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METHODS**



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**JANET BUTTOLPH JOHNSON  
RICHARD A. JOSLYN**

# *Political Science Research Methods*

**Janet Buttolph Johnson**  
University of Delaware

**Richard A. Joslyn**  
Temple University



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*To our families*

*Art, Ross, and Ned,  
Kathy, Erin, and Andrew*

## *Preface*

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Fifteen years ago it was a rarity for students of political science to be encouraged, let alone required, to study the methods of empirical research and hypothesis-testing. Much has transpired in the intervening decade-and-a-half so that today it has become commonplace to include such coursework in the curriculum. While we applaud this change, we recognize that the addition of courses in social science research methods has not always been handled well by curriculum designers nor welcomed by the students themselves. This book is our attempt to provide political science students with an introduction to empirical research methods that is, in the parlance of the day, as “user-friendly” as possible.

In the pages that follow we have been guided by three main objectives. First, we have attempted to demonstrate that the research methods we describe have been used by political scientists to produce worthwhile knowledge about significant political phenomena. Several case studies of political science research illustrate important aspects of the research process. Through these and other examples of the actual research efforts of political scientists, we hope that students will see how research methods can enhance the study of almost any area of politics.

Second, we have tried to arm our readers with the tools necessary not only to conduct empirical research projects of their own but also to evaluate others' research. Of the two enterprises the latter may be more important in these days when assessments must frequently be made on research topics such as the deterrent effects of crime control procedures, the results of income maintenance and child nutrition programs, and the impact of campaign spending on elections. While most students probably will seldom be in a position to design and conduct a research project of their own from start to finish, throughout their adult lives they will be asked to respond to the measurement schemes, research designs, and causal claims of researchers.

Third, we have attempted to make the statistical procedures and calculations that are a part of social science research methods accessible to students with modest mathematical backgrounds. Consequently, the use of complicated mathematical formulas has been kept to a minimum,

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and the statistics we explain require a familiarity with algebra only. Thus students who are mathematically unsure of themselves should not be intimidated by the techniques covered herein and should be able to see the utility of the statistics presented.

Like any authors, we have incurred a number of debts to those who have so graciously helped us in the preparation of this book. We would like to acknowledge the contribution of several people in particular: our former instructors—David Karns, E. W. Kelley, and Douglas VanHouweling—for acquainting us with the research analysis techniques when it was less fashionable to do so; our own students who, unknown to them, allowed us to use them as a pre-test for many of the presentations that made it into the book, and an equal number that were discarded; the secretarial staff at our two universities—Gloria Basmajian at Temple University and Pamela De Mond, Ginger Carroll, and especially Pat Traynor at the University of Delaware—who patiently transformed our seemingly indecipherable scribblings into readable text far more quickly and expertly than we had any right to expect; our editors at CQ Press—Joanne Daniels, Barbara de Boinville, Carolyn Goldinger, and Nola Healy Lynch—who worked diligently to turn our manuscript into lucid prose; and our reviewers—David Nice and Robert Weissberg—who amazed us with their ability to reveal all of the weaknesses in the manuscript that we thought we had so cleverly disguised. We can only hope that they will conclude that their efforts were not in vain and that the book has benefited from their cogent and penetrating comments. Finally, we would like to acknowledge the contribution of our spouses, children, and pets, who endured our frequent threats that they would be left out of the acknowledgments and who, in fact, provided us with the encouragement, distraction, and comic relief necessary to see the project through to completion.

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## 1. Introduction

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This book is an introduction to the process and methods of using *empirical research*—research based on the actual, “objective” observation of phenomena—to achieve scientific knowledge in political science. Scientific knowledge, which will be discussed in more detail in Chapter 2, differs from other types of knowledge such as intuition, common sense, superstition, or mystical knowledge. One difference involves the way in which scientific knowledge is acquired. In conducting empirical research the researcher adheres to certain well-defined principles for collecting, analyzing, and evaluating information. *Political science*, then, is simply the application of these principles to the study of phenomena that are political in nature.

There are two major reasons for learning about how political scientists conduct empirical research. First, citizens in contemporary American society are often called upon to evaluate empirical research about political phenomena. Debates about the wisdom of the death penalty, for example, frequently hinge on whether it is an effective deterrent to crime. Similarly, policy debates about using busing to achieve racial desegregation of the nation’s schools involve conclusions about the effects of segregated schools on student performance. In these and many other cases, thoughtful and concerned citizens find that they must evaluate the accuracy and adequacy of the research done by political (and other social) scientists.

A second reason for learning these research methods is that students often need to acquire scientific knowledge of their own. Whether it be a term paper for an introductory course on American government, a research project for an upper-level seminar, or a series of assignments in a course devoted to learning empirical research methods, students of political science are increasingly being asked to conduct empirical research of their own conception and design. Familiarity with empirical research methods is generally a prerequisite to making this a profitable endeavor.

The prospect of learning empirical research methods is often intimidating to students. Sometimes students dislike this type of inquiry

## 2 Introduction

because it involves numbers and statistics. Although a complete understanding of research does include a basic knowledge of statistics and the use of statistics in analyzing and reporting research findings, the empirical research process that we will describe here is first and foremost a way of thought and a prescription for disciplined reasoning. Statistics will be introduced only after an understanding of the thought process involved in scientific inquiry is established and then in a nontechnical way that should be understandable to any student familiar with basic algebra.

Students are also sometimes uneasy about taking a course in social science research methods because they view it as unrelated to other courses in their political science curriculum. But an understanding of the concepts normally included in a course in social science research methods is integrally related to a student's assimilation, evaluation, and production of knowledge in other courses. An important result of understanding the scientific research process is that a student may begin to think more independently about concepts and theories presented in other courses and readings. For example, a student might say, "That may be true under the given conditions, but I believe it won't remain true under the following conditions. . . ." Or, "if this theory is correct, I would expect to be able to observe the following. . . ." Or, "before I'm going to accept that interpretation, I'd like to have this additional information. . . ." Students who are able to specify the information that is needed and the relationships between phenomena that must be observed in support of an idea are more likely to develop an understanding of the subjects they study.

Researchers conduct empirical research studies for two primary reasons. One reason is to accumulate knowledge that will apply to a particular problem in need of solution or to a condition in need of improvement. Research on the causes of crime, for example, may be useful for reducing crime rates, and research on the reasons for poverty may help governments devise successful income maintenance and social welfare policies. Such research is often referred to as *applied research* because it has a fairly direct, immediate application to a real-world situation.

Researchers also may conduct empirical research to satisfy their intellectual curiosity about a subject, regardless of whether the research will lead to changes in governmental policy or private behavior. Political scientists, for example, study why Supreme Court justices reach the decisions they do, and why different states adopt different public policies, quite apart from any desire to modify or influence these practices. Such research is sometimes referred to as *pure, theoretical, or recreational research* to indicate that it is not concerned primarily with practical applications.<sup>1</sup>

In this chapter we will describe four social science research projects that were designed to produce scientific knowledge about political



phenomena. These examples illustrate a variety of actual research topics and methods of investigation. They also show how decisions about various aspects of the research process affect the conclusions that may be drawn about the phenomena under study. Then, in Chapter 2, the scientific study of politics will be addressed.

### Automobile Safety Inspection Policy

Suppose you are trying to decide whether to support a compulsory automobile safety inspection program.<sup>2</sup> Advocates of the program argue that it is an effective method of reducing traffic fatalities. Fewer deaths and injuries resulting from automobile accidents would produce many benefits, among them reductions in the loss of productivity of killed and disabled persons, lower hospital and health care costs, and lower automobile replacement and repair costs, not to mention less pain and suffering associated with death and injury.

There are also costs associated with safety inspection systems, however. These include administrative and enforcement costs and costs to the automobile owner—namely, inspection fees, loss of use of the car during examination, and inconvenience. Other potential costs may be a reduction of incentives for automobile manufacturers to build safer cars with fewer mechanical defects and more durable components as well as the political costs of adverse citizen reaction to unnecessary repairs and to increased governmental bureaucracy and coercion.

Your evaluation might be easier if you knew whether automobile safety inspection programs in other states had been effective in reducing automobile related death rates. A comparison of automobile death rates in states with inspection programs with the death rates in states without inspection programs would provide one source of information about such an effect.

In this study, which illustrates the promise and limitations of research on the impact of governmental policies, average automobile death rates were calculated for 1966, 1967, and 1968. A three-year period was used to reduce the effect of an abnormal death rate for a state in a given year (for example, due to a bus accident or to a freak ice storm during rush hour in a state with normally warm winter weather). Figure 1-1 shows that states with inspection systems had a lower average death rate (26.1 deaths per 100,000 persons per year) than those states without inspection systems (31.9 deaths per 100,000 persons per year). All but three of the inspected states had averages less than the overall average of the noninspected states. The difference of almost 6 deaths per 100,000 people between states with and without inspection systems translated into a difference of 15,000 lives per year. If this difference is due to