

Research Methods, Statistics, and Applications

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Guilford College



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PREFACE

Together, we have over 40 years of experience teaching an integrated research methods and statistics course. We have used several different texts over the years, but none had quite the right approach to match our integrated class. Some were too focused on statistics, others too focused on methods. None had enough examples, applications, and review, and we found ourselves supplementing these texts with our own material. We finally decided that we should write a book that would consistently integrate methods and statistics, and include multiple examples and practical application. We also sought to use conversational language to make the material more interesting and to take some of the mystery and anxiety out of learning research methods and statistics.

This textbook is modeled after the Research Methods and Analysis (RMA) course that we teach at Guilford College, which is designed to provide students with firsthand experience of being a researcher as well as the typical content related to the research process. Each semester, students in the class are actively involved in two lines of research—one that is chosen by the instructors and a topic of students' own choosing. We have found that having multiple opportunities for increasingly complex application improves learning, and the research in teaching and learning supports our experience. Although most students approach our course with trepidation, many end up telling us that RMA was their most useful course because the content dually prepares them for critical analysis of research as an employee or informed citizen as well as for more advanced research training in graduate programs.

Although we are satisfied with the coverage and order of the text as it matches our RMA course, we recognize that some topics may not be covered or may be covered in a different order in other professors' courses. The chapters are written to support different content or sequencing choices by inserting a "Review of Key Concepts" segment or referring to an earlier chapter when understanding new concepts or statistics depends on material that is covered previously in the text. We chose to include definitional formulas in our explanation and computation of statistics within chapters but have included the computational formulas in Appendix D for those professors who wish their students to hand calculate statistics. We also chose to describe basic SPSS commands and to include SPSS output as an example of a statistical package that is used to analyze data. Students will have familiarity with data entry, commands, and output that can be helpful even if they are required to learn a different package.

To Students: We organized this book so that the first few chapters introduce you to basic issues of design, and we then elaborate on these designs in later chapters as well as discuss the statistics used to analyze the designs. We believe one of the greatest strengths of this text is

the consistent integration of research methods and statistics so that you can better understand how the research process requires the combination of these elements. Throughout the text, you will be reminded of the decision making required to select appropriate designs, which then help you (the researcher) to determine the most appropriate statistical analysis. These elements of research (methods and statistics) are set within the context of multiple examples of both proposed and real studies, which allow you to better understand the entire process. The last chapter helps you pull together all that you learned by providing a summary of the major questions you should answer as you design and carry out your research.

Throughout this book you will notice multiple examples and references to current research in the social sciences. In particular, we demonstrate how the material we cover in each chapter applies to two major research topics (cell phone use and academic honesty). We also encourage you to choose your own research topic and apply the concepts you learn to that topic. Familiarity with a topic will allow you to explore the various ways that researchers explore a single area of research.

Many features of this text are designed to support your learning. Rather than simply expecting you to remember what you learned in previous chapters, we provide a “Review of Key Concepts” at key points throughout the text. We also have a strong focus on ethics. We introduce you to some of the basic ethical issues in Chapter 1, and then follow up with “Ethics Tips” in subsequent chapters so that you can understand the need to think critically about ethics throughout the research process. Moreover, we integrate questions and practice opportunities at key points within the chapters to help you engage with and learn the material. And we provide answers to these practice questions in the appendix so that you can immediately check your level of understanding and skill and decide whether you need to re-visit material. Finally, at the end of each chapter, you will find resources that allow you to further test how well you understand the material.

We hope you will find this textbook useful, and maybe even a little bit enjoyable. Our goal is to spark your interest in conducting research and increase your ability to critically analyze research.

● ACKNOWLEDGMENTS

We would like to thank our students, who were the inspiration for this book. To all of our former, current, and future students we appreciate what you have taught and will continue to teach us about how to better present concepts and skills associated with the research process.

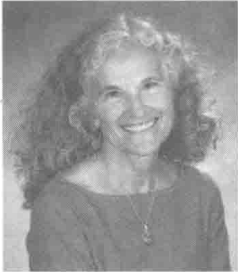
We are particularly grateful to two students, Sandi Coon and Tabbie Smith, who read through our entire first draft and gave incredibly useful feedback. They helped remind us that students need examples and repetition when learning new material. Sandi also drew many of the cartoons in the book, and we are grateful for her creativity and artistic skill. Thanks also go to Virginia Ferguson, Phil Hong, Celeste Prose, and Nicole Carter for helping to format tables and graphs.

We were fortunate to have reviewers who took the time to provide thorough and constructive feedback. They include Bonita G. Cade, Roger Williams University; Mary Jo Carnot, Chadron State College; Jennifer Devenport, Western Washington University;

Amanda C. Gingerich, Butler University; Jeffrey W. Grimm, Western Washington University; Patricia C. Heindel, College of Saint Elizabeth; Darryl Mayeaux, St. Bonaventure University; Cheryl L. Ramey, Eastern Kentucky University; Chrislyn E. Randell, Metropolitan State College of Denver; D. Sammons, Idaho State University; Laura Spiller, Midwestern State University; and Aurora Torres, The University of Alabama in Huntsville. We took their feedback seriously as we worked on our revisions, and the final version of the book is much improved due to the incorporation of their thoughtful suggestions.

Finally, we extend special thanks to our editor, Vicki Knight, and her editorial assistant, Jessica Miller, for their support. It is obvious to us that this book would be little more than an idea without their encouragement, prompt response to our questions, and knowledgeable guidance throughout the process of writing this text.

ABOUT THE AUTHORS



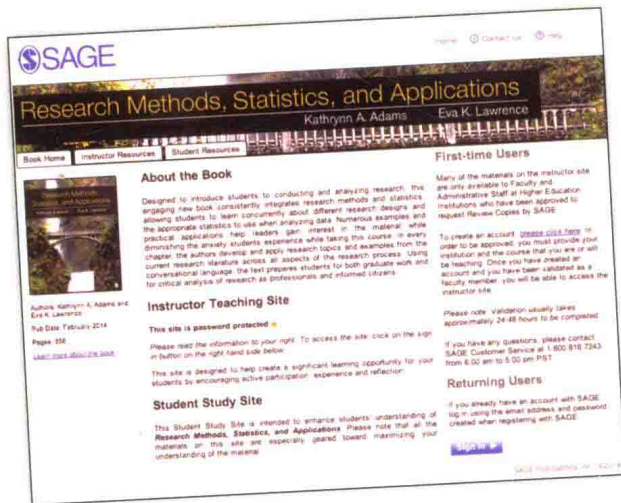
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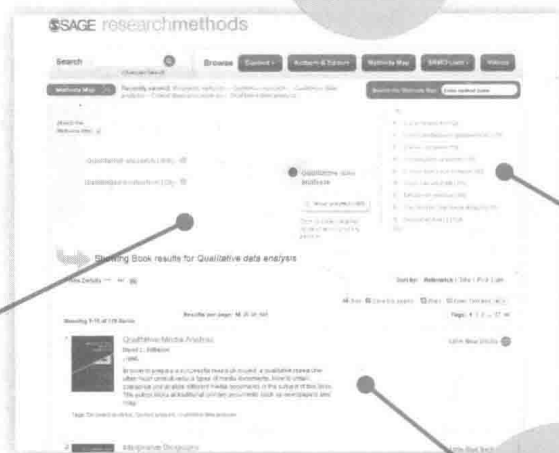
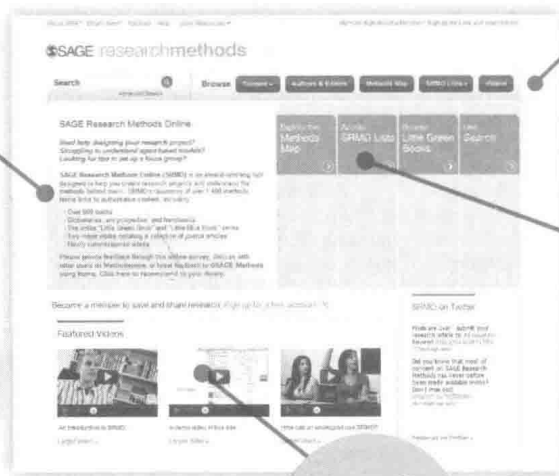
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