50 GREAT MYTHS OF POPULAR PSYCHOLOGY

Shattering Widespread Misconceptions about Human Behavior

Scott O. Lilienfeld
Steven Jay Lynn
John Ruscio
Barry L. Beyerstein

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Praise for *50 Great Myths of Popular Psychology*

"True knowledge is hard won, and this timely and remarkable book shows us that stamping out falsehoods is no easy task either. The book does it all: it debunks all-too-common beliefs from the pseudoscientific fringe; it presents evidence against a variety of myths that seem like they ought to be true; it explains why people fall prey to such falsehoods; and it ends with some tantalizing facts about mind and behavior that make it clear that the truth can be every bit as amazing as fiction. These 50 myths won't disappear with the publication of this book, but those who read it will enjoy being able to set others—many others—straight."

Thomas Gilovich, Cornell University

"We have needed this compendium for some time. These factoids and popular (but fallacious) memes about psychology have been exposed in single publications, but critiques of all of them have never been brought together in one place before. The myths chosen by these authors are indeed popular ones—the very ones that psychology instructors encounter every day. The book is an incredible resource for both student and instructor. The critiques are accurate and well written. I'm sure my copy will be dog-eared within six months."

Keith E. Stanovich, author of How To Think Straight About Psychology *and* What Intelligence Tests Miss

"A much-needed mythbuster for consumers and students of psychology. This engaging book reminds us that applying science to everyday psychology is not only enormously worthwhile, but fun."

Carol Tavris, coauthor of Mistakes Were Made (But Not by Me)

"Because I only use 10% of my brain, I had to play Mozart music while reading this book, and then be hypnotized to recover the memory of it because of early childhood traumas that were repressed but occasionally leaked through out-of-body experiences and ESP. And if you believe any of the above you need to read this book . . . twice if its mythbusting revelations cause you to repress the memory of it."

Michael Shermer, Publisher of Skeptic *magazine, monthly columnist for* Scientific American, *and author of* Why People Believe Weird Things

"Is it true that psychology is mostly common sense? For anyone who wonders, this amazing book—which effectively discounts 50 pop psychology myths and briefly dismisses 250 more—provides convincing answers. And it does more: it offers fascinating examples of how science works and supports critical thinking. For teachers, students, writers, and anyone who wants to think smarter, this classic-to-be will be a valuable resource and a great read."

David G. Myers, Hope College, author of Intuition: Its Powers and Perils

"I find each and every chapter excellent and from a teaching point of view, brilliant. The way in which the history of the myths is presented up to the critical but balanced discussion of each myth, is a great achievement. Scott Lilienfeld is well-known for his user-friendly writing style, but in this text he and his co-authors reach a new level. This leads to a book which will not only be easily understandable by undergraduate, and especially first year students, but also by the general population."

Dap Louw, University of the Free State

About the Authors

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"Science must begin with myths and with the criticism of myths."

Sir Karl Popper (1957)

CONTENTS

PREFACE

Psychology is all around us. Youth and old age, forgetting and remembering, sleeping and dreaming, love and hate, happiness and sadness, mental illness and psychotherapy—for good, bad, and often both, this is the stuff of our daily lives. Virtually every day, the news media, television shows and films, and the Internet bombard us with claims regarding a host of psychological topics—brain functioning, psychics, out-of-body experiences, recovered memories, polygraph testing, romantic relationships, parenting, child sexual abuse, mental disorders, real crime, and psychotherapy, to name merely a few. Even a casual stroll through our neighborhood bookstore reveals at least dozens, and often hundreds, of self-help, relationship, recovery, and addiction books that serve up generous portions of advice for steering our path along life's rocky road. Of course, for those who prefer their psychological advice for free, there's no end of it on the Web. In countless ways, the popular psychology industry shapes the landscape of the early 21st century world.

Yet to a surprising extent, much of what we believe to be true about psychology isn't. Although scores of popular psychology sources are readily available in bookstores and at our fingertips online, they're rife with myths and misconceptions. Indeed, in today's fast-paced world of information overload, *misinformation* about psychology is at least as widespread as accurate information. Unfortunately, precious few books are available to assist us with the challenging task of distinguishing fact from fiction in popular psychology. As a consequence, we often find ourselves at the mercy of self-help gurus, television talk show hosts, and radio self-proclaimed mental health experts, many of whom dispense psychological advice that's a confusing mix of truths, half-truths, and outright falsehoods. Without a dependable tour guide for sorting out

psychological myth from reality, we're at risk for becoming lost in a jungle of misconceptions.

Many of the great myths of popular psychology not only mislead us about human nature, but can also lead us to make unwise decisions in our everyday lives. Those of us who believe erroneously that people typically repress the memories of painful experiences (see Myth #13) may spend much of our lives in a fruitless attempt to dredge up memories of childhood traumatic events that never happened; those of us who believe that happiness is determined mostly by our external circumstances (see Myth #24) may focus exclusively outside rather than inside of ourselves to find the perfect "formula" for long-term satisfaction; and those of us who believe erroneously that opposites attract in romantic relationships (see Myth #27) may spend years searching for a soulmate whose personalities and values differ sharply from ours—only to discover too late that such "matches" seldom work well. Myths matter.

As science educator David Hammer (1996) noted, scientific misconceptions possess four major properties. They (1) are stable and often strongly held beliefs about the world, (2) are contradicted by well-established evidence, (3) influence how people understand the world, and (4) must be corrected to achieve accurate knowledge (Stover & Saunders, 2000). For our purposes, the last point is especially crucial. In our view, mythbusting should be an essential component of psychology education, because deeply entrenched beliefs in psychological misconceptions can impede students' understanding of human nature.

There are numerous dictionary definitions of the word "myth," but the ones that best suit our purposes derive from the *American Heritage Dictionary* (2000): "a popular [but false] belief or story that has become associated with a person, institution, or occurrence" or "a fiction or half-truth, especially one that forms part of an ideology." Most of the myths we present in this book are widely held beliefs that blatantly contradict psychological research. Others are exaggerations or distortions of claims that contain a kernel of truth. Either way, most of the myths we address in this book can seem so compelling because they fit into a broader view of human nature that many people find plausible. For example, the false belief that we use only 10% of our brain power (see Myth #1) dovetails with the belief that many of us haven't fully realized our intellectual potential; and the false belief that low self-esteem is a major cause of maladjustment (see Myth #33) fits with the belief that we can achieve just about anything if we believe in ourselves.

Many psychological myths are also understandable efforts to make sense out of our worlds. As German sociologist and philosopher of science

Klaus Manhart (2005) observed, throughout history myths have served a central function: attempting to explain the otherwise inexplicable. Indeed, many of the myths we discuss in this book, like the belief that dreams have been shown to possess symbolic meaning (see Myth #20), are efforts to grapple with some of life's perennial mysteries, in this case the underlying significance of our nighttime mental worlds.

Our book is the first to survey the full landscape of modern popular psychology, and to place common psychological misconceptions under the microscope of scientific evidence. By doing so, we hope to both dispel prevalent but false beliefs and arm readers with accurate knowledge that they can use to make better real-world decisions. Our tone is informal, engaging, and at times irreverent. We've made particular efforts to make our book accessible to beginning students and laypersons, and we presume no formal knowledge of psychology. To do so, we've kept technical language to a minimum. As a consequence, this book can be enjoyed equally by specialists and nonspecialists alike.

We begin the book by surveying the vast world of popular psychology, the dangers posed by psychological myths, and 10 major sources of these myths. Then, in the body of the book, we examine 50 widespread myths of popular psychology. For each myth, we discuss its prevalence in the general population, illustrative examples from the wide world of popular psychology, its potential origins, and the research evidence bearing on it. Although one of our main goals is mythbusting, we go well beyond merely debunking myths. For each myth, we also discuss what we know to be *true* regarding each topic, thereby imparting genuine psychological knowledge that readers can take with them and apply to their everyday lives. Several of the 50 myths are accompanied by brief "Mythbusting: A Closer Look" boxes that examine a closely allied myth. Each chapter concludes with a set of other myths to explore—250 in all—along with helpful suggested references for tracking down these myths. Instructors in psychology classes may find many of these additional myths handy as presentation or term paper topics to assign to their students. To drive home the point that psychological truth is often just as fascinating, if not more, than psychological myth, the book's postscript features a David Letterman-style "Top Ten List" of remarkable psychological findings that may seem like myths, but that are in fact true. Finally, the book concludes with an Appendix containing recommended Internet resources for exploring various psychological myths.

This book, we believe, will appeal to several audiences. Students in introductory psychology and research methods courses, as well as teachers of these courses, will find the book to be of particular interest. Many

students enter these courses with misconceptions concerning a host of psychological topics, so confronting these misconceptions is often an essential step toward imparting accurate knowledge. Because we have organized the book around 11 domains traditionally covered in introductory psychology courses, such as brain functioning and perception, memory, learning and intelligence, emotion and motivation, social psychology, personality, psychopathology, and psychotherapy, this book can serve as either a freestanding textbook or a textbook supplement for these courses. Instructors who use this book along with a standard introductory psychology textbook can easily assign some or all of the myths in each chapter in conjunction with the accompanying chapter in their textbook.

Laypersons interested in learning more about psychology will find the book to be an invaluable and user-friendly resource, as well an entertaining compendium of psychological knowledge. Practicing psychologists and other mental health professionals (such as psychiatrists, psychiatric nurses, counselors, and social workers), psychology educators, psychological researchers, psychology majors, and psychology graduate students should also find the book to be an enjoyable read, not to mention a valuable reference source. Finally, we modestly believe that this book should be recommended (dare we say required?) reading for all journalists, writers, educators, and attorneys whose work touches on psychological topics. This book should prevent them from falling prey to precisely the kinds of psychological misunderstandings against which we so vigorously caution our readers.

This project could never have come to fruition without the assistance of several talented and dedicated individuals. First and foremost, we sincerely thank our editor at Wiley-Blackwell, Christine Cardone, about whom we cannot say enough good things. Chris has provided invaluable guidance throughout this project, and we are deeply indebted to her for her support and encouragement. We consider ourselves remarkably fortunate to have worked with someone as competent, kind, and patient as Chris. Second, we thank Sean O'Hagen for his gracious assistance with the *Reference* section and help with the aging myth, Alison Cole for help with the midlife crisis myth, Otto Wahl for help with the schizophrenia myth, and Fern Pritikin Lynn, Ayelet Meron Ruscio, and Susan Himes for their useful suggestions on miscellaneous myths. Third, we thank Constance Adler, Hannah Rolls and Annette Abel at Wiley-Blackwell for their editorial assistance and copy-editing.

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We are honored to dedicate this book to the memory of our dear friend, colleague, and co-author Barry Beyerstein. Although his contribution to this volume was cut short by his untimely death in 2007 at the age of 60, the manuscript bears the imprint of his keen mind and ability to communicate complex ideas to a wide audience. We know Barry would be extremely proud of this volume, which embodies his mission of educating the public about the promise of scientific psychology to increase our knowledge about what it means to be human, and about the pitfalls of pseudoscience. We fondly remember Barry Beyerstein's passion for life and compassion for others, and dedicate this book to him to commemorate his enduring legacy to the popularization of scientific psychology.

As authors, we very much hope you enjoy reading the book as much as we enjoyed writing it. We welcome your feedback on the book, not to mention suggestions for additional myths to discuss in future editions.

May the mythbusting begin!

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INTRODUCTION

The Wide World of Psychomythology

"Opposites attract."
"Spare the rod, spoil the child."
"Familiarity breeds contempt."
"There's safety in numbers."

You've probably heard these four proverbs many times before. Moreover, like our rights to life, liberty, and the pursuit of happiness, you probably hold them to be self-evident. Our teachers and parents have assured us that these sayings are correct, and our intuitions and life experiences confirm their wisdom.

Yet psychological research demonstrates that all four proverbs, as people commonly understand them, are mostly or entirely wrong. Opposites don't attract in romantic relationships; to the contrary, we tend to be most attracted to people who are similar to us in our personalities, attitudes, and values (see Myth #27). Sparing the rod doesn't necessarily spoil children; moreover, physical punishment often fails to produce positive effects on their behavior (see p. 97). Familiarity usually breeds comfort, not contempt; we usually prefer things we've seen many times to things that are novel (see p. 133). Finally, there's typically danger rather than safety in numbers (see Myth #28); we're more likely to be rescued in an emergency if only one bystander, rather than a large group of bystanders, is watching.

The Popular Psychology Industry

You've almost certainly "learned" a host of other "facts" from the popular psychology industry. This industry encompasses a sprawling network

of sources of everyday information about human behavior, including television shows, radio call-in programs, Hollywood movies, self-help books, newsstand magazines, newspaper tabloids, and Internet sites. For example, the popular psychology industry tells us that:

- we use only 10% of our brain power;
- our memories work like videotapes or tape recorders;
- if we're angry, it's better to express the anger directly than hold it in;
- most sexually abused children grow up to become abusers themselves;
- people with schizophrenia have "split" personalities;
- people tend to act strangely during full moons.

Yet we'll learn in this book that all six "facts" are actually fictions. Although the popular psychology industry can be an invaluable resource for information about human behavior, it contains at least as much *misinformation* as information (Stanovich, 2007; Uttal, 2003). We term this vast body of misinformation *psychomythology* because it consists of misconceptions, urban legends, and old wives' tales regarding psychology. Surprisingly, few popular books devote more than a handful of pages to debunking psychomythology. Nor do more than a handful of popular sources provide readers with scientific thinking tools for distinguishing factual from fictional claims in popular psychology. As a consequence, many people—even students who graduate from college with majors in psychology—know a fair amount about what's true regarding human behavior, but not much about what's false (Chew, 2004; Della Sala, 1999, 2007; Herculano-Houzel, 2002; Lilienfeld, 2005b).

Before going much further, we should offer a few words of reassurance. If you believed that all of the myths we presented were true, there's no reason to feel ashamed, because you're in awfully good company. Surveys reveal that many or most people in the general population (Furnham, Callahan, & Rawles, 2003; Wilson, Greene, & Loftus, 1986), as well as beginning psychology students (Brown, 1983; Chew, 2004; Gardner & Dalsing, 1986, Lamal, 1979; McCutcheon, 1991; Taylor & Kowalski, 2004; Vaughan, 1977), believe these and other psychological myths. Even some psychology professors believe them (Gardner & Hund, 1983).

If you're still feeling a tad bit insecure about your "Psychology IQ," you should know that the Greek philosopher Aristotle (384–322 B.C.), who's widely regarded as one of the smartest human beings ever to walk the face of the earth, believed that emotions originate from the heart,

not the brain, and that women are less intelligent than men. He even believed that women have fewer teeth than men! Aristotle's bloopers remind us that high intelligence offers no immunity against belief in psychomythology. Indeed, a central theme of this book is that we can *all* fall prey to erroneous psychological claims unless we're armed with accurate knowledge. That's as true today as it was in past centuries.

Indeed, for much of the 1800s, the psychological discipline of "phrenology" was all the rage throughout much of Europe and America (Greenblatt, 1995; Leahy & Leahy, 1983). Phrenologists believed that extremely specific psychological capacities, like poetic ability, love of children, appreciation of colors, and religiosity, were localized to distinct brain regions, and that they could detect people's personality traits by measuring the patterns of bumps on people's skulls (they thought incorrectly that enlarged brain areas create indentations on the skull). The range of psychological capacities supposedly pinpointed by phrenologists ranged from 27 to 43. Phrenology "parlors" allowing curious patrons to have their skulls and personalities measured sprouted up in many locations, giving rise to the still popular phrase "having one's head examined." Yet phrenology turned out to be a striking example of psychomythology on a grand societal scale, as studies eventually showed that damage to the brain areas identified by phrenologists hardly ever caused the psychological deficits they'd so confidently predicted. Although phrenology—depicted on this book's cover—is now dead, scores of other examples of psychomythology are alive and well.

In this book, we'll help you to distinguish fact from fiction in popular psychology, and provide you with a set of mythbusting skills for evaluating psychological claims scientifically. We'll not only shatter widespread myths about popular psychology, but explain what's been found to be true in each domain of knowledge. We hope to persuade you that scientifically supported claims regarding human behavior are every bit as interesting as—and often even more surprising than—the mistaken claims.

That's not to say that we should dismiss everything the popular psychology industry tells us. Many self-help books encourage us to take responsibility for our mistakes rather than to blame others for them, offer a warm and nurturing environment for our children, eat in moderation and exercise regularly, and rely on friends and other sources of social support when we're feeling down. By and large, these are wise tidbits of advice, even if our grandmothers knew about them.

The problem is that the popular psychology industry often intersperses such advice with suggestions that fly in the face of scientific evidence

(Stanovich, 2007; Wade, 2008; Williams & Ceci, 1998). For example, some popular talk-show psychologists urge us to always "follow our heart" in romantic relationships, even though this advice can lead us to make poor interpersonal decisions (Wilson, 2003). The popular television psychologist, Dr. Phil McGraw ("Dr. Phil"), has promoted the polygraph or so-called "lie detector" test on his television program as means of finding out which partner in a relationship is lying (Levenson, 2005). Yet as we'll learn later (see Myth #23), scientific research demonstrates that the polygraph test is anything but an infallible detector of the truth (Lykken, 1998; Ruscio, 2005).

Armchair Psychology

As personality theorist George Kelly (1955) pointed out, we're all armchair psychologists. We continually seek to understand what makes our friends, family members, lovers, and strangers tick, and we strive to understand why they do what they do. Moreover, psychology is an inescapable part of our everyday lives. Whether it's our romantic relationships, friendships, memory lapses, emotional outbursts, sleep problems, performance on tests, or adjustment difficulties, psychology is all around us. The popular press bombards us on an almost daily basis with claims regarding brain development, parenting, education, sexuality, intelligence testing, memory, crime, drug use, mental disorders, psychotherapy, and a bewildering array of other topics. In most cases we're forced to accept these claims on faith alone, because we haven't acquired the scientific thinking skills to evaluate them. As neuroscience mythbuster Sergio Della Sala (1999) reminded us, "believers' books abound and they sell like hot cakes" (p. xiv).

That's a shame, because although some popular psychology claims are well supported, scores of others aren't (Furnham, 1996). Indeed, much of everyday psychology consists of what psychologist Paul Meehl (1993) called "fireside inductions": assumptions about behavior based solely on our intuitions. The history of psychology teaches us one undeniable fact: Although our intuitions can be immensely useful for generating hypotheses to be tested using rigorous research methods, they're often woefully flawed as a means of determining whether these hypotheses are correct (Myers, 2002; Stanovich, 2007). To a large extent, that's probably because the human brain evolved to understand the world around it, not to understand itself, a dilemma that science writer Jacob Bronowski (1966) called "reflexivity." Making matters worse, we often

cook up reasonable-sounding, but false, explanations for our behaviors after the fact (Nisbett & Wilson, 1977). As a consequence, we can persuade ourselves that we understand the causes of our behaviors even when we don't.

Psychological Science and Common Sense

One reason we're easily seduced by psychomythology is that it jibes with our common sense: our gut hunches, intuitions, and first impressions. Indeed, you may have heard that most psychology is "just common sense" (Furnham, 1983; Houston, 1985; Murphy, 1990). Many prominent authorities agree, urging us to trust our common sense when it comes to evaluating claims. Popular radio talk show host Dennis Prager is fond of informing his listeners that "There are two kinds of studies in the world: those that confirm our common sense and those that are wrong." Prager's views regarding common sense are probably shared by many members of the general public:

> Use your common sense. Whenever you hear the words "studies show"—outside of the natural sciences—and you find that these studies show the opposite of what common sense suggests, be very skeptical. I do not recall ever coming across a valid study that contravened common sense. (Prager, 2002, p. 1)

For centuries, many prominent philosophers, scientists, and science writers have urged us to trust our common sense (Furnham, 1996; Gendreau, Goggin, Cullen, & Paparozzi, 2002). The 18th century Scottish philosopher Thomas Reid argued that we're all born with common sense intuitions, and that these intuitions are the best means of arriving at fundamental truths about the world. More recently, in a *New York Times* editorial, well-known science writer John Horgan (2005) called for a return to common sense in the evaluation of scientific theories, including those in psychology. For Horgan, far too many theories in physics and other areas of modern science contradict common sense, a trend he finds deeply worrisome. In addition, the last several years have witnessed a proliferation of popular and even bestselling books that champion the power of intuition and snap judgments (Gigerenzer, 2007; Gladwell, 2005). Most of these books acknowledge the limitations of common sense in evaluating the truth of scientific claims, but contend that psychologists have traditionally underestimated the accuracy of our hunches.

Yet as the French writer Voltaire (1764) pointed out, "Common sense is not so common." Contra to Dennis Prager, psychological studies that overturn our common sense are sometimes right. Indeed, one of our primary goals in this book is to encourage you to *mistrust* your common sense when evaluating psychological claims. As a general rule, you should consult research evidence, not your intuitions, when deciding whether a scientific claim is correct. Research suggests that snap judgments are often helpful in sizing up people and in forecasting our likes and dislikes (Ambady & Rosenthal, 1992; Lehrer, 2009; Wilson, 2004), but they can be wildly inaccurate when it comes to gauging the accuracy of psychological theories or assertions. We'll soon see why.

As several science writers, including Lewis Wolpert (1992) and Alan Cromer (1993), have observed, science is *uncommon* sense. In other words, science requires us to put aside our common sense when evaluating evidence (Flagel & Gendreau, 2008; Gendreau et al., 2002). To understand science, including psychological science, we must heed the advice of the great American humorist Mark Twain, namely, that we need to *unlearn* old habits of thinking at least as much as learn new ones. In particular, we need to unlearn a tendency that comes naturally to all of us—the tendency to assume that our gut hunches are correct (Beins, 2008).

Of course, not all popular psychology wisdom, sometimes called "folk psychology," is wrong. Most people believe that happy employees get more work done on the job than unhappy employees, and psychological research demonstrates that they're right (Kluger & Tikochinsky, 2001). Yet time and time again, scientists—including psychological scientists—have discovered that we can't always trust our common sense (Cacioppo, 2004; Della Sala, 1999, 2007; Gendreau et al., 2002; Osberg, 1991; Uttal, 2003). In part, that's because our raw perceptions can deceive us.

For example, for many centuries, humans assumed not only that the earth is flat—after all, it sure seems flat when we're walking on it—but that the sun revolves around the earth. This latter "fact" in particular seemed obvious to virtually everyone. After all, each day the sun paints a huge arc across the sky while we remain planted firmly on the ground. But in this case, observers' eyes fooled them. As science historian Daniel Boorstin (1983) noted:

> Nothing could be more obvious than that the earth is stable and unmoving, and that we are the center of the universe. Modern Western science takes its beginning from the denial of this commonsense axiom . . . Common sense, the foundation of everyday life, could no longer serve for the governance of the world. (p. 294)

Image not available in the electronic edition

Figure I.1 A diagram from the study by Michael McCloskey (1983). What path will the ball take after exiting the spiral?
Source: McCloskey (1983).

Let's consider another example. In Figure I.1, you'll see a drawing from a study from the work of Michael McCloskey (1983), who asked college students to predict the path of a ball that has just exited from an enclosed spiral. About half of the undergraduates predicted incorrectly that the ball would continue to travel in a spiral path after exiting, as shown on the right side of the figure (in fact, the ball will travel in a straight path after exiting, as shown on the left side of the figure). These students typically invoked commonsense notions like "momentum" when justifying their answers (for example, "The ball started traveling in a certain way, so it will just keep going that way"). By doing so, they seemed almost to treat the ball as a person, much like a figure skater who starts spinning on the ice and keeps on spinning. In this case, their intuitions betrayed them.

We can see another delightful example in Figure I.2, which displays "Shepard's tables," courtesy of cognitive psychologist Roger Shepard (1990). Take a careful look at the two tables in this figure and ask yourself which table top contains a larger surface area. The answer seems obvious at first glance.

Yet believe it or not, the surfaces of both tables are identical (if you don't believe us, photocopy this page, cut out the figures, and superimpose them on each other). Just as we shouldn't always trust our eyes, we shouldn't always trust our intuitions. The bottom line: Seeing is believing, but seeing isn't always believing correctly.

Shephard's tables provide us with a powerful optical illusion—an image that tricks our visual system. In the remainder of this book, though, we'll be crossing paths with a variety of *cognitive illusions*—beliefs that trick our reasoning processes (Pohl, 2004). We can think of many or most

Image not available in the electronic edition

Figure I.2 Shepard's tables. Are the two table tops the same or different? *Source*: Shepard (1990).

psychological myths as cognitive illusions, because like visual illusions they can fool us.

Why Should We Care?

Why is it important to know about psychological myths? There are at least three reasons:

(1) *Psychological myths can be harmful*. For example, jurors who believe incorrectly that memory operates like a videotape may vote to convict a defendant on the basis of confidently held, but inaccurate, eyewitness testimony (see Myth #11). In addition, parents who believe incorrectly that punishment is usually an effective means of changing long-term behavior may spank their children whenever they misbehave, only to find that their children's undesirable actions become more frequent over time (see p. 97).

(2) *Psychological myths can cause indirect damage*. Even false beliefs that are themselves harmless can inflict significant indirect harm. Economists use the term *opportunity cost* to refer to the fact that

people who seek out ineffective treatments may forfeit the chance to obtain much-needed help. For example, people who believe mistakenly that subliminal self-help tapes are an effective means of losing weight may invest a great deal of time, money, and effort on a useless intervention (Moore, 1992; see Myth #5). They may also miss out on scientifically based weight loss programs that could prove beneficial.

(3) *The acceptance of psychological myths can impede our critical thinking in other areas.* As astronomer Carl Sagan (1995) noted, our failure to distinguish myth from reality in one domain of scientific knowledge, such as psychology, can easily spill over to a failure to distinguish fact from fiction in other vitally important areas of modern society. These domains include genetic engineering, stem cell research, global warming, pollution, crime prevention, schooling, day care, and overpopulation, to name merely a few. As a consequence, we may find ourselves at the mercy of policy-makers who make unwise and even dangerous decisions about science and technology. As Sir Francis Bacon reminded us, knowledge is power. Ignorance is powerlessness.

The 10 Sources of Psychological Myths: Your Mythbusting Kit

How do psychological myths and misconceptions arise?

We'll try to persuade you that there are 10 major ways in which we can all be fooled by plausible-sounding, but false, psychological claims. It's essential to understand that we're all vulnerable to these 10 sources of error, and that we're all fooled by them from time to time.

Learning to think scientifically requires us to become aware of these sources of error and learn to compensate for them. Good scientists are just as prone to these sources of error as the average person (Mahoney & DeMonbreun, 1977). But good scientists have adopted a set of safeguards—called the scientific method—for protecting themselves against them. *The scientific method is a toolbox of skills designed to prevent scientists from fooling themselves.* If you become aware of the 10 major sources of psychomythology, you'll be far less likely to fall into the trap of accepting erroneous claims regarding human nature.

Pay careful attention to these 10 sources of error, because we'll come back to them periodically throughout the book. In addition, you'll be able to use these sources of error to evaluate a host of folk psychology