

**How to
Think
Straight
About
Psychology**

fifth edition

Keith E. Stanovich

How to Think Straight About Psychology



Fifth Edition

Keith E. Stanovich
University of Toronto



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To my parents, Betty and Mike Stanovich

Notes to the Fifth Edition



The fifth edition of *How to Think Straight About Psychology* has no major structural revisions because a major chapter reorganization occurred in the third edition. The content and order of the chapters remain the same except for the following modifications. Users and reviewers commissioned by my editor suggested that the old Chapter 10 (on probabilistic reasoning) was a long read, so it has been split into two chapters. Some material there was also rearranged and some was eliminated. Summaries have been added at the end of each chapter.

I have continued to update and revise the examples that are used in the book. I have replaced some dated examples with more contemporary studies and/or issues. I have made a major effort to keep contemporary the citations that are relevant to the various concepts and experimental effects mentioned. As a result, 89 *new* citations appear in this edition, so that the reader continues to have up-to-date references on all of the examples and concepts.

The goal of the book remains what it always was: to present a short introduction to the critical thinking skills that will help the student to better understand the subject matter of psychology. During the early 1990s, there was an increased emphasis on the teaching of “critical thinking” in universities (Halpern, 1993). Indeed, some state university systems instituted curricular changes mandating an emphasis on critical thinking skills. At the same time, however, other educational scholars were arguing that critical thinking skills should not be isolated from specific factual content. *How to Think Straight About Psychology* is designed to provide the instructor with the opportunity to teach critical thinking within the rich content of modern psychology.

As before, readers are encouraged to send me comments by corresponding with me at the following address: Keith E. Stanovich, Department of Human Development and Applied Psychology, University of Toronto, 252 Bloor St. W., Toronto, Ontario, Canada M5S 1V6. E-mail: KStanovich@oise.utoronto.ca

Keith E. Stanovich

Preface



There exists a body of knowledge that is unknown to most people. This information concerns human behavior and consciousness in their various forms. It can be used to explain, predict, and control human actions. Those who have access to this knowledge use it to gain an understanding of other human beings. They have a more complete and accurate conception of what determines the behavior and thoughts of other individuals than do those who do not have this knowledge.

Surprisingly enough, this unknown body of knowledge is the discipline of psychology.

What can I possibly mean when I say that the discipline of psychology is unknown? Surely, you may be thinking, this statement is not meant to be taken literally. Bookstores contain large sections full of titles dealing with psychology. Television and radio talk shows regularly feature psychological topics. Newspapers and magazines run psychology columns. Nevertheless, despite this attention, there is an important sense in which the field of psychology is unknown.

Despite much seeming media attention, the discipline of psychology remains for the most part hidden from the public. The transfer of “psychological” knowledge that is taking place via the media is largely an illusion. Few people are aware that the majority of the books they see in the “psychology” sections of many book stores are written by individuals with absolutely no standing in the psychological community. Few are aware that many of the people to whom television applies the label *psychologist* would not be considered so by the American Psychological Association or the American Psychological Society. Few are aware that many of the most visible psychological “experts” have contributed no information to the fund of knowledge in the discipline of psychology.

The flurry of media attention paid to “psychological” topics has done more than simply present inaccurate information. It has also obscured the very real and growing knowledge base in the field of psychology. The general public is unsure about what is and is not psychology and is unable to independently evaluate claims about human behavior. Adding to the problem is the fact that many people have a vested interest in a public that is either without evaluative

skills or that believes there is no way to evaluate psychological claims. The latter view, sometimes called the *anything-goes outlook*, is one of the fallacies discussed in this book, and it is particularly costly to the public. Many pseudosciences are multi-million-dollar industries that depend on the public's unawareness that claims about human behavior can be tested. The general public is also unaware that many of the claims made by these pseudosciences (for example, astrology, psychic surgery, speed reading, biorhythms, subliminal weight loss, and psychic detectives) have been tested and proved false. The existence of the pseudoscience industry, which is discussed in this book, increases the media's tendency toward sensationalistic reporting of science. This tendency is worse in psychology than in other sciences, and understanding the reasons is an important part of learning how to think straight about psychology. This book, then, is directed not at potential researchers in psychology, but at a much larger group: the consumers of psychological information. The target audience is the beginning psychology student and the general reader who have encountered information on psychological issues in the general media and have wondered how to go about evaluating its validity.

This book is not a standard introductory psychology text. It does not outline a list of facts that psychological research has uncovered. Indeed, telling everyone to take an introductory psychology course at a university is probably not the ultimate solution to the inaccurate portrayal of psychology in the media. Many laypeople with a legitimate interest in psychology do not have the time, money, or access to a university to pursue formal study. More important, as a teacher of university-level psychology courses, I am forced to admit that my colleagues and I often fail to give our beginning students a true understanding of the science of psychology. The reason is that lower-level courses often do not teach the critical analytical skills that are the focus of this book. As instructors, we often become obsessed with "content"—with "covering material." Every time we stray a little from the syllabus to discuss issues such as psychology in the media, we feel a little guilty and begin to worry that we may not "cover all the topics" before the end of the term.

Consider the average introductory psychology textbook. Many now contain between 600 and 800 multicolumned pages and reference literally hundreds of studies in the published literature. Of course, there is nothing wrong with books containing so much material. They simply reflect the increasing knowledge base in psychology. There are, however, some unfortunate side effects. Instructors are often so busy trying to cram their students full of dozens of theories, facts, and experiments that they fail to deal with some of the fundamental questions and misconceptions that students bring with them to the study of psychology. Rather than dealing directly with these misconceptions, instructors (and introductory-textbook authors) often hope that if students are exposed to enough of the empirical *content* of psychology, they will simply *induce* the answers to their questions. In short, the instructors hope that students will recognize the implicit answers to these questions in the discussions of empirical research in several content areas. All too often this hope is frustrated. In a final review session—or in office hours at the end of the term—

instructors are often shocked and discouraged by questions and comments that might have been expected on the first day of the course, but not after 14 weeks: "But psychology experiments aren't real life; what can they tell us?" "Psychology just can't be a *real* science, like chemistry can it?" "But I heard a therapist on TV say the opposite of what our textbook said." "I think this theory is stupid: my brother behaves just the opposite of what it says." "Psychology is nothing more than common sense." "Everyone knows what anxiety is. Why bother defining it?" "Psychology is just a matter of opinion, isn't it?" For many students, such questions are *not* implicitly answered merely by a consideration of the content of psychology. In this book, I deal explicitly with the confusions that underlie questions and comments such as these.

Unfortunately, research supports the idea that the average introductory psychology course does very little to correct the many misconceptions about the discipline that are held by entering students (Best, 1982; McCutcheon, Furnham, & Davis, 1993; McKeachie, 1960; Vaughan, 1977). One researcher stated, "I must conclude that the [introductory] course has little influence on their erroneous beliefs" (Vaughan, 1977, p. 140) and, further, drew the conclusion that "there is little evidence for a generally heightened skepticism, which might lead students to question statements about which they have received no additional information" (p. 140). Vaughan's latter conclusion touches on the basic purpose of this book. Psychology, probably more than any other science, requires critical thinking skills that enable students to separate the wheat from the chaff that accumulates around all sciences. These are the critical thinking skills that students will need to become independent evaluators of psychological information. Years after students have forgotten the *content* of an introductory psychology course, they will still use the fundamental principles covered in this book to evaluate psychological claims. Long after Erik Erikson's stages of development have been forgotten, students will be using the "thinking tools" introduced in this text to evaluate new psychological information encountered in the media. Once acquired, these skills will serve as lifelong tools that will aid in the evaluation of knowledge claims. First, they provide the ability to conduct an initial gross assessment of plausibility. Second, these skills provide some criteria for assessing the reliability of "expert" opinion. Because the need to rely on expert opinion can never be eliminated in a complex society, the evaluation of an expert's credibility becomes essential to knowledge acquisition. Although these critical thinking skills can be applied to any discipline or body of knowledge, they are particularly important in the area of psychology because the field is so often misrepresented by the general media.

Many psychologists are pessimistic about any effort to stem the tide of misinformation about their discipline. While this pessimism is, unfortunately, often justified, this "consumer's guide" to psychology was motivated by the idea that psychologists must not let this problem become a self-fulfilling prophecy.

While I have welcomed the opportunity to prepare several editions of *How to Think Straight About Psychology*, it is unfortunately true that the reasons for the book's existence are just as applicable today as they were when I

wrote the first edition. Media presentations of psychology are just as misleading as they ever were, and students in introductory psychology courses enter with as many misconceptions as they ever did.

Thus, the goals of all subsequent editions have remained the same. They are shared by an increasing number of psychology instructors. Stanford University psychologist Roger Shepard (1983) echoed all the concerns that motivated the writing of the first edition of this text:

Although most undergraduate psychology students may not go on to scientific careers, one hopes that they acquire some facility for the critical evaluation of the incomplete, naive, confused, or exaggerated reports of social science “findings” to which they will continue to be exposed by the popular media. . . . Widespread notions that human behavior and mental phenomena can be adequately understood through unaided common sense or, worse, by reference to nonempirical pseudosciences, such as astrology, present us with a continuing challenge. (p. 855)

The goal of the book remains what it always was: to present a short introduction to the critical thinking skills that will help students to better understand the subject matter of psychology and to better understand events in the world in which they live.

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Many of the individuals I have acknowledged in earlier editions continue to contribute ideas for the book. However, I must single out Richard West of James Madison University, who has been a most valuable continuing contributor to the book’s evolution. He is a humane scholar and a true friend, and his intellectual and emotional support has been much appreciated. This time around, I received some extremely thorough reviews from Addison Wesley Longman readers: Edward C. Chang, Northern Kentucky University; Mark Fineman, Southern Connecticut State University; Ronald Gandelman, Rutgers University; Nancy J. Gussett, Baldwin-Wallace College; and John F. Pfister, Dartmouth College.

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My new acquisitions editor at Addison Wesley Longman, Becky Dudley, has provided guidance, enthusiasm, and support for the book.

Finally, I wish to thank Paula J. Stanovich for more than just the "emotional support" that is routinely alluded to in acknowledgments. Her concern for all human beings, particularly those less fortunate, is an inspiration to all those who know her. A view we both share is that every human being should have the opportunity to utilize his or her full potential. This book attests to the fact that I have had such an opportunity. Paula works to speed the day when this opportunity will be fully extended to all individuals with handicaps.

Keith E. Stanovich

How to Think Straight About Psychology



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Psychology Is Alive and Well (and Doing Fine Among the Sciences)



THE FREUD PROBLEM

Stop 100 people on the street and ask them to name a psychologist, either living or dead. Record the responses. Of course, Joyce Brothers and other “media psychologists” would certainly be named. If we leave out the media and pop psychologists, however, and consider only those who have made a recognized contribution to psychological knowledge, there would be no question about the outcome of this informal survey. Sigmund Freud would be the winner hands down. B. F. Skinner would probably finish a distant second. No other psychologist would get enough recognition even to bother about. Thus Freud, along with the pop psychology presented in the media, largely defines psychology in the public mind.

The notoriety of Freud has greatly affected the general public’s conceptions about the field of psychology and has contributed to many misunderstandings. For example, many introductory psychology students are surprised to learn that, if all the members of the American Psychological Association who were concerned with Freudian psychoanalysis were collected together, they would make up less than 10 percent of the membership. In another large orga-