Fundamentals of
Behavioral Research
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Preface

Welcome to the world of behavioral research. We have tried to provide you with a textbook that is clearly written, logically organized, engaging, and designed with a variety of features to enhance your learning.

Organization

The first chapter in the book is designed to provide you with the big picture of behavioral research. It begins with a description of an event experienced by one of your authors (Lammers) that conveys the excitement of doing research. Next, we discuss the skills to be learned in the book. These include the actual skills associated with doing behavioral research as well as the skills of being a critical consumer of research-related information in the media. Following this, we discuss what it means for the field of psychology to be a science. Finally, Chapter 1 provides a broad overview of the research process, including types of research questions, ways of answering those questions, and ways of making the answers public.

The second chapter is devoted to ethical considerations. This decision was carefully considered and deliberately made. It is an affirmation that, although science is dedicated to advancing knowledge, its primary mission is to serve humanity. You should be aware that ethical concerns are not tangential matters that are given consideration only after “more important” aspects of research design have been resolved. Rather, we are asserting the primacy of ethical concerns. They are as much a part of designing research as the selection of the variables and measures to be used. To this end, we begin the book with ethical issues involving both human (adults, children) and nonhuman participants. In addition, we discuss the controversial issues involving the use of deception. While information on these ethical issues is important for all students taking research courses, it is especially so for those who undertake individual research projects and for those assisting faculty in their professional research efforts.

We also give prominence to ethical issues for another reason. There are many that have expressed strong reservations about research done on living organisms. These reservations are based on what is
perceived as past and present insensitivities on the part of researchers regarding the welfare of their participants. There are, unfortunately, examples of insensitivities that can be pointed to using both human and nonhuman participants. These occurrences have led to the formation of lobby organizations seeking legislation that places constraints on research beyond the ethical guidelines imposed by professional and governmental agencies. We feel that additional constraints are unnecessary and that full awareness along with strict adherence to current ethical guidelines will lessen future problems considerably. Addressing ethical issues at the beginning of the book is one way of giving prominence to ethical concerns and indicating to others that behavioral scientists are not only fully committed to these concerns in their research but that they are also fully committed to teaching them.

Following a discussion of ethical considerations, Chapter 3 introduces the fundamentals of the scientific approach and clearly differentiates this approach from other ways that we acquire information about our world. Then, in Chapter 4, we explore the development of research questions, including the formulation of testable hypotheses and the identification of the critical variables in an experiment. Chapters 5 and 6 focus on the measurement of these variables and methods of observation. These issues are particularly interesting for the field of psychology because we often deal with important concepts like attitudes, emotions, and cognitions. While certainly being important, these concepts are also challenging to define and measure. Chapter 7 describes the various ways to obtain samples of participants. Chapter 8 discusses the many potential pitfalls that await the researcher and that impair the ability to draw confident conclusions. In Chapter 9 we identify a variety of experimental techniques that can be used to avoid the pitfalls and to increase our confidence that we have truly learned something new from a research study. In Chapter 10 we describe an overview of how data that have been collected can be described and interpreted with a variety of research methods.

After the research question has been formed and we understand the basics of avoiding pitfalls and analyzing data, we then must decide on a particular approach to use in answering the research question. As we will see, there are many different approaches. Therefore, it will be important to understand the advantages and limitations of each. Chapters 11-14 describe variations of true experimental designs.
These experimental designs provide high levels of control by the experimenter and powerful cause/effect conclusions. However, and for a variety of reasons, there are many important research questions that cannot be answered using true experimental designs. Chapter 15 summarizes nonexperimental designs and the types of questions that they are designed to answer. After the study has been carried out and the data interpreted, the findings should be reported to the scientific community. Chapter 16 describes the fundamentals of writing a manuscript for publication, making an oral presentation, and creating a poster presentation. The final chapter (17) summarizes the important points made in preceding chapters and attempts to bring all the parts together into a coherent purpose.

**Pedagogical Features**

The chapters of the book have a set of common features that are designed to assist you with learning. These include:

- Chapter outlines to provide an overview of the topics. Be sure to review these topics and consider their place in the overall picture of research.
- Key terms that are critical to the understanding of research are bold in the text, listed at the end of each chapter and defined in the glossary at the back of the book.
- Numerous examples used to illustrate concepts. These are drawn from a wide range of areas within the field of psychology.
- A box approximately midway into each chapter entitled *Thinking Critically About Everyday Information* that describes a report in the everyday media and asks you to apply the concepts learned thus far to the report. These are designed to review concepts, apply concepts, and help you to be a better consumer of information.
- Case studies for critical thinking that include a research scenario that requires evaluation using the concepts in the chapter. These research scenarios provide a valuable teaching tool for integration and application of new concepts.
• Two chapter summaries. The General Summary highlights the main points of the chapter and provides a preview of the next chapter. The Detailed Summary provides a more detailed listing of the main ideas of the chapter and serves as a useful study guide.

• A set of review questions and exercises.

**Dedication**

We dedicate this book to our families, especially to Christina and Rita, and to all of those pursuing the goal of scholarship.

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We acknowledge that inspiration and portions of text for this book are based on a textbook of the same title published in 1982 by Pietro Badia and Richard P. Runyon.

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