THE FUNDAMENTALS OF SOCIAL RESEARCH

This textbook provides an introduction to the scientific study of sociology and other social sciences. It offers the basic tools necessary for readers to become both critical consumers and beginning producers of scientific research on society. The authors present an integrated approach to research design and empirical analyses in which researchers can develop and test causal theories. They use examples from social science research that students will find engaging and inspiring, and that will help them to understand key concepts. The book makes technical materials accessible to students who might otherwise be intimidated by mathematical examples. This new text, with the addition of sociologist Steven A. Tuch to the author team, follows the successful format, approach, and pedagogical features in Paul M. Kellstedt and Guy D. Whitten's bestselling text, *The Fundamentals of Political Science Research*, now in its third edition. Workbooks in Stata, SPSS, and R, three of the most popular statistical analysis programs, are available as separate purchases to accompany this textbook, enabling students to connect the lessons of this book to hands-on applications of the software.

Paul M. Kellstedt is a professor of political science at Texas A&M University.

Guy D. Whitten is a professor of political science and Director of the European Union Center at Texas A&M University.

Steven A. Tuch is a professor of sociology and public policy and public administration at George Washington University.
THE FUNDAMENTALS OF
Social Research

Paul M. Kellstedt
Texas A&M University

Guy D. Whitten
Texas A&M University

Steven A. Tuch
George Washington University
To Deb Kellstedt, Christine Lipsmeyer, and Sandra Hanson

—PMK, GDW, and SAT
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Preface

Our goals in *The Fundamentals of Social Research* are twofold: first, to provide students with a rigorous introduction to the scientific study of society and, in the process, to equip them with the methodological skills necessary to be both critical consumers and beginning producers of scholarly, observational, primarily quantitative social research; and second, to highlight the connection between research design and causal inference in conceptualizing and doing social research.

The first section of the book, consisting of Chapters 1 through 3, sets the groundwork for accomplishing these goals by discussing what it means to adopt a scientific approach to the study of society. At its core, such an approach requires the development and testing of causal theories. Because there is no magical formula by which such theories are developed, we present several strategies for doing so, and develop an integrated approach to research design and empirical analysis that allows students to determine the plausibility of their causal theories. Section two of the book, Chapters 4 and 5, presents the details of research design and of one especially common type of observational design, the sample survey. The third section of the book, Chapters 6 through 11, is devoted to the statistical methods social scientists typically use in testing their causal theories. In the book’s final chapter, Chapter 12, we provide fledgling researchers with a practical, step-by-step guide on how to produce an original research project that synthesizes materials from the preceding chapters.

The text’s accessible presentation of mathematical concepts is a key component of our strategy, along with the integration of examples from sociology, political science, and other social sciences, to help students grasp key concepts. In every section of the book – indeed, in every chapter – we emphasize the linkage between design and causal inference in the construction and testing of causal theories.

If these goals appear to be a bit different than those of typical social science statistics textbooks, it’s because they *are* a bit different. It is
Preface

common practice in many social science departments, especially sociology departments, to separate undergraduate instruction in methodology and statistics into a two-course, year-long sequence, typically with research design taught in the first semester and statistics in the second. There are sound justifications for this practice, but in our experience an unintended consequence of a two-tiered approach is that many students come away from the sequence thinking that research design, on the one hand, and data analysis, on the other, are two separate, unrelated components of the research process. In this textbook we emphasize just the opposite – that the design of research and the analysis of data are two sides of a single methodological coin, and that one without the other yields fewer, and less useful, insights about the social world. Of course, this criticism of analysis that is untethered to causal theory testing is not unique to us. Rather, it is our contention that these two mutually reinforcing components of the research process, though universally agreed upon, are not often accorded the attention they deserve in either methodology or (especially) social science statistics textbooks. We aim to help fill this gap.

The book can be flexibly adapted to different courses and instructor preferences, but, as the discussion above implies, it is ideally suited to a semester-length course that covers both research design and statistics. It is useful in many other teaching contexts, though. In those courses that focus primarily on research design, it could be used as a supplement. Chapters 1–6 cover the core issues of social science methodology – the process by which scientific knowledge is produced, the ethics of doing research, criteria for establishing cause-and-effect relationships among variables, theory building, research design, measurement, and sampling. All or parts of Chapters 7–11, which introduce students to the varied quantitative toolkit that social scientists have at their disposal to examine causal relationships, could be included as time and instructor inclination permit. In courses that focus on statistics, Chapters 1–6 would provide a review of key background issues while Chapters 7–11 would constitute the primary core content. Chapter 12 is relevant to both research design and statistics courses alike.

For several reasons, the book will have strong appeal to instructors and students in advanced undergraduate and beginning graduate level social science statistics courses, though, as we just noted, it could also be used as a supplement in just about any methodology course. We give multivariate analytic techniques special attention, focusing considerable effort throughout the text on preparing students to understand these concepts. Moreover, we connect multivariate regression back to the central goal of causal inference and research design, and emphasize how regression helps us to accomplish the critical task of controlling for the effects of other
possible causes of the dependent variable. Armed with nothing more than their abilities in algebra, students are capable of seeing, mathematically, how multivariate regression is connected to the central issues of research design. We know this because of our combined decades-long experience teaching this very important material, and having had students repeatedly ask us why the material isn’t also in their textbooks.

In our view, today’s sociology and other social science students are able to handle the statistical components of social science research methodology. Still, the book does not require students to know any mathematical material beyond high-school algebra – and we fully recognize that, in many cases, even those algebra skills will be quite rusty. In our classroom experiences, we have found a three-pronged approach of presenting technical subject matter to be very effective. This approach presents such concepts in closely integrated packages of textual explanations, graphical illustrations, and mathematical formulae. By addressing formulae head-on and explaining the meaning of each component of these formulae, we have found that students develop a much more intuitive understanding of the underlying logic of statistical hypothesis testing. These lessons are then applied in end-of-chapter exercises which are designed to bring home critical technical concepts.

The general section of the webpage for our text (www.cambridge.org/fsr) provides the data sets used throughout the book, and the instructor-only section provides PowerPoint slides for each chapter, a test-bank, and answer keys for the exercises. Finally, in parallel to this text, there are companion software books – one for SPSS, one for Stata, and one for R – that are being published.
Acknowledgments

The idea for this book emerged from discussions first proposed by Robert Dreesen, Publisher for Economics and Political Science at Cambridge University Press. The second edition of the highly regarded The Fundamentals of Political Science Research by Paul Kellstedt and Guy Whitten had just been published by Cambridge, and Robert was mulling over the idea of a book that mirrored the approach to methodology championed by Paul and Guy but that was accessible to a broader audience of sociology and other social science students. The Fundamentals of Social Research is the product of those discussions. We are indebted to Robert for initiating our collaboration, for his unwavering support and encouragement throughout the writing process, and for being a pleasure to work with. Without him this book would not have been written.

Together, we have several decades of combined methodology teaching experience at Brown University; the University of California, Los Angeles; the University of Essex; George Washington University; the University of Minnesota; and Texas A&M University. We thank our students for helping us refine our ability to convey both the excitement and the complications of studying society in a scientifically rigorous way.

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We are indebted to the reviewers of our manuscript for sharing their expertise as well as their own experiences teaching methodology to students across a broad range of social science disciplines. Their suggestions have measurably improved the book. In particular, Steven Tuch thanks Myron Schwartz for his insights.

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Of course, we are solely responsible for any deficiencies that remain.