

ADVENTURES *in* SOCIAL RESEARCH

Data Analysis Using IBM® SPSS® Statistics

7TH EDITION



Earl Babbie ▪ Fred S. Halley
William E. Wagner, III ▪ Jeanne Zaino

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Earl Babbie

Chapman University

Fred S. Halley

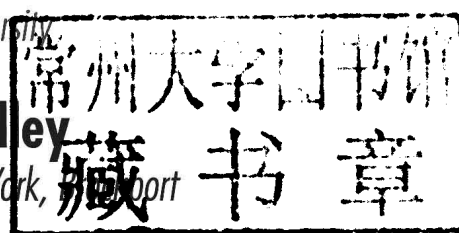
State University of New York, Binghamton

William E. Wagner, III

California State University, Channel Islands

Jeanne Zaino

Iona College



Los Angeles | London | New Delhi
Singapore | Washington DC

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PREFACE

This workbook is offered to you with a number of aims in mind. To begin, we want to provide students with a practical and hands-on introduction to the logic of social science research, particularly survey research. Moreover, we want to give the students an accessible book that guides them step-by-step through the process of data analysis using current General Social Survey (GSS) data and the latest versions of IBM SPSS Statistics/PASW Statistics, for either Windows or Macintosh computers. Most importantly, we want to involve students directly in the practice of social research, allow them to experience the excitement and wonder of this enterprise, and inspire them to pursue their own adventure in social research.

As we pursue these goals, however, there are a number of agendas in the background of this book. For example, students who complete the book will have learned a very useful, employable skill. Increasingly, job applicants are asked about their facility with various computer programs: word processing, spreadsheets, and data analysis. As of this writing, SPSS Statistics is still clearly the most popular professional program available for social science data analysis, hence our choice of it as a vehicle for teaching social research.

A Focus on Developing Professional and Intellectual Skills

What sets this book apart from others that teach SPSS Statistics or similar programs is that we cast that particular skill within the context of social research as a logical enterprise.

Thus, in addition to learning to use SPSS Statistics, students are learning the intellectual “skills” of conceptualization, measurement, and association. Even though those who know only SPSS Statistics can assist in data analysis, our intention is that our students will also be able to think for themselves, mapping out analytic paths into the understanding of social data. As they polish these intellectual skills, they should be able to progress to higher levels of research and to the administration of research enterprises.

More generally, we aim to train students who *will use* computers rather than *be used by them*. It is our experience that when students first confront computers in school, they tend to fall into two groups: those who recognize computers as powerful instruments for pursuing their goals in life, or at least as the grandest of toys, and those who are intimidated by computers and seek the earliest possible refuge from them. Our intention is to reveal the former possibility to students and to coax them into that relationship with computers.

Educators are being challenged increasingly to demonstrate the practical value of instruction, no less in the social sciences than in other fields. Too often, the overreaction to this demand results in superficial vocational courses that offer no intellectual meaning or courses hastily contrived as a home for current buzzwords, whose popularity is often short-lived. We are excited to be able to offer an educational experience that is genuinely practical for students and that also represents an intellectual adventure.

Those who have taught methods or statistics courses typically find themselves with a daunting task: to ignite their often involuntary students with the fire of enthusiasm they themselves feel for the detective work of social research at its best. In this book, we seek to engage students’ curiosity by setting them about the task of understanding issues that are already points of interest for them: topics such as abortion, religion, politics, poverty, gender roles, environment, sexual attitudes, mass media, gun control, child rearing, and others. For many of our readers, we imagine that mathematical analysis still smacks of trains leaving Point A and Point B at different speeds, and so on. Now they are going to learn that some

facility with the logic and mathematics of social research can let them focus the light of understanding on some of the dark turbulence of opinion and hysteria.

We do not tell students about opinions on abortion as much as we show them how to find out for themselves. We think that will get students to Point C ahead of either of the trains.

A Focus on Active and Collaborative Learning

As we are teaching students to learn for themselves, this book offers a good example of what educators have taken to calling “active learning.” We have set up all our demonstrations so that students should be executing the same SPSS Statistics operations we are discussing at any given point. Although we may give them the “answers” to assure them that they are on the right track, we leave them on their own often enough to require that they do the work rather than simply read about it.

Finally, the culture of personal computers has been one of “collaborative learning” from its very beginning. More than people in any other field of activity, perhaps, computer users have always delighted in sharing what they know with others. There is probably no better context within which to ask for help: Those who know the answer are quick to respond, and those who do not often turn their attention to finding an answer, delighting in the challenge.

Because this book is self-contained, even introductory students can walk through the chapters and exercises on their own, without outside assistance.

We imagine, however, that students will want to work together as they progress through this book. That has been our experience in student testing and in earlier courses we have taught involving computers. We suggest that you encourage cooperation among students; we are certain that they will learn more that way and will enjoy the course more. In fact, those who are initially intimidated by computers should especially be encouraged to find buddies with whom to work.

Intended for Students in Various Social Science Disciplines

This book is intended for use in any social science course that either introduces or focuses exclusively on social research methods, social statistics, data analysis, or survey research. It can be easily combined with or used as a supplement to most standard social science textbooks, including but not limited to those in fields as varied as communication science, criminal justice, health studies, political science, public policy, social work, and sociology.

As far as possible we have designed this book to be “self-writing” and “open-ended” to ensure that it is relevant to students with varying interests across numerous disciplines. Throughout the text, we encourage students to focus on issues and questions that are relevant to their particular area of interest. After walking through the demonstrations that introduce the fundamentals of the data analysis process, students are given a chance to apply what they have learned. In many of the lab exercises, students are encouraged to design their own hypotheses, choose their own variables, and interpret the results. Moreover, we encourage instructors to apply the principles, techniques, and methods discussed to other data sets that are relevant to their field.

Intended for Both Beginning and More Advanced Students

We have designed and structured this book to support students at a variety of levels. This includes both those students who are taking their first course in social research as well as more advanced students (including graduate students) who either want to hone their social

research, statistical, and data analysis skills, or those who merely want to become acquainted or reacquainted with the latest versions of SPSS Statistics for Windows or Macintosh. More advanced students who come at this book full speed may choose to either work through the text from beginning to end or skip around and focus on particular chapters and sections.

However, it is important to note that because this book is “self-contained” and guides the student-analyst step-by-step through the demonstrations and exercises, no previous experience with social research, statistics, computers, Windows, Macintosh, or SPSS Statistics is required. Those who have never taken a research methods, statistics, or computer-based course will find that they can easily make it through this book.

The Book and the Free Companion Web Site: What Is Included?

The book and *Adventures in Social Research* companion Web site provide the instructions and data needed to introduce students to social science data analysis. Most college and university computing services make SPSS Statistics/PASW Statistics available to students. A student version of SPSS/PASW Statistics may be purchased through most college and university bookstores.¹ The Web site includes two data sets containing a total of more than 80 variables from the 2008 General Social Survey (GSS), which can be analyzed by most versions of SPSS/PASW Statistics, including the Student Versions on Windows or Macintosh computers. As you will see, the variables cover a fairly broad terrain, although we have provided for analysis in some depth in a few instances. In addition to working their way through the demonstrations and exercises presented in the book, students will be able to find original lines of inquiry that grow out of their own interests and insights.

This book will illustrate the use of SPSS Statistics, using PASW Statistics 18.0 for Windows and Macintosh. While the text focuses specifically on the current version of SPSS Statistics, it can also be easily used with most of the earlier versions. Regardless of the version you are using, throughout the text we will refer to the program simply as “SPSS Statistics,” which is identical to PASW Statistics. SPSS Statistics comes with extensive help screens. They are almost like having a coach built into your computer! Begin with the menu farthest to the right.

You can click **Help** to see the options available to you. “Topics” will usually be your most useful choice. This will give you three options. “Contents” and “Index” present you with two ways of zeroing in on the topic of interest to you. “Search” will search for the specific terms or keywords you indicate. You should experiment with these several options to discover what works best for you.

Organization and Content

The chapters are arranged in an order that roughly parallels the organization of most introductory social science research methods texts. Part I (Chapters 1–3) includes an overview of the essentials of social research and a description of the 2008 GSS that you will be working with. Parts II, III, and IV (Chapters 4–19) introduce readers to SPSS Statistics and data analysis, beginning with univariate analysis, then bivariate analysis, and finally multivariate analysis, respectively. Part V (Chapters 20–21) focuses on primary research and additional avenues for secondary research.

Part I includes three chapters that help prepare students for social research using the GSS.

Our goal in these chapters is to give students an introduction to some of the fundamental elements of social scientific research, particularly those they will encounter later in the text.

¹*Adventures in Social Research* is available with or without the student version of SPSS/PASW Statistics. For more information, go to <http://www.pineforge.com> or call 1-800-818-7243.

Chapter 1 discusses the main purposes of the text and introduces students to some of the historical background that lies behind computerized social research, data analysis, and statistical software packages. It also introduces readers to the process of social research. Chapter 2 continues this focus by examining the logic of important aspects of social research, including theory, research, and measurement.

Chapter 3 is designed to introduce readers to the GSS and the data sets included with this book.

Part II is designed to help students “get started” using SPSS Statistics and give them practice in the basics of univariate analysis. Chapter 4 introduces students to SPSS Statistics by guiding them through the steps involved in launching the program, opening their data sets, and exploring the variables contained on the disk that accompanies this book.

The rest of this section (Chapters 5–9) is devoted to data analysis. In Chapter 5, we introduce frequency distributions, descriptive statistics, and saving and printing data. Chapter 6 focuses on the graphic presentation of univariate data by covering the commands for creating bar and pie charts, line graphs, and histograms. In Chapters 7 and 8, students are given a chance to practice recoding and creating composite variables. The final chapter in this section (Chapter 9) allows students to strike out on their own and apply the methods and techniques they have learned in this section to other topics.

Part III focuses primarily on bivariate analyses. In Chapters 10–12, we limit our discussion to the analysis of percentage tables. In Chapters 13 and 14, we introduce other methods for examining the extent to which two variables are related to each other. Chapter 13 focuses on some common measures of association, including lambda, gamma, Pearson’s r , and simple regression. Chapter 14 introduces tests of statistical significance, such as chi-square, t -tests, and ANOVA. In Chapter 15, students are once again given a chance to apply the bivariate techniques and methods discussed in Part III to other topics and issues.

Our discussion of data analysis concludes in Part IV with a discussion of multivariate analyses. Chapter 16 focuses primarily on multiple causation. Chapter 17 picks up on some of the loose threads of our bivariate analyses and pursues them further, while Chapter 18 guides students through the steps involved in creating composite measures to predict opinions. Finally, in Chapter 19, students are given a chance to apply the methods and techniques discussed in Part IV to other topics and issues.

The final section is composed of two chapters that explore some further opportunities for social research. Because students often express an interest in collecting their own data, Chapter 20 focuses on primary research. We introduce students to the steps involved in designing and administering a survey, defining and entering data in SPSS Statistics, and writing a research report. This chapter is supplemented by several articles on the *Adventures in Social Research* companion Web site that are intended to give students additional information regarding preparing a research proposal, designing and administering a survey, constructing a sample questionnaire, and writing a research report. Chapter 21 suggests other avenues for pursuing secondary social research by focusing on the unabridged GSS, additional data sources, and other statistical software packages that students may find useful.

The text contains a Codebook that describes all the variables contained on the data files. The codebook is included as an Appendix. We have also updated and expanded the References, Index, and Glossary. A sample questionnaire designed for student use (with instructions in Chapter 20) is also included as Appendix B.

The *Adventures in Social Research* companion Web site contains not only our two data sets (DEMO.SAV and EXER.SAV) but also articles that are relevant to the discussion of primary research in Chapter 20, a comprehensive list of all the SPSS Statistics Commands introduced in the text, and recommended readings that relate to topics and issues covered in the text.

Structure of Each Chapter

Chapters include explanations of basic research principles and techniques; specific instructions regarding how to use SPSS Statistics; and demonstrations, “Writing Boxes,” a brief

"Conclusion," a list of "Main Points," "Key Terms," "SPSS Statistics Commands Introduced in the Chapter," "Review Questions," and "SPSS Statistics Lab Exercises." Students are expected to follow along with the demonstrations in the body of each chapter. They are aided in this process by both the text, which walks them step-by-step through the process of data analysis, and screens, which help them understand what they should be seeing on their own monitor.

In an effort to stress the importance of describing research findings in prose, most chapters include "Writing Boxes," which give readers an example of how a professional social scientist might describe the findings being discussed. The "Review Questions" at the end of each chapter are designed to test the students' knowledge of the material presented in the text. Because they do not require SPSS Statistics, they can be assigned as either class work or homework assignments.

In the "SPSS Statistics Lab Exercises," students are given a chance to apply what they learned in the explanatory sections and demonstrations. These exercises generally follow a fill-in-the-blank format for presenting, analyzing, and summarizing results. Instructors may wish to assign these exercises as lab assignments to be completed either in the lab or as homework, provided students have access to SPSS/PASW Statistics, either the full or the student version, on Windows or Macintosh.

Although the book is designed to guide students through the process of computerized data analysis from beginning to end, we encourage instructors, and particularly more advanced students, to skip around and focus on chapters and sections that are of interest to them. We designed the book with the understanding that students at various levels may find different demonstrations, techniques, discussions, and methods of varying interest. Consequently, all the chapters are self-contained, and both students and instructors should feel comfortable picking and choosing among topics, issues, and material of particular interest to them.

Instructors and students who choose to take this approach may want to refer to the Table of Contents, introductions to each part, chapter conclusions, and summaries of main points to get a better sense of what sections and chapters they want to focus on.

Software Support and Service

If you or your students should run into any problems using this package, there are several sources of support that should serve your needs. Frequently, college and university computing centers have student assistants who are very helpful to new computer users. In fact, most academic computing centers employ a user services coordinator who can help faculty plan student use of the school's computers and provide aid when problems arise.

One source of SPSS Statistics assistance available via the Internet is a home page (<http://www.spss.com>) maintained by SPSS, an IBM company as of 2009. In addition to providing answers to frequently asked questions, it provides a variety of tips and white papers on important issues in data analysis. Specific questions may be submitted to consultants via e-mail from the home page. SPSS Statistics requests that a legitimate license or serial number be submitted with questions in order to receive a response to those questions.

You can also call SPSS at Willis Tower in Chicago for technical support at (312) 329-2400.

Be forewarned that SPSS cannot give assistance with pedagogical or substantive problems and that you may have a long wait in a telephone queue for your turn to talk to a technical support person. It has been our experience that our best help comes from local resources.

Acknowledgments

In conclusion, we would like to acknowledge a number of people who have been instrumental in making this book a reality. First, Jerry Westby, of Sage Publications/Pine Forge Press. Our thanks also go to former Pine Forge Press editor Steve Rutter and the many others

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We reserve our final acknowledgment for our students, to whom this book is dedicated. We recognize that we have often asked them to think and do things that they sometimes felt were beyond their abilities. We have admired their courage for trying anyway, and we have shared in their growth.

ABOUT THE AUTHORS

Earl Babbie was born in Detroit, Michigan, in 1938, but his family chose to return to Vermont 3 months later, and he grew up there and in New Hampshire. In 1956, he set off for Harvard Yard, where he spent the next 4 years learning more than he initially planned. After 3 years with the U.S. Marine Corps, mostly in Asia, he began graduate studies at the University of California, Berkeley. He received his PhD from Berkeley in 1969. He taught sociology at the University of Hawaii from 1968 through 1979, took time off from teaching and research to write full time for 8 years, and then joined the faculty at Chapman University in Southern California in 1987. Although he is the author of several research articles and monographs, he is best known for the many texts he has written, which have been widely adopted in colleges throughout the United States and the world. He also has been active in the American Sociological Association for 25 years and currently serves on the ASA's executive committee. He is also past president of the Pacific Sociological Association and California Sociological Association.

Fred Halley, Associate Professor Emeritus, SUNY-Brockport, received his bachelor's degree in sociology and philosophy from Ashland College and his master's and doctorate degrees from Case Western Reserve University and the University of Missouri, respectively. Since 1970, he has worked to bring both instructional and research computer applications into the undergraduate sociology curriculum. Halley has been recognized for his leadership in the instructional computing sections of the Eastern and Midwest Sociological Societies and the American Sociological Association. At Brockport, he served as a collegewide social science computing consultant and directed Brockport's Institute for Social Science Research and the College's Data Analysis Laboratory. Off campus, Halley directed and consulted on diverse community research projects that were used to establish urban magnet schools, evaluate a Head Start family service center, locate an expressway, and design a public transportation system for a rural county. Now residing in Rochester, New York, he plays an active role in a faith-based mentoring program for ex-offenders, and he volunteers for Micrecycle, an organization that refurbishes computers used by those on the other side of the computer divide in schools, day-cares, youth centers, and other community organizations.

William E. Wagner, III, Associate Professor of Sociology at California State University, Channel Islands, served as a member of the faculty and director of the Institute for Social and Community Research (ISCR) at CSUB prior to coming to CSU, Channel Islands. His MA and PhD degrees in sociology are from the University of Illinois, Chicago. He holds two separate bachelor's degrees, one in mathematics and the other in sociology/anthropology, both from St. Mary's College of Maryland. His work on topics such as urban sociology, sports, homophobia, and academic status has been published in national and regional scholarly journals.

Jeanne Zaino, Assistant Professor of Political Science, Iona College, earned a bachelor's degree in political science and a master's degree in survey research at the University of Connecticut, Storrs. During that time, she worked as a research assistant at the Roper Center for Public Opinion Research. She went on to earn a master's degree and PhD in political science from the University of Massachusetts, Amherst. She is currently chair of the Political Science Department at Iona College in New Rochelle, New York, where she teaches courses in American government, institutions, research methods, social statistics, public opinion, scope, and methods. She and her husband, Jeff, are the proud parents of two sons, Maxim and Logan.

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