articles from thousands of periodicals within reach of your students. Finding relevant readings on the Web has never been easier.

**NEW! A Scientific American Reader** includes 12 articles I hand-selected from recent issues of *Scientific American*. I have written introductions for each article to tie them specifically into the sixth edition text.

**NEW! the Expanded Myers Psychology Web Companion ([www.worthpublishers.com/myers](http://www.worthpublishers.com/myers))** provides an even wider variety of activities and study aids organized by *Psychology*, sixth edition chapter. Features include Chapter Overviews, at least two Thinking Critically Exercises for every chapter, Psychology in the News, Web links, Close Up sections (providing the author's perspective on significant research that emerges after the sixth edition is completed), interactive animations, simulations and demonstrations, online quizzes, and flashcards.

**NEW!** Online versions of Thomas Ludwig's (Hope College) award-winning programs, **PsychQuest** and **PsychSim** are keyed to the appropriate *Psychology*, sixth edition chapters. Also available on CD-ROM.

**NEW! Student Activity CD-ROM** is designed for students with limited Internet access or for lab settings. The Student CD provides all of the multimedia content from the *Psychology*, sixth edition Web site, including critical thinking exercises, animations, simulations, demonstrations, flashcards, drag-and-drop-exercises, and complete versions of *PsychQuest* and *PsychSim* 4.0.

**NEW! Image and Lecture Gallery ([www.worthpublishers.com/ILG](http://www.worthpublishers.com/ILG))** is Worth's convenient way to access electronic versions of lecture materials. Registered users can browse, search, and download illustrations from Worth titles and pre-built PowerPoint presentation files for specific chapters. Instructors can also create personal folders on a personalized home page for easy organization of the materials.

**NEW! PowerPoint Slides** are now available for *Psychology*, sixth edition. They can be used as is or customized to fit your needs. There are two pre-built versions for each chapter—one featuring chapter text only, the other featuring text with all chapter art and illustrations. Includes an option to import files from our Psychology video series. We also have available an enhanced version of **James McCubbin's (Clemson University) PowerPoint Presentation Slides**. These slides focus on key terms and themes from the text, and feature PowerPoint-designed tables, graphs, and figures.

**NEW! Presentation Manager Pro 2.0** is an easy-to-operate CD-ROM that is compatible with most commercially-available presentation software, such as Power-Point. With Presentation Manager Pro, instructors can build classroom presentations using graphic material from the book and CD, and your own digital material (including video) imported from the Internet or other sources.

**NEW! WebCT** is available free to all adopters. With WebCT, instructors can create a course Web site and/or online course with content, threaded discussions, quizzing, an online grade book, a course calendar and more! *Psychology*, sixth edition's graphic and media content is available in the WebCT format.

**NEW! Online Testing** is now available with Diploma from the Brownstone Research Group. Instructors can now create and administer secure exams over a network and over the Internet with questions that incorporate multimedia and interactive exercises. The program includes impressive security features and grade book and result-analysis features.

**Scientific American Frontiers Video Collection in a NEW Second Edition** is a renowned series hosted by Alan Alda. These 10–12 minute modules provide an excellent way to show how psychological research is actually conducted, focusing on the work of Steve Sumi, Renee Baillargeon, Carl Rosengren, Laura Pettito, Steven Pinker, Barbara Rothbaum, Bob Stickgold, Irene Pepperberg, Marc Hauser, Linda Bartoshuk, and Michael Gazzaniga.

**The Mind Video Teaching Modules in a NEW Second Edition** offers 35 brief, engaging video clips to enhance and illustrate lecture topics.

**The Brain Video Teaching Modules in a NEW Second Edition** offers more engaging video clips to help you teach.

In addition to all these fabulous new resources, *Psychology*, sixth edition, is accompanied by smartly updated versions of the widely acclaimed print supplements package.

The updated and better-than-ever **Instructor's Resources** by Martin Bolt (Calvin College) has been hailed as the finest set of psychology teaching resources ever assembled, including ready-to-use demonstration handouts, detailed lecture/discussion ideas, student projects, classroom exercises, and video and film suggestions.

The **Student Study Guide** by Richard O. Straub (University of Michigan, Dearborn) follows the text's content and offers the following for every major section in the text: a new "Stepping Through the Section" feature that breaks the chapter into manageable modules, Self Tests, "Web Sightings" Internet activities, and "Cross-Check" crossword puzzles. The Guide also includes Cornelius Rea's (Douglas College, British Columbia) helpful "Focus on Vocabulary and Language" feature, designed to help clarify idioms and other phrases potentially unfamiliar to students for whom English is a second language.

The **Test Bank** by John Brink (Calvin College) is broken down into two banks, providing over 4000 multiple-choice factual/definitional and conceptual questions plus essay questions for every chapter. Each question is page-referenced to the textbook and Instructor's Resources and rated for level of difficulty. The second Test Bank includes optional questions on *PsychQuest* and *PsychSim* computer simulations and *The Brain* and *The Mind* videos.

**The Critical Thinking Companion** by Jane Halonen (James Madison University) and Cynthia Gray (Alverno College) is now available in a NEW second edition. This collection of engaging, challenging, and fun critical thinking exercises is tied to the main topics in *Psychology*, sixth edition.

Our **Psychology Videodisc** will help you bring to life for your students all of the major topics in *Psychology*, sixth edition, combining brief, exciting video clips and animated segments with a library of still images. This videodisc is accompanied by an extensive *Instructor's Guide*, by Martin Bolt and Richard O. Straub, and an accompanying presentation software package by Thomas Ludwig.

## 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 expert colleagues. Aided by 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 five previous editions.

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When those who paint the Golden Gate Bridge finish, it is time to start over again. So 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 seventh edition. Your input will again influence how this book continues to evolve. So, please, do share your thoughts.

A handwritten signature in cursive script that reads "David Myers". The signature is fluid and elegant, with the first letter of each name being significantly larger and more decorative than the others.

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