# **Preface**

From psychology's inception as a separate discipline, authors of introductory psychology textbooks have been confronted with the need to convey a broad discipline to students in a book of reasonable length. To accomplish all that Les Sdorow originally intended in the first edition of *Psychology*, the book could easily have been twice as long as it is now. More than a century ago, William James, disturbed at the length of his now-classic Principles of Psychology, gave his own stinging review of it. He called it, among other things, "a bloated tumescent mass." Though this comment might have been written during one of James's frequent bouts with depression, it indicates the challenge of synthesizing a vast quantity of information. Given that psychology has become an even broader discipline and has accumulated an enormous information base. Les quickly discovered that he would somehow have to produce a textbook that adequately covered the discipline of psychology without becoming what textbook reviewers refer to as, perhaps euphemistically, "encyclopedic."

If you have not adopted this book in the past, we believe that you will find that your students will be eager to read it and to learn from it. You will find that the book achieves interest and readability while also accomplishing the following goals:

- Portraying psychology as a science
- Demonstrating the superiority of science over common sense
- Showing that psychological research occurs in a sociocultural context
- Illustrating the relevance of psychology to everyday life
- Encouraging critical thinking in all aspects of life, particularly in regard to the media
- Placing psychology in its intellectual, historical, biographical, and sociocultural contexts

To ensure that students will find the book appealing, we have made every effort to write clearly and concisely and to include interesting content. To make our prose as clear as possible, we have taken care that every sentence, paragraph, and section in the book presents a crisp, logical flow of ideas. To make the content more interesting, we have included many engaging examples of concepts and issues throughout the book. Because more readable text-books provide vivid examples of the concepts and issues they cover, we have included concrete examples from psychological research and from virtually every area of life.

A textbook should be readable, but for students to respect psychology as a science, the textbook they use also must be scholarly. Though popular examples are provided

throughout this text, they do not substitute for evidence provided by scientific research. If you skim the References section at the end of the book, you will note that it is as upto-date as possible in its coverage of research studies, yet does not slight classic studies.

# Themes Guiding Psychology

The seventh edition of *Psychology* includes special features that advance the five main themes of this text.

## Psychology Is a Science

Over the years, several of our colleagues have expressed frustration that many people—including students—do not realize that psychology is a science, instead believing that it is based on common sense and the opinions of experts called "psychologists." Because of this misconception, one of our primary goals in this book is to show the student reader that psychology is indeed a science. Psychologists do have opinions, but as scientists, they try their best to hold opinions that do not come out of thin air but, rather, are supported by empirical data.

Yet, a psychology textbook should provide students with more than research findings. It should discuss "how we know" as well as "what we know." To give students enough background to appreciate the research process, in Chapter 2 we introduce psychology as a science, the methods of psychological research, and the statistical analysis of research data. The chapter includes a concrete example of the scientific method that shows how it relates to an interesting classic research study on interpersonal attraction. The chapter also includes data from a hypothetical experiment on the effects of melatonin on sleep and explains how to calculate descriptive statistics using that data.

Beginning with Chapter 2, each chapter features an in-depth discussion of a research study. This feature, *The Research Process*, highlights the rationale, methods, results, and interpretation of research studies in a manner accessible to beginning psychology students. The studies have been chosen for both their appeal and their ability to illustrate the scientific method. These studies include the following:

- David Buss and colleagues' (1992) evolutionary psychology study of emotional and sexual jealousy (Chapter 3)
- Nicholas Spanos and Erin Hewitt's (1980) study of hypnosis as an altered state of consciousness (Chapter 6)
- Lewis Terman's longitudinal study, the Genetic Studies of Genius (Chapter 10)

xiv

#### Psychology Is Superior to Common Sense

Many psychology professors we have known have stressed the need to demonstrate that psychology is more than formalized common sense. Though common sense is often correct and functionally useful, unlike science it is not self-correcting. False commonsense beliefs might survive indefinitely—and might be held tenaciously by introductory psychology students—despite being wrong. The text provides numerous examples of the failure of commonsense beliefs to stand up to scientific challenge. For example, Chapter 2 provides research evidence contradicting the commonsense belief that students should not change their answers on multiple-choice tests.

To demonstrate the superiority of the scientific approach, most chapters include the feature *Psychology Versus Common Sense*. This feature challenges widely held commonsense beliefs by evaluating them scientifically.

- Chapter 2 presents a study that showed how scientific research has countered the commonsense belief (upheld even in high-court decisions) that we can reliably determine if someone is legally drunk by observing their behavior.
- Chapter 5 discusses a research study indicating that it
  might be impossible for baseball players to follow the
  commonsense directive to "keep your eye on the ball"
  when they are at bat.
- Chapter 6 presents evidence that supports the commonsense belief that we need to sleep in order to maintain our physical health.

## Psychology Is Relevant to Everyday Life

This textbook contains concrete examples that illustrate concepts while providing relief from the typically sober material often presented in psychology textbooks. Our examples—showing the relevance of psychology to everyday life—clarify concepts and make the material more interesting. These examples come from many areas of life, including art, sport, history, politics, biography, literature, entertainment, and student life, and are interwoven into the body of the text. Among these many examples are the following:

- Research-based suggestions for overcoming insomnia (Chapter 6)
- How operant conditioning is used to train animals (Chapter 7)
- Ways to improve one's memory and study habits (Chapter 8)

#### Psychology Improves Critical Thinking

If students learn nothing else from the introductory psychology course, they should learn to think more critically—that is, to be skeptical rather than gullible or cynical. Chapter 2 describes formal steps in thinking critically,

and critical thinking is encouraged throughout the book. Students will find that the ability to think critically benefits them in their daily lives when confronted with claims made by friends, relatives, politicians, advertisers, or anyone else. Every chapter of the book gives the student repeated opportunities to critically assess popular claims portrayed in the media, provide alternative explanations for research findings, and think of possible implications of research findings.

In a senior seminar course that Les has taught over the years, entitled "Current Issues in Psychology," students read many journal articles and some popular articles on a host of controversial topics, which they then discuss or debate. Because of the success of this course—students enjoy sinking their teeth into controversial issues—we have adapted its rationale in the *Critical Thinking About Psychology* features throughout the book. The topics chosen for this feature promote critical thinking by showing that psychologists use reason and empirical data to tackle controversies. Some of the topics include the following:

- The furor over Einstein's preserved brain (Chapter 3)
- The validity of "recovered memories" of childhood abuse (Chapter 8)
- The controversy over *The Bell Curve* (Chapter 10)

## Psychology Has a Variety of Contexts

Psychology does not exist in a vacuum. It must consider sociocultural factors; it has an intellectual heritage; it reflects its times; and it is the product of individual human lives. That is, psychology has a variety of contexts: sociocultural, intellectual, historical, and biographical. This contextual variety is stressed throughout the book.

Psychology's Sociocultural Context Throughout the text, cross-cultural, ethnic, and gender differences are discussed within the context of human universals. Critical thinking about group differences must include consideration of the magnitude of these differences as well as the variables on which groups do not differ appreciably. For example, Chapter 2 includes a discussion of a research study that found that responses to rating scales might depend in part on one's cultural background. Students from North America were more willing to use the extremes of the scales than were students from East Asia. The discussion considers the possible cultural basis for this difference in the students' response tendencies. And Chapter 6 reports gender and ethnic differences in some aspects of the sleep cycle, noting that these differences may be attributable to variables that are correlated with gender and ethnicity, such as stress levels and sleep environments. Chapter 12 describes studies that report cross-cultural differences in the experience and socialization of emotion along with studies that report remarkable cross-cultural similarity

**Preface** 

in self-reported happiness and well-being. Moreover, the power of gender roles is emphasized in many discussions of gender differences. For example, in Chapters 11 and 17 we discuss the influence of gender roles on body satisfaction, eating disorders, physical attractiveness, and mate selection among heterosexual women and men, lesbians, and gay men.

Psychology's Intellectual Context Students need to realize that psychology is not intellectually homogeneous. Psychologists favor a variety of perspectives, including the psychoanalytic, the behaviorist, the cognitive, the humanistic, the biopsychological, and the sociocultural. Our text's attention to each of these perspectives reflects our belief that an introductory psychology textbook should introduce students to a variety of perspectives rather than reflect the author's favored one. That is, the introductory psychology textbook should be fair in representing psychology's intellectual context—while being critical of the various perspectives when research findings merit it. Students are introduced to the major psychological perspectives in Chapter 1 and continue to encounter them throughout the book, most obviously in the chapters on personality, psychological disorders, and therapy.

The text explains the different approaches to particular topics that are taken by psychologists who represent different perspectives. For example, Chapter 14's discussion on the possible causes of depression presents the differing views of psychologists who favor the psychoanalytic, behavioral, cognitive, humanistic, biopsychological, and sociocultural perspectives.

Psychology is diverse not only in its intellectual perspectives but also in its intellectual fields. Our students often express amazement at the breadth of psychology. One psychologist might devote a career to using fMRI techniques in studying cerebral hemispheric functions; another might devote a career to studying the relationship of child-hood attachment patterns to adult romantic relationships. And whereas one member of a psychology department studies the causes of human aggression, another studies the nature of so-called flashbulb memories. Because of this breadth, we were forced to be selective in the topics, studies, and concepts presented in the book. Nonetheless, we believe that this book includes a representative sampling of the discipline of psychology.

Psychology's Historical Context An article dealing with psychology and the liberal arts curriculum in the June 1991 issue of the American Psychologist stressed that an essential goal in undergraduate psychology education is to provide students with the historical context of psychology. Introductory psychology textbooks should not present psychology as though it developed in ivory towers divorced from a historical context. Throughout this book, you will find many ways in which topics are given a historical grounding. Chapter 1 includes a discussion

of the contributions made by female psychologists to the early growth of psychology—as well as the obstacles they faced. By drawing a connection between Galvani's work on electricity, Mary Shelley's *Frankenstein*, and views on the nature of neural conduction, Chapter 3 reveals how, over the centuries, activity in one area of scientific endeavor can influence theorizing in another. And Chapter 10 traces the nature-nurture debate regarding intelligence back to the work of Francis Galton in the late 19th century. And, though this book is grounded in the history of psychology, studies throughout have been updated to reflect the current status of research in the field. Most notably, Chapter 14 has been extensively revised to reflect changes with the publication of the *DSM-5*.

Psychology's Biographical Context Psychology is influenced not only by the intellect of the psychologist but also by his or her own life experiences. Throughout this text, we show evidence that psychology is a human endeavor, practiced by people with emotions as well as intellects, and that scientific progress depends on serendipity as well as on purposeful scientific pursuits. For example, Chapter 3 points out that the first demonstration of the chemical basis of communication between nerve cells came to Otto Loewi in a dream. And Chapter 7 explains why the name Pavlov rings a bell but the name Twitmyer does not. Students tend to find this biographical information engaging, making them more likely to read assigned material in the text.

# **Pedagogical Features**

#### **Chapter Openers**

We have made a special effort to include chapter openers that engage the student and promote interest in reading the chapter. Among the chapter openers are the following:

- **Chapter 1** begins with a description of the shootings at Columbine High School, which then is addressed later in the chapter through the lenses of the different psychological perspectives.
- **Chapter 4** begins with the story of Hulda Crooks, a 91-year-old mountain climber, which illustrates that people do not necessarily deteriorate in old age.
- Chapter 7 begins with a discussion of the use of conditioned taste aversion to prevent coyotes from killing sheep, which indicates how basic research findings can be applied to practical problems.
- Chapter 11 begins with the story of the life of "Mother" Joseph Cavellucci, a gay transvestite, which anticipates later coverage of theory and research on gender identity and sexual orientation.
- Chapter 12 begins with a report of the use—and misuse—of the polygraph test to protect nuclear weapons secrets, which shows psychology's relationship to important current events.

Preface

xvi

- Chapter 14 begins with the story of Norton I, Emperor
  of the United States, a man with schizophrenia who
  was renowned in 19th-century San Francisco, which
  demonstrates that even people with serious mental
  illnesses may live full lives.
- Chapter 17 begins with a description of the Heaven's Gate mass suicide, which anticipates later text coverage of conformity, compliance, and obedience.

## **Running Marginal Glossary**

A running marginal glossary is integrated throughout the book. This feature eliminates the need for us to torture our prose into the formal tone of a dictionary definition when we introduce new concepts. Terms that are printed in bold-face are defined in the margins and listed as *Key Terms* at the end of the chapter. The marginal definitions are also collected in the *Glossary* at the end of the book, which provides a handy tool for students when they encounter those terms in other chapters and when they are studying for exams.

#### Section Review Self-Quizzes

Each of the major sections within the chapters ends with a self-quiz called *Section Review*. These quizzes encourage students to pause and assess whether they can recall and comprehend important information from the relevant section. The quizzes include factual, conceptual, and applied questions. Answers to all the questions are provided at the end of the book and in the Online Edition.

#### Illustrations

We selected or helped design all the illustrations in this book. In doing so, we tried to make each of them serve a sound pedagogical purpose. Though the illustrations make the book aesthetically more appealing, they were chosen chiefly because their visual presentations complement material discussed in the text. The illustrations include beautifully executed drawings, graphs of research data, and many interesting photographs of people and events that students will recognize.

#### **Chapter Summary**

Each chapter ends with a bulleted *Chapter Summary* that captures the essential points made in the major sections of the chapter. The summaries provide a quick overview that will help students master what they have read.

#### **Key Terms**

Each chapter includes a list of *Key Terms* that were discussed in the chapter. The list is arranged alphabetically and according to each chapter's first-level headings and indicates the pages on which the terms were discussed. The list will help students in reviewing and studying for exams.

#### **Experiencing Psychology**

We have designed *Experiencing Psychology* activities to engage students in critical thinking about topics discussed in the text. These projects may be adapted for use as inclass activities or as out-of-class assignments. Activities include:

- Assessing the effectiveness of a mnemonic technique (Chapter 8)
- Replicating a classic study of the effects of mental sets on problem solving (Chapter 9)
- Testing the hypothesis that humorous professors are more effective educators (Chapter 12)
- Assessing the media's portrayal of mental illness (Chapter 14)
- Applying behavior modification techniques to increase adherence to an exercise regimen (Chapter 16)

## Chapter Quiz and Thought Questions

Each chapter concludes with a multiple-choice *Chapter Quiz* and open-ended *Thought Questions* about material covered in the chapter. Answers for the quiz questions are provided at the end of the book and in the Online Edition, and possible answers for the Thought Questions are provided in the Instructor's Manual.

## **Online and in Print**

## Student Options: Print and Online Versions

This seventh edition of *Psychology* is available in multiple versions: online and in print as either a paperback or loose-leaf text. The most affordable version is the online book, with upgrade options including the online version bundled with a print version. What's nice about the print version is that it offers you the freedom of being unplugged—away from your computer. The people at YOLO Learning Solutions recognize that it's difficult to read from a screen at length and that most of us read much faster from a piece of paper. The print options are particularly useful when you have extended print passages to read.

The online edition allows you to take full advantage of embedded digital features, including search and notes. Use the search feature to locate and jump to discussions anywhere in the book. Use the notes feature to add personal comments or annotations. You can move out of the book to follow Web links. You can navigate within and between chapters using a clickable table of contents. These features allow you to work at your own pace and in your own style, as you read and surf your way through the material. (See "Harnessing the Online Version" for more tips on working with the online version.)

Preface

**xvii** 

## **Appendixes**

Three appendixes are available online and can be down-loaded in PDF format and printed:

Appendix A Majoring in Psychology

Appendix B Industrial/Organizational Psychology

Appendix C Statistics

# **Harnessing the Online Version**

The online version of *Psychology* 7e offers the following features to facilitate learning and to make using the book an easy, enjoyable experience:

- *Easy-to-navigate/clickable table of contents*—You can surf through the book quickly by clicking on chapter headings, or first- or second-level section headings. And the Table of Contents can be accessed from anywhere in the book.
- *Key terms search*—Type in a term, and a search engine will return every instance of that term in the book; then jump directly to the selection of your choice with one click.
- *Notes and highlighting*—The online version includes study apps such as notes and highlighting. Each of these apps can be found in the tools icon embedded in the YOLO/Textbook Media's online eBook reading platform (http://www.yololearningsolutions.com).
- *Upgrades*—The online version includes the ability to purchase additional study apps and functionality that enhance the learning experience.

# **Supplements**

In addition to the student-friendly features and pedagogy, the variety of student formats available, and the uniquely affordable pricing options, *Psychology* 7e comes with the following teaching and learning aids:

- *Test Item File*—An extensive set of multiple-choice, short answer, and essay questions for every chapter for creating original quizzes and exams.
- Instructor's Manual—An enhanced version of the book offering assistance in preparing lectures, identifying learning objectives, developing essay exams and assignments, and constructing course syllabi.
- PowerPoint Presentations—Key points in each chapter are illustrated in a set of PowerPoint files designed to assist with instruction.

# Student Supplements and Upgrades (Additional Purchase Required)

 Lecture Guide—This printable lecture guide is designed for student use and is available as an in-class resource or study tool. *Note:* Instructors can request the PowerPoint version of these slides to use as developed or to customize.

• StudyUpGrade (Interactive Online Study Guide)—
Students can turbo-charge their online version of 
Psychology 7e with a unique study tool designed to 
"up your grade." StudyUpGrade is a software package 
that layers self-scoring quizzes and flash cards into the 
online version.

This inexpensive upgrade helps you improve your grades through the use of interactive content that's built into each chapter. Features include self-scoring multiple-choice quizzes, key concept reviews with fill-in-the-blank prompts, and e-flash cards comprised of key term definitions. For more on this helpful study tool, check out the flash demo at the YOLO Learning Solutions or Textbook Media websites.

 Study Guide—A printable version of the online study guide is available via downloadable PDF chapters for easy self-printing and review.

# **Acknowledgments**

Because of their professionalism, good humor, and extensive knowledge of academic publishing, our editors at YOLO Learning Solutions have made writing this edition of our text a smooth, pleasurable process. We also would like to thank our production team at Putman Productions, especially Victoria Putman and Mary Monner, for providing us with their superb expertise and personal support throughout the process—while always being fun to work with.

Cheryl thanks her colleagues at the University of Redlands, especially Susan Goldstein, who cheerfully shared her expertise in cross-cultural psychology, and Sandi Richey, who helped in researching the text. Cheryl also thanks her sister, Gail Rickabaugh; her sister outlaw, Barbara Bridges, and her friends Kym Bennett, Jill Borchert, Dan Conte, Emily Culpepper, Susanne Pastuschek, and Judy Tschann for their respect, love, and support. And a special thanks to Oscar, who will always be her best friend and help her keep things in perspective.

Adrienne would like to thank her amazingly supportive family and friends. Without them, she would not be able to balance it all. She would also like to thank her colleagues at Quinnipiac University across all departments but most especially the Department of Psychology. She would also like to thank John Salamone for his unwavering support.

We hope that you enjoy the process of learning from our text. If you have any comments or questions, please contact YOLO Learning Solutions at info@yololearningsolutions.com or contact us directly at cheryl\_rickabaugh@redlands.edu or adrienne.betz@quinnipiac.edu.

xviii Preface

# **Reviewers**

Thanks to the many reviewers of the various editions of this text.

Rahan s. Ali, Pennsylvania State University

Ronald Baenninger, Temple University

Ute Johanna Bayen, *University of North Carolina*, *Chapel Hill* 

Robert C. Beck, Wake Forest University

Bethany Neal-Beliveau, *Indiana University–Purdue University Indianapolis* 

John Benjafield, Brock University

Robert D. Boroff, M.D., Modesto Junior College

Linda Brannon, McNeese State University

Robert Paul Brown, Jefferson Community College

Dennis Cogan, Texas Technical University

John B. Connors, Canadian Union College

Stanley Coren, University of British Columbia

Randolph Cornelius, Vassar College

Verne C. Cox, University of Texas at Arlington

Jeffrey Ratliff-Crain, University of Minnesota, Morris

Ken Cramer, University of Windsor

Richard Cribs, Motlow State Community College

Hank Davis, University of Guelph

Scott Dickman, University of Massachusetts, Dartmouth

Deanna L. Dodson, Lebanon Valley College

Donald K. Freedheim, Case Western Reserve University

Larry Fujinaka, Leeward Community College

Preston E. Garraghty, Indiana University

Janet Gebelt, University of Portland

Ajaipal S. Gill, Anne Arundel Community College

Sandy Grossman, Clackamas Community College

Morton G. Harmatz, *University of* 

Massachusetts, Amherst

Debra L. Hollister, Valencia Community College

Daniel Houlihan, Mankato State University

Lera Joyce Jonson, Centenary College

Deanna Julka, University of Portland

Stanley K. Kary, St. Louis Community College at Florrissant Valley

Karen Kopera-Frye, University of Akron

Janet L. Kottke, California State University, San Bernardino

Gary LaBine, Edinboro University of Pennsylvania

Joan B. Lauer, *Indiana University—Purdue University Indianapolis* 

Ting Lei, Borough of Manhattan Community College

Richard Lippa, California State University, Fullerton

Dennis Lorenz, University of Wisconsin

Gerald McRoberts, Stanford University

Ralph Miller, State University of New York, Binghamton

Joel Morgovsky, Brookdale Community College

James Mottin, University of Guelph

Ian Neath, Purdue University

Christopher Pagano, Clemson University

Richard Pisacreta, Ferris State University

Karen Quigley, Pennsylvania State University

Robert W. Ridel, Maryhurst University

Linda Robertello, Iona College

Sonya M. Sheffert, Central Michigan University

NC Silver, University of Nevada, Las Vegas

Brent D. Slife, Brigham Young University

Michael D. Spiegler, Providence College

George T. Taylor, University of Missouri, St. Louis

Lisa Valentino, Seminole Community College

Frank Vattano, Colorado State University

Benjamin Wallace, Cleveland State University

Wilse Webb, University of Florida, Gainsville

Amy Wilkerson, Stephen F. Austin State University

Ian Wishaw, University of Lethbridge

Michael Zicker, Bowling Green University

**Preface** 

xix

# **About the Authors**



Les Sdorow was chairperson of the Department of Psychology at Arcadia University (formerly Beaver College). He received his B.A. from Wilkes College and his M.A. and Ph.D. from Hofstra University. He was chairperson of the Department of Behavioral Science at St. Francis College (Pa.) and the Department of Psychology at Allentown College (now DeSales

University). Les was named Outstanding Educator at St. Francis College and Teacher of the Year at Allentown College. He also cofounded (with the late Richmond Johnson of Moravian College) the Annual Lehigh Val-

ley Undergraduate Psychology Research Conference (one of the oldest such conferences in North America) and served as president of the Pennsylvania Society of Behavioral Medicine and Biofeedback. Les's research interests were in psychophysiology, sport psychology, and health psychology. His main teaching interests included introductory psychology, research methods, sport psychology, health psychology, and history of psychology. Les made numerous presentations on the teaching of psychology at local, regional, and national conferences. He also was invited to contribute a chapter to the first book published by NITOP (2005), *Voices of Experience: Memorable Talks from the National Institute on the Teaching of Psychology*, copublished by the American Psychological Society.



Cheryl A. Rickabaugh is Professor of Psychology at the University of Redlands. She received her B.A. from California State University, Los Angeles, and her M.A. and Ph.D. in social-personality psychology at the University of California, Riverside. She has received two Outstanding Faculty Awards for teaching during her 26 years at the University

of Redlands. Cheryl teaches introductory psychology, research methods, social psychology, and psychology

of gender, in addition to a travel abroad course, Jews, Muslims & Basques: Their sociocultural contributions to Spain. She also teaches an interdisciplinary course—women, wellness, and sport—in the University of Redlands Women and Gender Studies program. She has published research in social psychology, health psychology, psychology of gender, and the teaching of undergraduate psychology, and is the author of *Sex and Gender: Student Projects and Exercises*, 2nd ed. (2005). Believing that one is never too old to learn, she is taking Spanish classes at the University of Redlands and El Instituto de Cervantes. She lives in Spain during her summer breaks.



Adrienne J. Betz is a member of the Department of Psychology at Quinnipiac University. She received her B.A. from University of Connecticut in psychology. Her M.A. and Ph.D., also from University of Connecticut, were in behavioral neuroscience in the Psychology Department under the supervision of John D. Salamone. After

receiving her Ph.D., she was a post-doctoral and associate

at Yale School of Medicine in molecular psychiatry under the supervision of Jane R. Taylor. She is currently the Director of Behavioral Neuroscience at Quinnipiac University and organizes a regional neuroscience conference, NEU-RON, which supports undergraduate and graduate research in neuroscience. Adrienne's main teaching interests include physiological psychology, senior thesis and research methods in behavioral neuroscience. Her research, published in journals such as *Psychopharmacology, Frontiers in Behavioral Neuroscience, Neuroscience, Pharmacology,* and *Biochemistry & Behavior*, focuses on changes that occur in the brain after experiencing stress.

AA

Sdorow\_fm.indd 20 8/26/14 1:44 PM