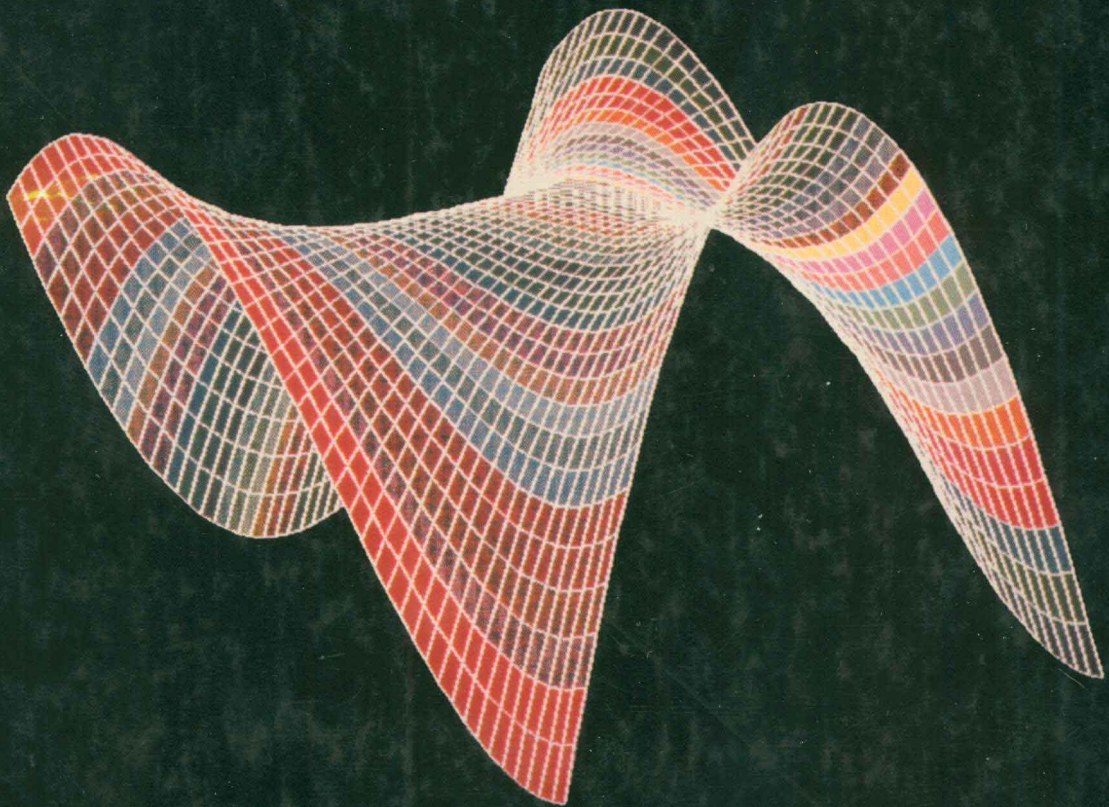


RESEARCH IN PSYCHOLOGY

METHODS AND DESIGN

THIRD EDITION



C. JAMES GOODWIN

Research in Psychology **Methods and Design**

Third Edition

C. James Goodwin
Wheeling Jesuit University



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PREFACE

The Philosophy of the Text

In the process of preparing three editions of this text, I have been guided by several strong beliefs. First, I would like students to develop a clear sense of how experimental psychologists think. Thus, the student using this book will encounter thorough discussions of the nature of psychological science and how it differs from pseudoscience, the logic of scientific thinking, and the manner in which experimental psychologists (a) design their research, (b) carry it out, and (c) draw reasonable conclusions from it. Second, I want students to understand that psychologists use a variety of methods in their attempts to understand behavior. Although the book's main focus is on the experimental method, there is comprehensive treatment of numerous other research strategies. Third, because I believe that researchers must always be aware of the ethical dimensions of their research, I have placed the ethics chapter early in the book (Chapter 2) and I have included some additional discussion of ethics (Ethics Boxes) in *every* other chapter in the book. Fourth, because I have a love for psychology's history and believe that nobody can understand the present without knowing something of the past, I have incorporated some of the history of experimental psychology into the text. Recognizing that my text is for a methods course and not for a history course, however, I have only included historical information that illuminates important methodological concepts. Fifth, and perhaps most important, although I believe that doing psychological science is a joyful activity, it has been my experience that some students enter the course with a sense of dread. They believe it will be boring, difficult, and not especially relevant for them. To counter this, I have taken pains to write a student-friendly book that is appealing (lots of interesting descriptions of real research), understandable (clear writing in a conversational style), and valuable (a sharpening of important critical thinking skills).

The Organization of the Text

The book includes 12 chapters, an epilogue, and several useful appendices. By thoroughly explaining the scientific way of thinking and contrasting it with nonscientific and pseudoscientific thinking, the opening chapter lays the groundwork for all that follows. Chapter 2 is devoted to research ethics and concerns how the American Psychological Association's code of ethics is applied to research with both human and animal subjects; scientific fraud is also discussed. Chapter 3 examines the question of how ideas for research originate and explains the continually evolving relationship between theory and research. It also helps students learn to use psychology's most important electronic database—PsycINFO. Issues related to measuring behavior, sampling, and statistical analysis are the focus of Chapter 4, which leads up to four consecutive chapters on the experimental method, the Cadillac of research methods. There is a basic introduction to the experimental method (Chapter 5), a discussion of control problems in experimental research (Chapter 6), and two chapters devoted to experimental design (Chapters 7 and 8). Descriptions of other approaches to psychological research follow in subsequent chapters. These include correlational research (Chapter 9), quasi-experimental designs, applied research, and program evaluation (Chapter 10), research using “small N” designs (Chapter 11), and several varieties of descriptive research (Chapter 12). The appendices describe how to prepare the (in)famous APA-style research report, how to construct a survey, and how to carry out statistical analyses and draw conclusions about research outcomes. A final appendix provides feedback for the end-of-chapter self-tests and applications exercises.

At various points in the text, there are boxed sections of three general types. *Origins* boxes supply interesting information about the historical roots of experimental psychology and show how various research concepts and methods were created and have evolved over the years. *Classic Studies* boxes describe well-known experiments (e.g., the Bobo doll studies) that illustrate particular research designs and methodological issues. Finally, the above-mentioned *Ethics* boxes reflect my belief that a consideration of research ethics should occur in more than just a single chapter. The ethics boxes consider such topics as informed consent, the operation of participant pools, and the proper use of surveys.

It is not uncommon for methods texts to begin with simple descriptive methods (observation, survey, etc.), move through correlational and quasi-experimental methods, and eventually reach the experimental method. There is certainly some logic to this organizational scheme, but it is not the scheme I have chosen to use. Rather, when teaching the course some years ago, I was always disturbed by how late in the semester students were encountering such things as factorial designs—who wants to be figuring out interactions while they are still digesting their Thanksgiving dinner? I wanted to get to experiments sooner in the term because I wanted to be able to spend enough time on them if students ran into trouble. Also, because most of my labs used experimental designs, I wanted students to have some understanding of the studies they were running during the semester. So my chapter organization reflects the way I teach the course—I like to get to experiments as soon as possible. Reviewers of the text have been divided on the issue, with most liking the current organization, but some preferring to start with descriptive methods. I have been pleased to learn, however, that a

number of reviewer/colleagues who like to begin the course with descriptive methods have been using my text anyway, and simply changing the chapter sequence to suit them. Thus, it is worth noting that the text is to some degree modular and can be taught using several different arrangements of chapters.

New to the Third Edition

The first two editions of *Research in Psychology* have been quite successful, and I believe a good book has been strengthened. In the third edition, in addition to some general rewriting for increased clarity throughout the text, these specific additions and changes occur:

- Responding to the concerns of my students, I have included some feedback for the Applications Exercises that are found at the end of each chapter. Appendix E helps students with about half of these exercise items, leaving the other half for instructors to assign as graded homework. Answers to all the exercises can be found in the Instructor's Manual.
- For the end-of-chapter reviews, I have eliminated the fill-in items and added short essay items instead, hoping to encourage a deeper level of conceptual understanding on the part of students.
- I have added chapter summaries and I now begin chapters with a preview and a set of learning objectives for the chapter.
- The description of pseudoscience (Chapter 1) has been improved by replacing the outdated biorhythms example with a more current examination of subliminal self-help tapes.
- A new section on special populations (e.g., children, prisoners) has been added to the ethics chapter.
- The Internet has had a dramatic effect on psychological scientists. Just one example concerns how psychologists conduct literature searches. The section of Chapter 3 dealing with online searching of PsycINFO has been rewritten to reflect the latest changes.
- Several of the case studies have been replaced with more recent and interesting examples (e.g., research on the alleged Mozart effect, a study on subliminal tapes that combines placebo and waiting list controls).
- Qualitative research procedures (e.g., focus groups) and issues related to the qualitative-quantitative distinction have been added at several points in the text.
- Stem and leaf displays and how to construct them have been added to the section on descriptive statistics (Chapter 4).
- Cross-cultural factors have been added to the discussion of external validity (Chapter 5).
- The descriptions of field studies, matching, and multiple regression have been elaborated.
- There is a new ethics box on practical tips for being an ethically competent experimenter (Chapter 8); ethics boxes on informed consent and participant pools have been elaborated.

- The description of multiple regression (Chapter 9) has been elaborated.
- The discussion of time series has been enlarged through the addition of several design variations (Chapter 10).
- A new case study on the changing criterion design has been added to Chapter 11.
- The Epilogue includes a new section summarizing the skills that students have learned in the course (“What I Learned in My Research Methods Course”).
- Appendix A has a new section on tips for creating an effective poster presentation.

Pedagogical Aids

For the student, this text has several features designed to facilitate learning. Each chapter starts with a brief preview of what is to be found in the chapter and a set of learning objectives for the chapter. Chapters end with a summary of important points, followed by a set of review questions and applications exercises. The review includes multiple-choice questions (with feedback in Appendix E) and short essay questions. These sample test items are not just definitional; they ask students to apply some of the concepts learned in the chapter. The applications exercises include thought questions and problems to solve that require using the concepts learned in the chapter. Key terms and concepts appear in **boldfaced** print throughout the book and they are collected in a Glossary at the end of the book. To make it easier to find definitions of the boldfaced glossary terms, I have structured the Index so that the text page where a glossary term is first defined is boldfaced in the Subject Index. For example, the Subject Index includes the following:

counterbalancing, **191**–198, 218–222, 235, 262–265, 378

This indicates that (a) counterbalancing is a glossary term, because it has a boldfaced page number, and (b) page 191 is the page in the text where the term appears in boldface and is defined.

Supplemental Materials

- A major addition to the third edition project is a new combined Study Guide and Lab Manual. The study guide includes concept questions for students to answer as they work their way through chapters, sample objective test items (fill-ins, matching, multiple choice), and Applications Exercises similar to the ones found at the ends of chapters in the main text. The lab manual portion of the book includes detailed instructions and materials that enable students to complete simple data collection exercises (under supervision, of course) that illustrate various research methods.
- An Instructor’s Manual can be downloaded from Wiley’s website. It includes ideas for lecture elaborations, in-class active learning exercises, homework assignments, and a list of websites related to methodology.
- A password-protected Test Bank is also available from the website. Upon request, Wiley will mail a disk version of the Test Bank to adopters.

Acknowledgments

This project would not have been started, much less completed and evolved into a third edition, without the encouragement and support of many people, most notably my wife (Susan, a corporate auditor, good at keeping me on task yet willing to let me sneak out for an occasional guilt-free nine holes) and my children (Kerri, a fellow experimental psychologist and college professor, and Charles, a geologist-in-training and golfing buddy). The hundreds of students who have passed through my research methods course have been my principal source of inspiration in writing the book—during the years before I started writing it, many of them told me to stop complaining about the textbook being used and write my own. I would especially like to acknowledge Aimee Faso Wright, who was the leader of a group of students interested in cognitive mapping and was the senior author of the sample study on that topic in Appendix A. I'm delighted that she has become a Ph.D. pharmacologist.

To Darryl Bruce, my dissertation director, I owe a great debt. He first showed me just how exciting research in psychology can be during my grad school days in Tallahassee, and through our (almost) annual 3-hour APA breakfasts, he continues to be a mentor. I would also like to thank two of my colleagues in the Society for the Teaching of Psychology (APA's Division 2), Wayne Weiten and Steve Davis. At the very beginning of the project, both were instrumental in convincing me that I actually could write a text, and both continue to provide support, encouragement, and friendship.

Thanks go to the reviewers of this edition for their comments and suggestions: Professor William P. Smotherman, Binghamton University-SUNY; Professor Thomas Joiner, Florida State University; Professor Jason L. Hicks, Louisiana State University; Professor Margaret Ruddy, The College of New Jersey; Professor Jennifer Myers, University of Michigan; Professor Bradley H. Smith, University of South Carolina; Professor Allen Butt, Indiana State University.

Finally, the editors and production staff at John Wiley have continued to be superb, making the entire process a breeze (or at least much less onerous than I have any reason to expect) and continuing to pay for good meals at conventions. A special thanks goes to Ellen Schatz, Psychology Editor of the College Division at Wiley. She has been constantly supportive, gentle in her prodding, and wise beyond her years when making suggestions for improving the text.

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