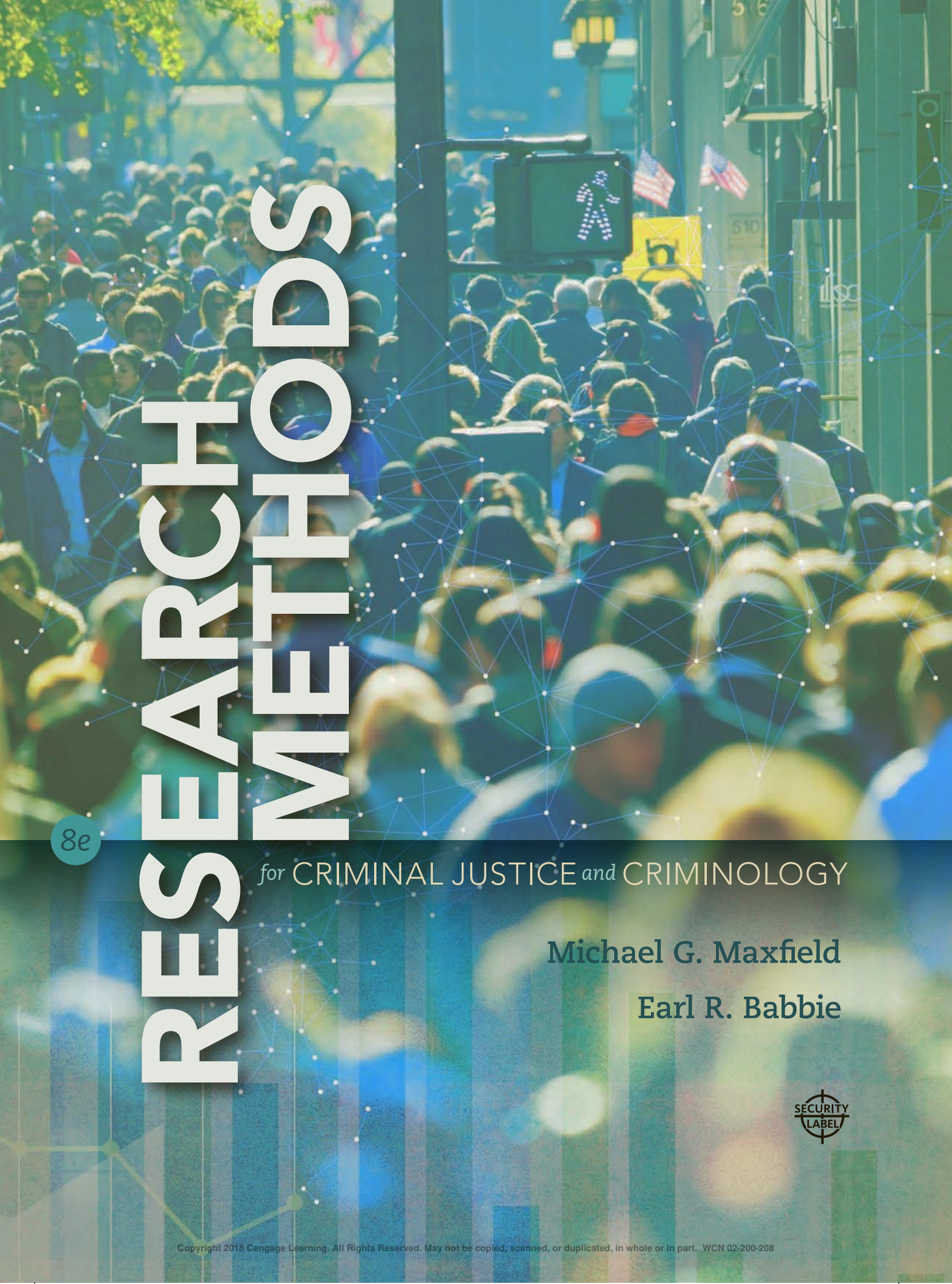

RESEARCH METHODS

8e

for CRIMINAL JUSTICE *and* CRIMINOLOGY

Michael G. Maxfield

Earl R. Babbie

Distribution of Chi Square

Probability							
df	.99	.98	.95	.90	.80	.70	.50
1	$.0^3157$	$.0^3628$	.00393	.0158	.0642	.148	.455
2	.0201	.0404	.103	.211	.446	.713	1.386
3	.115	.185	.352	.584	1.005	1.424	2.366
4	.297	.429	.711	1.064	1.649	2.195	3.357
5	.554	.752	1.145	1.610	2.343	3.000	4.351
6	.872	1.134	1.635	2.204	3.070	3.828	5.348
7	1.239	1.564	2.167	2.833	3.822	4.671	6.346
8	1.646	2.032	2.733	3.490	4.594	5.528	7.344
9	2.088	2.532	3.325	4.168	5.380	6.393	8.343
10	2.558	3.059	3.940	4.865	6.179	7.267	9.342
11	3.053	3.609	4.575	5.578	6.989	8.148	10.341
12	3.571	4.178	5.226	6.304	7.807	9.034	11.340
13	4.107	4.765	5.892	7.042	8.634	9.926	12.340
14	4.660	5.368	6.571	7.790	9.467	10.821	13.339
15	5.229	5.985	7.261	8.547	10.307	11.721	14.339
16	5.812	6.614	7.962	9.312	11.152	12.624	15.338
17	6.408	7.255	8.672	10.085	12.002	13.531	16.338
18	7.015	7.906	9.390	10.865	12.857	14.440	17.338
19	7.633	8.567	10.117	11.651	13.716	15.352	18.338
20	8.260	9.237	10.851	12.443	14.578	16.266	19.337
21	8.897	9.915	11.591	13.240	15.445	17.182	20.337
22	9.542	10.600	12.338	14.041	16.314	18.101	21.337
23	10.196	11.293	13.091	14.848	17.187	19.021	22.337
24	10.856	11.992	13.848	15.659	18.062	19.943	23.337
25	11.524	12.697	14.611	16.473	18.940	20.867	24.337
26	12.198	13.409	15.379	17.292	19.820	21.792	25.336
27	12.879	14.125	16.151	18.114	20.703	22.719	26.336
28	13.565	14.847	16.928	18.939	21.588	23.647	27.336
29	14.256	15.574	17.708	19.768	22.475	24.577	28.336
30	14.953	16.306	18.493	20.599	23.364	25.508	29.336

For larger values of df, the expression $=2x^2- =2df-1$ may be used as a normal deviate with unit variance, remembering that the probability of x^2 corresponds with that of a single tail of the normal curve.

	Probability						
df	.30	.20	.10	.05	.02	.01	.001
1	1.074	1.642	2.706	3.841	5.412	6.635	10.827
2	2.408	3.219	4.605	5.991	7.824	9.210	13.815
3	3.665	4.642	6.251	7.815	9.837	11.341	16.268
4	4.878	5.989	7.779	9.488	11.668	13.277	18.465
5	6.064	7.289	9.236	11.070	13.388	15.086	20.517
6	7.231	8.558	10.645	12.592	15.033	16.812	22.457
7	8.383	9.803	12.017	14.067	16.622	18.475	24.322
8	9.524	11.030	13.362	15.507	18.168	20.090	29.125
9	10.656	12.242	14.684	16.919	19.679	21.666	27.877
10	11.781	13.442	15.987	18.307	21.161	23.209	29.588
11	12.899	14.631	17.275	19.675	22.618	24.725	31.264
12	14.011	15.812	18.549	21.026	24.054	26.217	32.909
13	15.119	16.985	19.812	22.362	25.472	27.688	34.528
14	16.222	18.151	21.064	23.685	26.873	29.141	36.123
15	17.322	19.311	22.307	24.996	28.259	30.578	37.697
16	18.841	20.465	23.542	26.296	29.633	32.000	39.252
17	15.511	21.615	24.769	27.587	30.995	33.409	40.790
18	20.601	22.760	25.989	28.869	32.346	34.805	42.312
19	21.689	23.900	27.204	30.144	33.687	36.191	43.820
20	22.775	25.038	28.412	31.410	35.020	37.566	45.315
21	23.858	26.171	29.615	32.671	36.343	38.932	46.797
22	24.939	27.301	30.813	33.924	37.659	40.289	48.268
23	26.018	28.429	32.007	35.172	38.968	41.638	49.728
24	27.096	29.553	33.196	36.415	40.270	42.980	51.179
25	28.172	30.675	34.382	37.652	41.566	44.314	52.620
26	29.246	31.795	35.563	38.885	42.856	45.642	54.052
27	30.319	32.912	36.741	40.113	44.140	46.963	55.476
28	31.391	34.027	37.916	41.337	45.419	48.278	56.893
29	32.461	35.139	39.087	42.557	46.693	49.588	58.302
30	35.530	36.250	40.256	43.773	47.962	50.892	59.703

Source: We are grateful to the Literary Executor of the late Sir Ronald A. Fisher, F.R.S., to Dr. Frank Yates, F.R.S., and to Longman Group Ltd., London, for permission to reprint Table IV from their book Statistical Tables for Biological, Agricultural, and Medical Research (6th Edition, 1974).

Research Methods for **Criminal Justice** and **Criminology**

EIGHTH EDITION

Michael G. Maxfield
John Jay College of Criminal Justice, City University of New York

Earl R. Babbie
Chapman University

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Michael G. Maxfield, Earl R. Babbie

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Dedication:

To Max Jacob Fauth and Laine Ellen Fauth
To Suzanne Babbie

Contents

Preface

One of my[1] most oddly rewarding teaching experiences took place not in the classroom but on the streets of downtown Indianapolis. On my way to a meeting with staff from the Indiana Department of Correction, I recognized a student from the previous semester's research methods class. Ryan was seated on a shaded bench, clipboard in hand, watching pedestrians make their way down the sidewalk. After we had exchanged greetings, I learned that Ryan had landed a summer internship with the city's planning department and was currently at work conducting a study of pedestrian traffic.

"Ha!" I exclaimed, recalling student complaints about how research methods are not relevant (what I have since referred to as "Ryan's lament"). "And you whined about how you were never going to use the stuff we talked about in class." Ryan responded that the systematic study of pedestrians was interesting, and he admitted that some course topics did, in fact, relate to his work as an intern. He also said something about not really knowing what actual research involved until he began his current project. Ryan remained attentive to people passing by while we chatted for a few minutes. I was pleased to see that he was a careful observer, applying some of the skills he had learned in my course only a few weeks after the semester's end.

Later, thinking more about the encounter, I recognized the need to change my approach to teaching the course. Ryan clearly enjoyed his experience in doing research, but had not recognized how much fun research could be until leaving the classroom. As a result, I restructured the course to involve students more actively in the research process. I resolved to be more diligent in linking fundamental concepts of research methods to a broad spectrum of examples, and to show students how they, like Ryan, could apply systematic inquiry and observation techniques to a wide variety of situations in criminal justice and other policy areas.

[1] In this Preface, the first-person singular refers to Michael Maxfield, while the first person plural refers to Michael Maxfield and Earl Babbie.

Goals and Objectives

Criminal justice has always been a fascinating topic for students, partly because it is the stuff of news stories, fiction, and much popular entertainment. Criminal justice research goes beyond the headlines to address important questions of *who*, *what*, *why*, and *how*. *Who* is involved as offender, victim, and justice professional? *What* is the nature and frequency of different kinds of crime and disorder problems? *What* new problems are emerging? *Why* are incidents happening in particular places? *Why* are offenders involved in particular patterns of behavior? *How* are different kinds of offenses committed? *How* should justice agencies prevent and respond to problems of crime and safety?

Our primary goal in writing a new edition of the text is unchanged: to help students learn how to conduct research to answer these and related questions. Toward that end, certain principles have guided our revision of each edition:

- provide a careful description of the varied options for doing research in criminal justice.
- clarify and demystify what is traditionally a challenging subject for students at all levels.
- illustrate research methods with examples that are informative and interesting.
- incorporate new approaches that reflect methodological developments in the field.
- emphasize the application of criminal justice research to real-world problems and justice policy examples.
- bridge the gap between authors, instructors, and students by drawing on examples of our own research, especially those conducted with student colleagues.

When I began collaborating with Earl Babbie to produce this textbook, I joined a colleague whose

writing embodied my efforts to engage students in the learning process. Earl's classic text, *The Practice of Social Research*, has always been an enviable model of clarity, generating student interest while presenting a rigorous treatment of social science research methods. In the spirit of Earl's text, we have sought to convey the excitement of doing research that Ryan discovered as he observed pedestrians in downtown Indianapolis.

Organization of the Text

The eighth edition of *Research Methods for Criminal Justice and Criminology* has 14 chapters:

- Chapter 1, "Crime, Criminal Justice, and Scientific Inquiry," introduces research methods. Material in this chapter describes how social scientific inquiry differs from other ways of learning things. This chapter also advises students on how to select research topics, conduct a literature review, and write a research proposal.
- Chapter 2, "Foundations of Criminal Justice Research," summarizes principles of social science research and examines different general approaches to research. This chapter also describes the important role of theory in all research. We dispel myths about theory by describing it as a logical guide to scientific inquiry. Examples illustrate how theory drives applied and basic research.
- Chapter 3, "Ethics and Criminal Justice Research," examines how justice research has the potential to harm subjects and the obligations of researchers to minimize the risk of such harm. Examples illustrate the range of ethical issues and steps researchers take to address them.
- Chapter 4, "General Issues in Research Design," describes basic features of all research studies that must be considered when planning a research project.
- Chapter 5, "Concepts, Operationalization, and Measurement," considers the central topic of measurement in criminal justice research. All research requires some sort of measurement, and this chapter examines key elements of this important topic.
- Chapter 6, "Measuring Crime," focuses on a central dependent and independent variable in criminal justice research. This provides an in-depth example of measurement more generally, while describing different ways crime is measured and why the various measures are necessary.
- Chapter 7, "Experimental and Quasi-Experimental Designs," examines how we plan research that has explanatory and applied purposes. Research design involves a collection of building blocks that can be combined in different ways. We emphasize the flexibility of research designs, drawing on interesting and creative examples.
- Chapter 8, "Sampling," describes approaches to selecting subjects for research. We cover the two general categories of probability and nonprobability sampling, describing different subtypes in each category. The basics of probability theory are introduced as key principles underlying sampling and statistical significance.
- Chapter 9, "Survey Research," explores traditional survey research, other types of interviewing, and how changes in technology continue to affect how surveys are conducted.
- Chapter 10, "Qualitative Interviewing," describes different applications of qualitative and specialized interviewing. Earl and I are pleased that Amber Horning joined us in this chapter, drawing on her own work and research by others to examine this family of data gathering techniques.
- Chapter 11, "Field Observation," includes discussion of traditional approaches as well as structured environmental surveys. Examples illustrate the use of the different approaches.
- Chapter 12, "Agency Records, Content Analysis, and Secondary Data," covers data extracted from administrative records as well as data series regularly collected by researchers and government agencies. Examples illustrate the wide range of research opportunities supported by data from different secondary sources.
- Chapter 13, "Evaluation Research and Problem Analysis," focuses on applied research that aims to improve criminal justice policy. The chapter describes how problem analysis is

increasingly used in justice agencies to address crime and related problems.
- Chapter 14, "Interpreting Data," introduces data analysis techniques widely used in criminal justice research. Descriptive and explanatory approaches are explained and illustrated with examples.

What's New in This Edition

In preparing this eighth edition, we stayed with what has proven to be a popular formula, but also responded to suggestions from several people – reviewers, colleagues, and instructors – who used earlier editions.

Terrorism

Terrorist attacks in the United States and other countries have been prominent in news stories. At the same time, distinguishing terrorism from terrorist acts, and terrorist acts from crime and other kinds of violence remains challenging. In this edition we incorporate systematic research on terrorism to illustrate the key features a research-based approach offers for understanding this important problem. In particular, the Global Terrorism Database (GTD) at the University of Maryland is a good example of carefully defining terrorist acts and systematically collecting large-scale global data. New examples from the GTD are included in Chapter 6, "Measuring Crime," and Chapter 12, "Agency Records, Content Analysis, and Secondary Data," since the GTD is an excellent example of content analysis.

In Chapter 12, Marrisa Mandala raises an important question about political assassinations as terrorist acts. Arguing that murders of public officials are a specific type of terrorist acts, Mandala describes her efforts to examine country-level differences in the correlators of assassinations and other attacks. This offers important lessons in the challenges of assembling international data for research purposes.

Web-based Samples and Surveys

Chapters 8, "Sampling," and 9, "Survey Research," are updated to reflect fundamental changes in how large-scale surveys can be conducted. Traditional methods texts lament the potential for bias in using online samples, without recognizing that sampling and interviewing methods reflect available technology. Past explosive growth in peoples' on-line presence has leveled off at a near saturation point, so concerns about limited access are much less important. We describe examples of web-based samples in Chapter 8. Chapter 9 includes a new box that shows how online samples and surveys can be used to conduct experiments of how people interpret behavior of children by systematically varying descriptions of behavior and photos of children.

Technology and Data Collection

Web-based samples and surveys are examples of how more general advances in technology can be used by researchers. Other examples include the growing presence of video cameras in U.S. cities, and increasing coverage of Google maps and similar products worldwide. We describe some examples of these, including the use of geo-coded cameras to track evidence of wildlife poaching in Africa. Similar techniques have been used to trace the likely routes of graffiti artists in other countries.

Applied Research

Research methods for criminal justice and criminology are commonly used by justice professionals and criminal justice activists, but they don't call it "research." We describe evidence generation as a process where justice professionals systematically collect data to better understand a problem of interest. They don't complete research projects, but they use research methods in a systematic way. This is an important message for students in criminal justice who move on to careers in justice agencies or related organizations. Evidence-based practice is important, but so is practice-based evidence. Chapter 13 presents one great example: participatory crime analysis in South African townships. Similar techniques could be used in many communities to better understand crime and disorder problems.

Expanded Examples of Student Research

Reviewers and colleagues have commented favorably on the use of examples from student research in earlier editions, a feature that serves

multiple purposes. First, it amplifies what some instructors call the "over-the-shoulder" tone of the text, in which readers feel they are experiencing more than simply words on a printed page. Second, student research examples embody the kind of collaborative supervision that exists between graduate students and faculty. Third, although I have great familiarity with the details of my students' work, such details are rarely described in published articles. Being able to report them adds behind-the-scenes information not readily available elsewhere. Finally, Earl and I believe the examples presented here are topical and inherently interesting to readers. Among the examples in this edition are projects that address terrorism, violence reduction in New York City, human trafficking, and sex offenders.

Chapter by Chapter Changes

We have made a variety of changes in each chapter of the text:

- **Chapter 1** was extensively reworked in the 8th edition. We have received positive feedback on these revisions, but have updated some references and examples. This chapter has become somewhat of a tutorial on how to plan a research project, review the literature, and write a research proposal.
- **Chapter 2** is similarly revised so the balance of material from Chapters 1 and 2 is smoother. Some examples and references have been updated.
- **Chapter 3** updates material on the institutional review boards that oversee the protection of human subjects in the course of social science research. The American Society of Criminology has finally adopted a code of ethics and we describe it here. We also revised some discussion of ethical questions that stem from working with active offenders.
- **Chapter 4** offers a more streamlined treatment of three important principles for designing social science research: causation, units of analysis, and the time dimension.
- **Chapter 5** revises figures that illustrate principles of measurement. We also clarified material describing validity, a perennial source of confusion. Some examples have been revised.
- **Chapter 6** updates the various ways to conceptualize and measure different types of crime. We added a subsection on the Global Terrorism Database that does two things. First, it illustrates the difficulties of developing cross-national measures. Second, it introduces the concept of open-source data, describing extensive procedures used to clean and verify open-source measures. We also added an opening vignette that details some of the coding procedures for open-source reports.
- **Chapter 7** presents new examples for double-blind experiments and cohort designs. References and other examples are selectively updated.
- **Chapter 8** updates the continuing changes in technology that require new approaches to sampling. We added a new box on Amazon's Mechanical Turk (MTurk), describing its use as a source of purposive samples. Some research finds that MTurk samples are more representative than samples of university students and other groups commonly used in criminal justice research.
- **Chapter 9** has extensive revisions. First, it reflects continuing change in survey research methods. We reduced and updated our discussion of mail and phone surveys. Descriptions of two national crime surveys are streamlined. Other examples and references were revised. A new box describes an example of combining an MTurk sample with complex surveys through an on-line survey platform. Combining this with the box from Chapter 8 produces a brief primer on how to develop online samples and questionnaires.
- **Chapter 10**, by Dr. Amber Horning, has been slightly revised following comments from reviewers.
- **Chapter 11** includes several new examples of field observation, including technologies such as GPS-enabled cameras for recording observations. We've added another example of using Google Street View for observational data. New York City's annual shadow count of the homeless illustrates the plant-capture

technique for enhancing reliability of field observations.

- **Chapter 12** adds the GTD as an example of content analysis. The chapter includes new discussion of a "criminology of place" in describing hot spots. In a new box, Marrisa Mandala describes her work using secondary data in analyzing terror-related assassinations.
- **Chapter 13** introduces the concept of evidence generation. A new box by Sheyla Delgado and Jeffrey Butts describes a large-scale evaluation of Cur Violence in New York City using field interviewing and creative sampling techniques. We've updated our discussion of politics in applied research. In a new box, Tinus Kruger summarizes participatory crime analysis as an applied research method.
- **Chapter 14** updates crime data in selected examples.

Learning Tools

To make this book more accessible to students with a range of interests and abilities, we have included learning tools in each chapter:

- **Learning Objectives** Chapters open with learning objectives that are keyed to the summaries presented later in each chapter. This feature will help students pull material together as they read through and review each chapter.
- **Marginal Key Terms** This edition includes marginal key terms accompanied by brief definitions. These marginal key terms are a subset of those pulled together at the end of each chapter, which in turn are defined fully in the glossary.
- **Chapter Summary** Adapted from different sections in earlier editions, chapter summaries are keyed to the learning objectives that open each chapter.

Ancillary Materials

A number of supplements are provided by Cengage Learning to help instructors use *Research Methods for Criminal Justice and Criminology* in their courses and to help students prepare for exams. Supplements are available to qualified adopters. Please consult your local sales representative for details.

Online Instructor's Manual

The manual includes learning objectives, key terms, a detailed chapter outline, a chapter summary, review questions and exercises, assignments, discussion questions, "What If" scenarios, and media tools. The learning objectives are correlated with the discussion topics, student activities, and media tools.

Downloadable Word Test Bank

The enhanced test bank includes a variety of questions per chapter—a combination of multiple-choice, true/false, completion, essay, and critical thinking formats, with a full answer key. The test bank is coded to the learning objectives that appear in the main text, and identifies where in the text (by section) the answer appears. Finally, each question in the test bank has been carefully reviewed by experienced criminal justice instructors for quality, accuracy, and content coverage so instructors can be sure they are working with an assessment and grading resource of the highest caliber.

Cengage Learning Testing

Powered by Cognero, the accompanying assessment tool is a flexible, online system that allows you to:

- import, edit, and manipulate test bank content from the text's test bank or elsewhere, including your own favorite test questions;
- create ideal assessments with your choice of 15 question types (including true/false, multiple-choice, opinion scale/Likert, and essay);
- create multiple test versions in an instant using drop-down menus and familiar, intuitive tools that take you through content creation and management with ease;
- deliver tests from your LMS, your classroom, or wherever you want—plus, import and export content into and from other systems as needed.

Online PowerPoint Lectures

Helping you make your lectures more engaging while effectively reaching your visually oriented students, these handy Microsoft PowerPoint®

slides outline the chapters of the main text in a classroom-ready presentation. The PowerPoint slides reflect the content and organization of the new edition of the text and feature some additional examples and real-world cases for application and discussion.

Acknowledgments

Many colleagues have offered suggestions, comments, and advice on this and earlier editions, including: Patricia Brantingham (Simon Fraser University), Judith Collins (Michigan State University), Jeffrey Butts (John Jay College of Criminal Justice), Robyn Dawes (Carnegie Mellon University), Joel Miller (Rutgers University), Mangai Natarajan (John Jay College of Criminal Justice), Jon Shane, (John Jay College of Criminal Justice), Cathy Spatz Widom (John Jay College of Criminal Justice), and Sung-suk Violet Yu (John Jay College of Criminal Justice).

A number of former students at the Rutgers University School of Criminal Justice have offered advice, feedback, and contributions for this and earlier editions. They have now moved on to their own academic careers as faculty or other researchers. I thank Dr. Gisela Bichler (California State University, San Bernardino), Dr. Stephen Block (Central Connecticut State University), Dr. Sharon Chamard (University of Alaska), Dr. Niyazi Ekici (Turkish National Police), Dr. Shuryo Fujita (California State University, San Bernardino), Dr. Galma Jahic (Istanbul Bilgi University, Turkey), Dr. Jarret Lovell (California State University, Fullerton), Dr. Nerea Marteache (California State University, San Bernardino), Dr. Marie Mele (Monmouth University), Dr. Nancy Merritt (National Institute of Justice), Dr. Melanie Angela Neuilly (Washington State University), Dr. Dina Perrone (California State University, Long Beach), Dr. Gohar Petrossian (John Jay College of Criminal Justice), Dr. James Roberts (University of Scranton), Dr. William Sousa (University of Nevada, Las Vegas), and Dr. Christopher Sullivan (University of Cincinnati). Dr. Carsten Andresen (Travis County Department of Community Corrections and Supervision) merits special thanks for generously sharing information about his own research.

With my move to John Jay College in 2010, I have enjoyed contributions and suggestions from new students, many of whom are now researchers in academic and other settings: Dr. Amber Horning (William Paterson University), Dr. Michelle Cubellis (Central Connecticut State University), Dr. Brittany Hayes (Sam Houston State University), Dr. Alana Henninger (RTI International), Dr. Leonid Lantsman (U.S. Department of State), Dr. Daiwon Lee (New York City Police Department), Dr. Bryce Peterson (Urban Institute), Sheyla Delgado (Research and Evaluation Center, John Jay College), Dr. Julie Viollaz (Interpol, United Nations), Marissa Mandala (New York City Police Department), and Mawia Khogali. Special thanks to Dr. Jeffrey Butts, Director of the Research and Evaluation Center at John Jay College, for being a gracious colleague and host.

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An Introduction to Criminal Justice Inquiry

Part 1

What comes to mind when you encounter the word *science*? What do you think of when we describe criminal justice as a social science? For some people, science is mathematics; for others, it is white coats and laboratories. Some confuse it with technology, or equate it with difficult courses in high school or college.

For the purposes of this book, we view science as a method of inquiry—a way of learning and knowing things about the world around us. Like other ways of learning and knowing about the world, science has some special characteristics. We'll examine these traits in this opening set of chapters. We'll also see how the scientific method of inquiry can be applied to the study of crime and criminal justice.

Part One lays the groundwork for the rest of the book by examining the fundamental characteristics and issues that make science different from other ways of knowing things. Chapter 1 begins with a look at native human inquiry—the sort of thing all of us have been doing all our lives. We'll also consider different research purposes and the basics of how to design a research project.

Chapter 2 deals specifically with the social scientific approach to criminal justice inquiry and the links between theory and research. The lessons of Chapter 1 are applied in the study of crime and criminal justice. Although special considerations arise in studying people and organizations, the basic logic of all science is the same.

Ethics is one of those special considerations we face in studying people. In Chapter 3, we'll see that most ethical questions are rooted in two fundamental principles: (1) research subjects should not be harmed and (2) their participation must be voluntary.

The overall purpose of Part One is to construct a backdrop for the more specific aspects of designing and doing research. By the time you complete the chapters in Part One, you'll be ready to look at some of the more concrete aspects of criminal justice research.

CHAPTER 1

Crime, Criminal Justice, and Scientific Inquiry

People learn about their world in a variety of ways, and we often make mistakes along the way. Science is different from other ways of learning and knowing. We'll consider errors people commonly make and how science tries to avoid them, discuss different purposes of research, and describe how to design a research project.

Learning Objectives

1. Understand why knowledge of research methods is valuable to criminal justice professionals.
2. Describe the different ways we know things.
3. Distinguish inquiry as a natural human activity—from inquiry through systematic empirical research.
4. Recognize that much of our knowledge is based on agreement rather than on direct experience.
5. Explain how tradition and authority are important sources of knowledge.
6. Understand the role of experience and systematic observation in criminal justice research.
7. Recognize that social science guards against, but does not prevent, political beliefs from affecting research findings.
8. Distinguish the different purposes of research.
9. Understand how to design a research project.
10. Be able to conduct a review of research literature.
11. Describe how to write a research proposal.

Sexual Assault in Jails and Prisons

Responding to reports of sexual assault in prisons and jails, the Prison Rape Elimination Act became law in 2003. The act enhanced penalties for sexual violence in most detention facilities and required the Department of Justice to collect systematic data on the problem. The newspaper article "County Misreports Data About Sexual Violence in Juvenile Jails" is an example of how sexual assault continues to be a problem in San Diego, California (Maass, 2012). Researchers have conducted studies to better understand the problem and assess ways to reduce sexual violence.

Allen Beck and associates (2010) describe data collected from a sample of prisons and jails by the Bureau of Justice Statistics. They report that 4 percent of prison inmates and 3 percent of jail inmates were victims of sexual assault in the previous 12 months or since being admitted to the facility. Projecting those percentages to all prisons and jails nationwide produces an estimate of 88,500 adult victims. In addition, the researchers report that approximately 3 percent of prison inmates and 2 percent of those in jail had sexual contact with facility staff, often willingly.

Nancy La Vigne and other researchers from the Urban Institute (2011) describe their research on how to prevent sexual assault in jails. Working with three facilities, they described efforts to improve supervision of inmates and corrections officers, install surveillance cameras, and train corrections officers in crisis intervention. Based on their evaluation, La Vigne and associates recommended that jail administrators use a systematic process to assess problems in

specific facilities, design changes that address those problems, and collect data to assess the effects of the new actions.

This example illustrates how researchers take steps to better understand the scope of a problem and then try different approaches to reduce it. The Urban Institute analysts went one step further in their efforts to train corrections officials to do their own applied research. Jail managers were consumers of research produced by La Vigne and associates and also gained some of the skills needed to become producers of applied studies in their own facilities.

Introduction

Criminal justice professionals are both consumers and producers of research.

Spending a semester studying criminal justice research methodology may not be high on your list of "Fun Things to Do." Perhaps you are or plan to be a criminal justice professional and are thinking, "Why do I have to study research methods? When I graduate, I'll be working in probation, or law enforcement, or corrections, or court services—not conducting research! I would benefit more from learning about probation counseling, or police management, or corrections policy, or court administration." Fair enough. But as a criminal justice professional, you will need at least to be a consumer of research. One objective of this book is to help you achieve this. And as we will soon see, justice professionals often produce research as well.

For example, in the section "Two Realities," we will see how findings from one of the first experimental studies of policing appeared to contradict a traditional tenet of law enforcement—that a visible patrol force prevents crime. Acting as a consumer of research findings, a police officer, supervisor, or executive should be able to understand how the research was conducted and how the study's findings might apply in his or her department. Because police practices vary from city to city, a police executive would benefit from knowledge of research methods and of how to interpret findings.

Most criminal justice professionals, especially those in supervisory roles, routinely review various performance reports and statistical tabulations. In the past 30 years or so, thousands of criminal justice research and evaluation studies have been conducted. The National Criminal Justice Reference Service (https://ncjrs.gov) was established in 1972 to archive and distribute research reports to criminal justice professionals and researchers around the world. Many such reports are prepared specifically to keep the criminal justice community informed about new research developments. More recently, the Center for Problem-Oriented Policing (POP Center, http://www.popcenter.org) and CrimeSolutions.gov were created to share applied research on various law enforcement and general justice problems. By understanding research methods, decision makers are better equipped to critically evaluate research reports and to recognize when methods are properly and improperly applied. See the box titled "Home Detention" for an example of how knowledge of research methods can help policy makers avoid mistakes.

Another objective of this book is to help you produce research. In other courses or in your job, you may become a producer of research. For example, probation officers sometimes test new approaches to supervising or counseling clients, and police officers try new methods of addressing particular problems or working with the community. Many cities and states have a compelling need to assess how to better serve adults and juveniles returning from periods of incarceration after reforming sentencing laws. Determining whether such changes are effective is an example of applied research. A problem-solving approach, rooted in systematic research, is being used in more and more police departments and in many other criminal justice agencies. Many items on the POP Center website are the product of applied research conducted by police departments. Therefore, criminal justice professionals need to know not only how to interpret research accurately, but also how to produce accurate research.

HOME DETENTION

Home detention with electronic monitoring (ELMO) was widely adopted as an alternative punishment in the United States in the 1980s. The technology for this new sanction was made possible by advances in telecommunications and computer systems. Prompted by growing prison and jail populations, not to mention sales pitches by equipment manufacturers, criminal justice officials embraced ELMO. Questions about the effectiveness of these programs quickly emerged, however, and led to research to determine whether the technology worked. Comprehensive evaluations were conducted in Marion County (Indianapolis), Indiana. Selected findings from these studies illustrate the importance of understanding research methods in general and the meaning of various ways to measure program success in particular. ELMO programs directed at three groups of people were studied: (1) convicted adult offenders, (2) adults charged with a crime and awaiting trial, and (3) juveniles convicted of burglary or theft. People in each of the three groups were assigned to home detention for a specified time. They could complete the program in one of three ways: (1) successful release after serving their term; (2) removal due to rule violations, such as being arrested again or violating program rules; or (3) running away, or "absconding." The agencies that administered each program were required to submit regular reports to county officials on how many individuals in each category completed their home detention terms. The table below summarizes the program completion types during the evaluation study:

	Convicted Adults	Pretrial Adults	Juveniles
Success	81%	73%	99%
Rule violation	14	13	1
Abscond	5	14	0

These figures, reported by agencies to county officials, indicate that the juvenile program was a big success; virtually all juveniles were successfully released.

Now consider some additional information on each program collected by the evaluation team. Data were gathered on new arrests of program participants and on the number of successful computerized telephone calls to participants' homes:

	Convicted Adults	Pretrial Adults	Juveniles
New arrest	5%	1%	11%
Successful calls	53	52	17

As the above table shows, many more juveniles were arrested, and juveniles successfully answered a much lower percentage of telephone calls to their homes. What happened?

The simple answer is that the staff responsible for administering the juvenile program were not keeping track of offenders. The ELMO equipment was not maintained properly, and police were not visiting the homes of juveniles as planned. Because staff were not keeping track of program participants, they were not aware that many juveniles were violating the conditions of home detention. And because they did not detect violations, they naturally reported that the vast majority of young burglars and thieves completed their home detention successfully.

A county official who relied on only agency reports of program success would have made a big mistake in judging the juvenile program to be 99 percent successful. In contrast, an informed consumer of such reports would have been skeptical of a 99 percent success rate and searched for more information.

Source: Adapted from Maxfield and Baumer (1991) and Baumer, Maxfield, and Mendelsohn (1993).

What Is This Book About?

This book focuses on how we know what we know.

This book focuses on how we learn and know things, not on what we know. Although you will come away from the book knowing some things you don't know right now, our primary purpose is to help you look at how you know things.

Two Realities

Ultimately, we live in a world of two realities. Part of what we know could be called our "experiential reality"—the things we know from direct experience. For example, if you dive into a glacial stream flowing from the Canadian Rockies, you don't need anyone to tell you that the water is cold; you notice that by yourself. And the first time you step on a thorn, you know it hurts even before anyone tells you. The other part of what we know could be called our "agreement reality"—the things we consider real because we've been told they're real and everyone else seems to agree they're real. A big part of growing up in any society, in fact, is learning to accept what everybody around us "knows" to be true. If we don't know those same things, we can't really be a part of the group. If you were to seriously question a geography professor as to whether the sun really sets in the west, you'd quickly find yourself set apart from other people. The first reality is a product of our own experience; the second is a product of what people have told us.

To illustrate the difference between agreement and experiential realities, consider preventive police patrol. The term *preventive* implies that when police patrol their assigned beats they prevent crime. Police do not prevent all crime, of course, but it is a commonsense belief that a visible, mobile police force will prevent some crimes. In fact, the value of patrol in preventing crime was a fundamental tenet of police operations for many years. O. W. Wilson, a legendary police chief in Chicago and the author of an influential book on police administration, wrote that patrol was indispensable in preventing crime by eliminating incentives and opportunities for misconduct (Wilson and McLaren, 1963:320). A 1967 report on policing by President Lyndon Johnson's President's Commission on Law Enforcement and Administration of Justice (1967:1) stated that "the heart of the police effort against crime is patrol. . . . The object of patrol is to disperse policemen in a way that will eliminate or reduce the opportunity for misconduct and to increase the probability that a criminal will be apprehended while he is committing a crime or immediately thereafter."

Seven years later, the Police Foundation, a private research organization, published results from an experimental study that presented a dramatic challenge to conventional wisdom. Known as the "Kansas City Preventive Patrol Experiment," this classic study compared police beats with three levels of preventive patrol: (1) control beats, with one car per beat; (2) proactive beats, with two or three cars per beat; and (3) reactive beats, with no routine preventive patrol. After almost one year, researchers examined data from the three types of beats and found no differences in crime rates, citizen satisfaction with police, fear of crime, or other measures of police performance (Kelling et al., 1974).

Researchers and law enforcement professionals alike were surprised by these findings. For the record, the Kansas City researchers never claimed to have proved that preventive patrol had no impact on crime. Instead, they argued that police should work more closely with community members and that routine patrol might be more effective if combined with other strategies that used police resources in a more thoughtful way. Subsequent research has supported that last statement. An experimental study of foot patrol in Philadelphia found that assigning foot patrol officers based on analytically identified "hot spots" of crime produced a 23 percent reduction in violent crime after 12 weeks (Ratcliffe et al., 2011).

Additional studies conducted in the 1970s cast doubt on other fundamental assumptions about police practices. A quick response to crime reports made no difference in arrests, according to a research study in Kansas City (Van Kirk, 1977). And criminal investigation by police detectives rarely resulted in an arrest (Greenwood, 1975).

We do not attack routine law enforcement practices in mentioning these examples. Rather, we want to show that systematic research on policing has illustrated how traditional beliefs—agreement

reality—can be misleading. Simply increasing the number of police officers on patrol does not reduce crime, because police patrol often lacks direction. Faster response time to calls for police assistance does not increase arrests, because there is often a long delay between the time when a crime occurs and when it is reported to police. Clever detective work seldom solves crimes; investigators get most of their information from reports prepared by patrol officers, who, in turn, get their information from victims and witnesses. These early studies informed more recent research that examines how sorting cases into "solvability" categories can improve investigations and lead to more arrests. (Robb et al., 2011).

Traditional beliefs about patrol effectiveness, response time, and detective work are examples of agreement reality. In contrast, the research projects that produced alternative views about each law enforcement practice represent experiential reality. These studies are examples of **empirical**[1] research, the production of knowledge based on experience or observation.

In each case, researchers conducted studies of police practices and based their conclusions on observations and experience. Empirical research is a way of learning about crime and criminal justice; explaining how to conduct empirical research is the purpose of this book.

The Role of Science

Science offers an approach to both agreement reality and experiential reality. Scientists have certain criteria that must be met before they will agree on something they haven't experienced personally. In general, an assertion must have both *logical* and *empirical* support: It must make sense, and it must agree with actual observations. For example, why do earthbound scientists accept the assertion that it's cold on the dark side of the moon? First, it makes sense because the surface heat of the moon comes from the sun's rays. Second, scientific measurements made on the moon's dark side confirm the assertion. Scientists can accept the reality of things they don't personally experience—they accept an agreement reality—but they have special standards for doing so.

More relevant to this book, however, is that science offers a special approach to discovering reality through personal experience. Epistemology is the science of knowing; methodology (a subfield of epistemology) might be called "the science of finding out." This book focuses on criminal justice **methodology**—how social science methods can be used to better understand crime and criminal justice problems. To understand scientific inquiry, let's first look at the kinds of inquiry we all do each day.

Personal Human Inquiry

Everyday human inquiry draws on personal experience and secondhand authority.

Most of us feel more comfortable if we understand what's going on around us and are able to predict our future circumstances. We seem quite willing, moreover, to undertake this task using causal and probabilistic reasoning. First, we generally recognize that future circumstances are somehow caused or conditioned by present ones. For example, we learn that getting an education will affect how much money we earn later in life and that speeding may result in an unhappy encounter with an alert traffic officer. As students, we learn that studying hard will result in better examination grades.

Second, we recognize that such patterns of cause and effect are probabilistic in nature. The effects occur more often when the causes occur than when the causes are absent—but not always. Thus, as students, we learn that studying hard produces good grades in most instances, but not every time. We recognize the danger of exceeding the speed limit without believing that every time we do so will produce a traffic ticket.

Empirical From experience. Social science is said to be empirical when knowledge is based on what we experience.

Methodology The study of methods used to understand something; the science of finding out.

[1]Words set in boldface are defined in the glossary at the end of the book.

ARREST AND DOMESTIC VIOLENCE

In 1983, preliminary results were released from a study on the deterrent effects of arrest in cases of domestic violence. The study reported that male abusers who were arrested were less likely to commit future assaults than offenders who were not arrested. Conducted by researchers from the Police Foundation, the study used rigorous experimental methods adapted from the natural sciences. Criminal justice scholars generally agreed that the research was well designed and executed. Public officials were quick to embrace the study's findings that arresting domestic violence offenders deterred them from future violence.

Here, at last, was empirical evidence to support an effective policy in combating domestic assaults. Results of the Minneapolis Domestic Violence Experiment were widely disseminated, in part due to aggressive efforts by the researchers to publicize their findings (Sherman and Cohn, 1989). The attorney general of the United States recommended that police departments make arrests in all cases of misdemeanor domestic violence. Within five years, more than 80 percent of law enforcement agencies in U.S. cities adopted arrest as the preferred way of responding to domestic assaults (Sherman, 1992:2).

Several things contributed to the rapid adoption of arrest policies to deter domestic violence. First, the experimental study was conducted carefully by highly respected researchers. Second, results were widely publicized in newspapers, in professional journals, and on television programs. Third, officials could understand the study, and most believed that its findings made sense. Finally, mandating arrest in less serious cases of domestic violence was a straightforward and politically attractive approach to a growing problem.

Sherman and Berk (1984), however, urged caution in uncritically embracing the results of their study. Others advised that similar research be conducted in other cities to check on the Minneapolis findings (Lempert, 1984). Recognizing this, the U.S. National Institute of Justice sponsored more experiments—known as replications—in six other cities. Not everyone was happy about the new studies. For example, a feminist group in Milwaukee opposed the replication in that city because it believed that the effectiveness of arrest had already been proved (Sherman and Cohn, 1989:138).

Results from the replication studies brought into question the effectiveness of arrest policies. In three cities, no deterrent effect was found in police records of domestic violence. In other cities, there was no evidence of deterrence for longer periods (6–12 months), and in three cities, researchers found that violence actually escalated when offenders were arrested (Sherman, 1992:30). For example, Sherman and associates (1992:167) report that in Milwaukee "the initial deterrent effects observed for up to thirty days quickly disappear. By one year later [arrests] produce an escalation effect." Arrest works in some cases but not in others. As in many other cases, in responding to domestic assaults, it's important to carefully consider the characteristics of offenders and the nature of the relationship between offender and victim.

After police departments throughout the country embraced arrest policies following the Minneapolis study, researchers were faced with the difficult task of explaining why initial results must be qualified. Arrest seemed to make sense; officials and the general public believed what they read in the papers and saw on television. Changing their minds by reporting complex findings was more difficult, but continues to be important. Long-term follow-up studies have found that arrested offenders were more likely to be victims of homicide (Sherman. Lawrence W. and Harris, 2013). Even more sobering, domestic violence victims of arrested offenders were more likely than victims of non-arrested offenders to have died within 23 years after the experiment (Sherman. Lawrence W. and Harris, 2015).

The concepts of causality and probability play a prominent role in this book. Science makes causality and probability explicit and provides techniques for dealing with them more rigorously than does casual human inquiry. Science sharpens the skills we already have by making us more conscious, rigorous, and explicit in our inquiries.

However, our attempts to learn about the world are only partly linked to personal inquiry and direct experience. Another, much larger, part comes from the agreed-on knowledge that others give us. This agreement reality both assists and hinders our attempts to find out things for ourselves. Two important sources of secondhand knowledge—tradition and authority—deserve brief consideration here.

Tradition

Each of us inherits a culture made up, in part, of firmly accepted knowledge about the workings of the world. We may learn from others that planting corn in the spring will result in the greatest assistance from the gods, that the circumference of a circle is approximately twenty-two sevenths of its diameter, or that driving on the left side of the road (in the United States) is dangerous. We may test a few of these "truths" on our own, but we simply accept the great majority of them. These are the things that "everybody knows."

Tradition, in this sense, has some clear advantages for human inquiry. By accepting what everybody knows, we are spared the overwhelming task of starting from scratch in our search for regularities and understanding. Knowledge is cumulative, and an inherited body of information and understanding is the jumping-off point for the development of more knowledge.

At the same time, tradition may hinder human inquiry. If we seek a fresh understanding of something everybody already understands and has always understood, we may be marked as fools for our efforts. More to the point, however, it rarely occurs to most of us to seek a different understanding of something we all "know" to be true.

Authority

Despite the power of tradition, new knowledge appears every day. In addition to our own personal inquiries, throughout life we learn about the new discoveries and understandings of others. Our acceptance of this new knowledge often depends on the status of the discoverer. For example, you are more likely to believe a judge who declares that your next traffic violation will result in a suspension of your driver's license than to believe your parents when they say the same thing.

Like tradition, authority can both help and hinder human inquiry. We do well to trust the judgment of individuals who have special training, expertise, and credentials in a matter, especially in the face of contradictory arguments on a given question. At the same time, inquiry can be greatly hindered by the legitimate authorities who err within their own special province. Biologists, after all, do make mistakes in the field of biology, and biological knowledge changes over time. Most of us assume that over-the-counter medications are safe when taken as directed, trusting the authority of drug manufacturers and government agencies. However, in the late nineteenth century, our trust might have led us to buy a bottle of Bayer Heroin, then available as an over-the-counter pain relief medication (Inciardi, 1986). The box titled "Arrest and Domestic Violence" illustrates the difficult problems that can result when criminal justice policy makers accept too quickly the results from criminal justice research. More generally, as Albert Einstein wrote, "Unthinking respect for authority is the enemy of truth" (quoted in Highfield and Carter, 1994: 79).

Inquiry is also hindered when we depend on the authority of experts speaking outside their realm of expertise. For example, consider the political or religious leader, lacking any biochemical expertise, who declares marijuana to be a dangerous drug. The advertising industry plays heavily on this misuse of authority by having popular athletes endorse various consumer products.

Both tradition and authority, then, are double-edged swords in the search for knowledge about the world. Simply put, they provide us with a starting

point for our own inquiry, but they may lead us to start at the wrong point or push us in the wrong direction.

Errors in Personal Human Inquiry

Everyday personal human inquiry reveals a number of potential biases.

Aside from the potential dangers of relying on tradition and authority, we often stumble when we set out to learn for ourselves. Let's consider some of the common errors we make in our own casual inquiries and then look at the ways science provides safeguards against those errors.

Inaccurate Observation

The keystone of inquiry is observation. We can never understand the way things are without first having something to understand. We have to know *what* before we can explain *why*. On the whole, however, people are rather sloppy observers of the flow of events in life. We fail to observe things right in front of us and mistakenly observe things that aren't so. Do you recall, for example, what your instructor was wearing on the first day of this class? If you had to guess now, what are the chances you would be right?

In contrast to casual human inquiry, scientific observation is a carefully directed activity. Simply making observations in a more deliberate way helps to reduce error. If you had gone to the first class meeting with a conscious plan to observe and record what your instructor was wearing, you'd have been more accurate.

In many cases, using both simple and complex measurement devices helps to guard against inaccurate observations. Suppose, for example, that you had taken a photograph of your instructor on the first day. The photo would have added a degree of precision well beyond that provided by unassisted human senses.

Overgeneralization

When we look for patterns among the specific things we observe around us, we often assume that a few similar events are evidence of a general pattern. The tendency to overgeneralize is probably greatest when there is pressure to reach a general understanding, yet overgeneralization also occurs in the absence of pressure. Whenever overgeneralization does occur, it can misdirect or impede inquiry.

Imagine you are a rookie police officer newly assigned to foot patrol in an urban neighborhood. Your sergeant wants to meet with you at the end of your shift to discuss what you think are the major problems on the beat. Eager to earn favor with your supervisor, you talk to the manager of a popular store in a small shopping area. If the manager mentions vandalism as the biggest concern, you might report that vandalism is the main problem on your beat, even though residents and other store managers believe that drug dealing is the main problem and that it contributes to local burglary, car break-ins, and robbery, as well as vandalism. Overgeneralization would lead to misunderstanding and simplification of the problems on your beat.

Criminal justice researchers guard against overgeneralization by committing themselves in advance to a sufficiently large sample of observations and by focusing on how representative those observations are. The **replication** of inquiry provides another safeguard. Replication means repeating a study and checking to see whether similar results are obtained each time. The study may also be repeated under slightly different conditions or in different locations. The box titled "Arrest and Domestic Violence" describes an example of replication and why it can be especially important in applied research. Replication results either support earlier findings or cause us to question the accuracy of an earlier study.

Selective Observation

One danger of overgeneralization is that it may lead to selective observation. Once we have concluded that a particular pattern exists and have

Replication Repeating a research study to test the findings of an earlier study, often under slightly different conditions or for a different group of subjects.

developed a general understanding of why, we will be tempted to pay attention to future events and situations that correspond with the pattern and to ignore those that don't. Racial, ethnic, and other prejudices are reinforced by selective observation.

Researchers often specify in advance the number and kind of observations to be made before marking a conclusion to a particular project. For example, if we wanted to learn whether women were more likely than men to support long prison sentences for sex offenders, we would have to make a specified number of observations on that question. We might select 200 people to be interviewed. Even if the first 10 women supported long sentences and the first 10 men opposed them, we would continue to interview everyone selected for the study and record each observation. We would base our conclusion on an analysis of all the observations, not just those of the first 20 respondents.

Illogical Reasoning

People have various ways of handling observations that contradict their judgments about the way things are. Surely one of the most remarkable creations of the human mind is "the exception that proves the rule," an idea that makes no sense at all. An exception can draw attention to a rule or to a supposed rule, but in no system of logic can it prove the rule it contradicts. Yet we often use this pithy saying to brush away contradictions with a simple stroke of illogic.

What statisticians call the "gambler's fallacy" is another illustration of illogic in day-to-day reasoning. According to this fallacy, a consistent run of either good or bad luck is presumed to foreshadow its opposite. Thus, an evening of bad luck at poker may kindle the belief that a winning hand is just around the corner—a mistaken belief that has kept many a poker player in a game for too long. Conversely, an extended period of good weather may lead us to worry that it is certain to rain on our weekend picnic.

Although we all sometimes use embarrassingly illogical reasoning, scientists avoid this pitfall by using systems of logic consciously and explicitly. Chapters 2 and 4 examine the role of logic in science.

Ideology and Politics

Crime is, of course, an important social problem, and a great deal of controversy surrounds policies for dealing with crime. Many people feel strongly one way or another about the death penalty, gun control, and long prison terms as approaches to reducing crime. There is ongoing concern about racial bias in police practices and sentencing policies. Being tougher on sex offenders seems to be a favorite topic of state legislatures. Ideological or political views on such issues can undermine objectivity in the research process. Criminal justice professionals in particular may have difficulty separating ideology and politics from a more detached, scientific study of crime.

Criminologist Samuel Walker (1994:16) compares ideological bias in criminal justice research to theology: "The basic problem . . . is that faith triumphs over facts. For both liberals and conservatives, certain ideas are unchallenged articles of faith, almost like religious beliefs that remain unshaken by empirical facts."

Most of us have our own beliefs about public policy, including policies for dealing with crime. The danger lies in allowing such beliefs to distort how research problems are defined and how research results are interpreted. The scientific approach to the study of crime and criminal justice policy guards against, but does not prevent, the research process becoming colored by ideology, theology, and blind acceptance of authority. In empirical research, so-called articles of faith are compared with experience.

To Err Is Human

We have seen some of the ways that we can go astray in our attempts to know and understand the world and some of the ways that science protects its inquiries from these pitfalls. Social science differs from our casual, day-to-day inquiry in two important respects.

First, social scientific inquiry is a conscious activity. Although we engage in continuous observation in daily life, much of it is unconscious or semiconscious. In social scientific inquiry, conversely, we make a conscious decision to observe, and we stay alert while we do it.

Second, social scientific inquiry is a more careful process than our casual efforts; we are more wary of making mistakes and take special precautions to avoid doing so.

Do social science research methods offer total protection against the errors that people commit in personal inquiry? Of course not. Not only do individuals make every kind of error we've looked at, but social scientists as a group also succumb to the pitfalls and stay trapped for long periods of time.

Purposes of Research

We conduct criminal justice research to serve different purposes.

Criminal justice research, of course, serves many purposes. Explaining associations between two or more variables is one of those purposes; others include exploration, description, and application. Although a given study can have several purposes, it is useful to examine them individually because each has different implications for other aspects of research design.

Exploration

Much research in criminal justice is conducted to explore a specific problem, known as **exploratory research**. A researcher or official may be interested in some crime or criminal justice policy issue about which little is known. Or perhaps an innovative approach to policing, court management, or corrections has been tried in some jurisdiction, and the researcher wishes to determine how common such practices are in other cities or states. An exploratory project might collect data on some measure to establish a baseline with which future changes will be compared.

For example, heightened concern about bullying might prompt efforts to estimate the level of bullying in high schools. How many reports are made to high school teachers? Do parents complain that their children have been subjected to intimidation at school? Does bullying take different forms when the targets are male or female? Are gay, lesbian, and bisexual students particular targets? Are students suspected of bullying involved in delinquency? Does bullying have an effect on school attendance? These are examples of research questions intended to explore different aspects of the problem of bullying. Exploratory questions may also be formulated in connection with how parents and schools respond to the problem. How many schools have created special anti-bullying education programs? Are services available to victims? The government publication, *Indicators of School Crime and Safety*, offers an overview of information on bullying and other dimensions of school safety, with the following purpose:

> The report is not intended to be an exhaustive compilation of school crime and safety information, nor does it attempt to explore reasons for crime and violence in schools. Rather, it is designed to provide a brief summary of information from an array of data sources and to make data on national school crime and safety accessible to policymakers, educators, parents, and the general public. (Robers, Kemp, Rathburn et al., 2014:2).

Exploratory studies are also appropriate when a policy change is being considered. Stricter enforcement of laws and longer prison sentences were common policy responses to drug abuse for many years, and jails and prisons were soon filled with newly arrested and sentenced drug offenders. This prompted a search for alternatives to incarceration, such as diversion coupled with treatment. One of the first questions public officials typically ask when they consider a new policy is "How have other cities (or states) handled this problem?"

Exploratory research in criminal justice can be simple or complex, using a variety of methods. For example, a mayor seeking to learn about drug arrests in his or her city might simply phone the police chief and request a report. In contrast, estimating how many high school seniors have used marijuana requires more sophisticated survey methods. Since 1975, different federal agencies have conducted annual nationwide surveys of students regarding drug use.

Description

A key purpose of many criminal justice studies is to describe the scope of the crime problem or policy responses to the problem. In **descriptive research**, a researcher or public official observes and then describes what was observed. Criminal justice observation and description, methods grounded in the social sciences, tend to be more accurate than the casual observations people may make about the crime rate or how violent teenagers are today. Descriptive studies are often concerned with counting or documenting observations; exploratory studies focus more on developing a preliminary understanding about a new or unusual problem.

Descriptive studies are frequently conducted in criminal justice. The FBI has compiled the Uniform Crime Report (UCR) since the 1930s. UCR data are routinely reported in newspapers and widely interpreted as accurately describing crime in the United States. For example, 2008 UCR figures (Federal Bureau of Investigation, 2009) showed that Nevada had the highest rate of auto theft (611.6 per 100,000 residents) in the nation, and Maine had the lowest (89.3 per 100,000 residents).

Because criminal justice policy in the United States is largely under the control of state and local governments, many descriptive studies collect and summarize information from local governments. The UCR is one example of this. For an even longer period, since 1850, the federal government has conducted an annual census of prisoners in state and local correctional facilities. Like the decennial U.S. census, it gathers basic characteristics of a population—in this case, the population of people in detention (jail or prison) and on probation or parole.

Descriptive studies in criminal justice have other uses. A researcher may attend meetings of neighborhood anticrime groups and observe their efforts to organize block watch committees. These observations form the basis for a case study that describes the activities of neighborhood anticrime groups. Such a descriptive study might present information that officials and residents of other cities can use to promote such organizations themselves. Or consider research by Heith Copes, Andy Hochstetler, and Michael Cherbonneau (2012), in which they describe how carjackers use different techniques to overcome victim resistance.

Explanation

A third general purpose of criminal justice research is to explain things. Reporting that urban residents have generally favorable attitudes toward police is a descriptive activity, but reporting why some people believe that police are doing a good job while other people do not is an example of **explanatory research**. Similarly, reporting why Nevada has the highest auto theft rate in the nation is explanation; simply reporting auto theft rates for different states is description. A researcher has an explanatory purpose if he or she wishes to know why the number of 14-year-olds involved in gangs has increased, as opposed to simply describing changes in gang membership.

Application

Researchers also conduct criminal justice studies of an applied nature. **Applied research** stems from a need for specific facts and findings with policy implications. Another purpose of criminal justice research, therefore, is its application to public policy. We can distinguish two types of applied research: evaluation and problem analysis.

First, applied research is often used to evaluate the effects of specific criminal justice programs. Determining whether a program designed to reduce burglary actually had that intended effect is an example of evaluation. In its most basic form, evaluation involves comparing the goals of a program with the results. For example, if one goal of increased police foot patrol is to encourage citizens to report crimes to police, then an evaluation of foot patrol might compare levels of reporting before and after increasing the number of those police officers. Jerry Ratcliffe and associates (2011) did something similar in their evaluation of foot patrol in Philadelphia.

In most cases, evaluation research uses social science methods to test the results of some program or policy change. In this regard evaluation has much in common with explanatory research. Because crime problems persist and seem to change frequently, officials are constantly seeking new approaches, and it is becoming more common for public officials or researchers to evaluate new programs.

The second type of applied research is the analysis of general justice policies and more specific problems. What would happen to court backlogs if we designated a judge and prosecutor who would handle only drug-dealing cases? How many new police officers would have to be hired if a department shifted to two-officer cars on night shifts? These are examples of *what if* questions addressed by problem analysis. Answering such questions is sort of a counterpart to program evaluation. Problem analysis is different from other forms of criminal justice research, primarily in its focus on future events. Rather than observing and analyzing current or past behavior, policy analysis tries to anticipate the future consequences of alternative actions.

Similarly, justice organizations are increasingly using techniques of problem analysis to study patterns of cases and devise appropriate responses. Perhaps the best-known example is problem-oriented policing, in which crime analysts work with police and other organizations to examine recurring problems. Ron Clarke and John Eck (2005) have prepared a comprehensive guide for this type of applied research.

Our brief discussion of distinct research purposes is not intended to imply that research purposes are mutually exclusive. Many criminal justice studies have elements of more than one purpose. Suppose you want to examine the problem of bicycle theft at your university. First, you need some information that describes the problem of bicycle theft on campus. Let's assume your evaluation finds that thefts from some campus locations have declined but that there has been an increase in bikes stolen from racks outside dormitories. You might explain these findings by noting that bicycles parked outside dorms tend to be unused for longer periods and that there is more coming and going among bikes parked near classrooms. One option to further reduce thefts would be to install more secure bicycle racks. A policy analysis might compare the costs of installing the racks with the predicted savings resulting from a reduction in bike theft.

Incidentally, the POP Center has published an extremely useful guide on the problem of bicycle theft (Johnson, Sidebottom, and Thorpe, 2008). In addition to its substantive value, this guide is an example of applied research that can be conducted and used by justice professionals. Visit the POP Center website (http://www.popcenter.org) for more information and examples. You may wish to conduct a study of bicycle theft of your own.

How to Design a Research Project

Designing research requires planning several stages, but the stages do not always occur in the same sequence.

We've now seen how casual human inquiry can set us up for making mistakes, and we have summarized basic research purposes. But what if you were to undertake a research project yourself? Where would you start? Then where would you go? How would you begin planning your research? College courses on research methods in criminal justice often require students to design a research project. The rest of this chapter covers the basics of planning research and writing a proposal for doing research.

Every project has a starting point, but it is important to think through later stages even at the beginning. Figure 1.1 presents a schematic view of the social scientific research process. Think of this as a sort of map that provides an overview of the whole process before we launch into the details of particular components of research.

The Research Process

At the top of the diagram in Figure 1.1 are interests, ideas, theories, and new programs—the possible beginning points for a line of research. The letters (*A*, *B*, *X*, *Y*, and so forth) represent concepts such as deterrence or burglary. Thus you might have a general interest in finding out why the threat of punishment deters some, but not all, people from committing crimes, or you might want to investigate how burglars select their targets. Question marks in the diagram indicate that you aren't sure things are the way you suspect they are. We have represented a theory as a complex set of relationships among several concepts (*A*, *B*, *E*, and *F*).

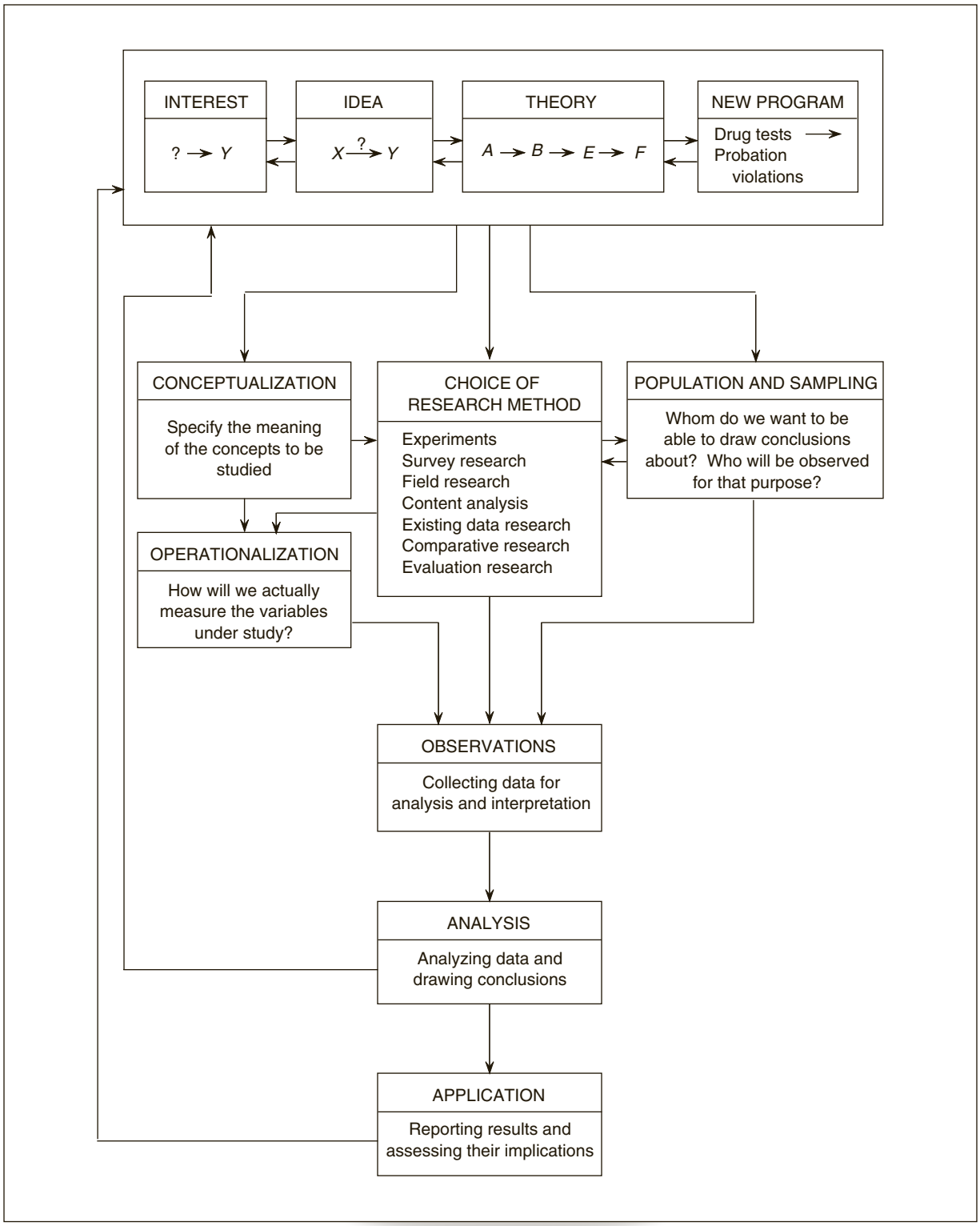

FIGURE 1.1 The Research Process

The research process might also begin with an idea for a new program, shown in the top right of Figure 1.1. Imagine that you are the director of a probation services department and you want to introduce weekly drug tests for people on probation. Because you have taken a course on criminal justice research methods, you decide to design an evaluation of the new program before trying it out. The research process begins with your idea for the new drug-testing program.

Notice the movement back and forth among these several possible beginnings. An initial interest may lead to the formulation of an idea, which may be fit into a larger theory, and the theory may produce new ideas and create new interests. Or your understanding of some theory may encourage you to consider new policies.

To make this discussion more concrete, let's take a specific research example. Suppose you are concerned about the problem of crime on your campus; you have a special interest in learning more about how other students view the issue and what they think should be done about it. Going a step further, let's say you perceive that students are especially concerned about violent crimes such as assault and robbery and that many students feel the university should be doing more to prevent violent crime. The source of this idea might be your own interest after being a student for a couple of years. You might develop the idea while reading about theories of crime in a course you are taking. Perhaps you recently read stories about a crime wave on campus. Or maybe some combination of things makes you want to learn more about campus crime.

Considering the research purposes discussed earlier in this chapter, your research primarily will be exploratory. You probably have descriptive and explanatory interests as well: How much of a problem is violent crime on campus? Are students especially concerned about crime in certain areas? Why are some students more worried about crime than others? What do students think would be effective changes to reduce campus crime problems?

Getting Started

To pursue your interest in student concerns about violent crime, undoubtedly you will want to read something about the issue. You might begin by finding out what research has been done on fear of crime and on the sorts of crime that concern people most. Items posted on a campus website might provide information about violent crimes that occurred recently. It is also likely that you will want to talk to people, such as other students or campus police officers. These activities will prepare you to handle various decisions about research design. As you review the research literature, you should note how other researchers approached the problem and consider whether the same designs will meet your research objective.

What is your objective, by the way? It's important that you are clear about that before you design your study. Do you plan to write a paper based on your research to satisfy a course requirement, or as an honors thesis? Is your purpose to gain information that will support an argument for more police protection or for better lighting on campus? Do you want to write an article for the campus newspaper or blog?

Usually, your objective for undertaking research can be expressed in a report. We recommend that you make an outline of such a report as the first step in the design of any project. You should be clear about the kinds of statements you will want to make when the research is complete. Here are two examples of such statements:

"X percentage of State U students believe that sexual assault is a big problem on campus."

"Female students living off campus are more likely than females living in dorms to feel that emergency phones should be installed near buildings where evening classes are held."

Although your final report may not look much like your initial image of it, outlining the planned report will help you make better decisions about research design.

Conceptualization

We often talk casually about criminal justice concepts such as deterrence, recidivism, crime prevention, community policing, and child abuse—but it's necessary to specify what we mean by these concepts to do research on them. Chapter 5 will examine this process of **conceptualization** in depth. For now, let's see what it might involve in our hypothetical example.

If you are going to study student concerns about violent crime, you must first specify what you mean by *concern about violent crime*. This ambiguous phrase can mean different things to different people. Campus police officers are concerned about violent crime because that is part of their job. Students may have two other kinds of concerns. On the one hand, students might be concerned about crime in much the same way they are concerned about other social problems, such as immigration, health care, and the global economy. They recognize these issues as problems society must deal with, but they don't feel that the issues affect them directly; we could specify this concept as *general concern about violent crime*. On the other hand, students may feel that the threat of violent crime does affect them directly, and they express some fear about becoming a victim; let's call this *fear for personal safety*.

Of course, you need to specify all the concepts you wish to study. If you want to study the possible effect of concern about crime on student behavior, you'll have to decide whether you want to limit your focus to specific precautionary behavior—such as keeping doors locked or to general behavior, such as going to classes, parties, and football games.

Choice of Research Method

A variety of methods are available to the criminal justice researcher. Each method has strengths and weaknesses, and certain concepts are studied more appropriately by some methods than by others.

A survey is the most appropriate method for studying both general concern and fear for personal safety. These are things that people think about, and that usually can't be observed directly. You might interview students or ask them to fill out an online questionnaire. As we'll see in Chapter 9, surveys are especially well suited to the study of individuals' attitudes and opinions. Thus, if you wish to examine whether students who are afraid of crime are more likely to believe that campus lighting should be improved than students who are not afraid, a survey is a good method. Alternatively, you might conduct in-depth interviews with a smaller number of students or with a focus group—topics addressed in Chapter 10.

Other methods described in Part Three may be appropriate. Through content analysis (discussed in Chapter 12), you might examine entries on a campus blog and analyze the writers' recommendations to improve campus safety. Field research (see Chapter 11)—in which you observe whether students tend to avoid dark areas of the campus—will help you understand student behavior in avoiding certain areas of the campus at night. Or you might study official complaints made to police and college administrators about crime problems on campus. As you read Part Three, you'll see how other research methods might be used to study this topic. Often the best study design is one that uses more than one research method, taking advantage of their different strengths.

Operationalization

Having specified the concepts to be studied and chosen the research method, you now must develop specific measurement procedures. **Operationalization**, discussed in Chapter 5, refers to the concrete steps, or operations, used to measure specific concepts.

If you decide to use a survey to study concern about violent crime, your operationalization will take the form of questionnaire items. You might operationalize fear for personal safety with the question "How safe do you feel alone on the campus after dark?" This could be followed by boxes indicating the possible answers "Safe" and "Unsafe." Student attitudes about how to

improve campus safety could be operationalized with the item "Listed below are different actions that might be taken to reduce violent crime on campus. Beside each description, indicate whether you favor or oppose the actions described." This could be followed by several different actions, with "Favor" and "Oppose" boxes beside each.

Population and Sampling

In addition to refining concepts and measurements, decisions must be made about whom or what to study. The population for a study is that group about whom we want to be able to draw conclusions. Groups are usually made up of people, but we may wish to study a group of drug rehabilitation clinics. We are almost never able to study all the members of the population that interests us, so we often sample subjects for study. Chapter 8 describes methods for selecting samples that adequately reflect the population that interests us. Notice in Figure 1.1 that decisions about population and sampling are related to decisions about the research method to be used.

In the study of concern about violent crime, the relevant population is the student population of your college. As you'll discover in Chapter 8, however, selecting a sample requires you to get more specific than that. Will you include part-time as well as full-time students? Students who live on campus, off campus, or both? If your purpose is to study concern about sexual harassment, you might consider limiting your population to female students. If hate crimes are of special interest, you will want to be sure that your study population includes minorities and others who are thought to be particularly targeted by hate crimes.

Observations

Having decided what to study, among whom, and by what method, you are ready to make observations—to collect empirical data. The chapters in Part Three, which describe various research methods, discuss the different observation methods appropriate to each.

For a survey of concern about violent crime, you might prepare an electronic questionnaire and have it completed by a sample selected from the student body. Or you could have a team of interviewers conduct the survey over the telephone. The relative advantages and disadvantages of these and other possibilities are discussed in Chapter 9.

Analysis

We manipulate the collected data for the purpose of drawing conclusions that reflect on the interests, ideas, and theories that initiated the inquiry. Chapter 14 describes a few of the many options available to you in analyzing data. Notice in Figure 1.1 that the results of your analyses feed back into your initial interests, ideas, and theories. In practice, this feedback may initiate another cycle of inquiry. In the study of student concern about violent crime, the analysis phase will have both descriptive and explanatory purposes. You might begin by calculating the percentage of students who feel afraid to use specific parking facilities after dark and the percentage who favor or oppose each of the different things that might be done to improve campus safety. Together, these percentages will provide a good picture of student opinion on the issue.

Moving beyond simple description, you might examine the opinions of different subsets of the student body: men versus women; freshmen, sophomores, juniors, seniors, and graduate students; and students who live in dorms versus off-campus apartments. You might then conduct some explanatory analysis to make the point that students who are enrolled in evening classes are most in favor of improved campus lighting.

Application

The final stage of the research process involves using the research you've conducted and the conclusions you've reached. To start, you will probably want to communicate your findings so that others will know what you've learned. You will usually prepare some kind of written report. Perhaps you will make oral presentations in class or at a professional meeting. Or, you might create a Web page that presents your results. Other students will be interested in hearing what you have learned regarding their concerns about violent crime on campus.

Your study might also be used to actually do something about campus safety. If you find that a large proportion of students you interviewed believe that a parking lot near the library is poorly lighted, university administrators could add more lights, or campus police might patrol the area more frequently. Crime prevention programs might be launched in dormitories if residents are more afraid of violent crime than students who live in other types of housing. Students in a Rutgers University class on crime prevention focused on car thefts and break-ins surrounding the campus in Newark, New Jersey. Their semester project presented specific recommendations on how university and city officials could reduce the problem.

Thinking About Research Problems

One of the most important, yet surprisingly difficult, parts of the research process is specifying and framing your interest in a particular problem or question.

What are you interested in understanding? Surely you have several questions about crime and possible policy responses. Why do some juvenile gangs sell drugs, while others steal cars? Why do particular neighborhoods near campus seem to have higher rates of burglary? How often are guns found in stop-and-frisk operations? Do sentencing policies discriminate against minorities? Do cities with gun control laws have lower murder rates? Is burglary more common in single-family homes or in apartment buildings? Are sentences for rape more severe in some states than in others? Are mandatory jail sentences more effective than license suspension in reducing repeat drunk-driving offenses? Think for a while about the kinds of questions that interest and concern you.

To give you ideas about the many possible subjects for research, here are topics of papers written by students in a class Maxfield taught at John Jay College in fall 2010:

- Risk assessment in juvenile parole hearings
- The effect of religion and culture on attitudes about suicide
- Determining the extent to which arrest frequency is associated with substance addiction and mental illness
- Links between domestic violence and indirect spouse abuse after separation
- An exploratory study of pimps in Atlantic City, New Jersey
- An experimental study of attitudes toward sex offenders in Spain
- Whether sexual abuse by Catholic priests is a product of sexual preference or situational factors
- Community disorganization and crime on Native American lands

In most cases, researchers find themselves reworking or clarifying research problems as they learn more about a topic. That was the case for students in Maxfield's class. Amber Horning, the student studying pimps, was surprised to learn that only a minority of prostitutes in Atlantic City had anything like the classic worker/manager relationship with a pimp. That led to reframing the research to begin by classifying the different ways prostitutes worked with pimps and others playing pimp-like roles. (By the way, Amber Horning is the author of Chapter 10 on qualitative interviewing in this text.)

In most cases, you're advised to begin with your own interests and experiences, and then learn more about what research has been done. For example, a student with considerable experience in correctional settings examined the third topic listed earlier. She began with her observation that people arrested frequently for minor offenses often seem driven more by substance abuse and mental health problems than any overt criminal intent. The student then conducted research to learn more about existing research on jail populations, and she revised her topic as she read more of the research literature.

Students sometimes have difficulty narrowing interests to researchable questions. We are all concerned about crime and justice problems to some degree, but our casual interests can be misleading. Reading research about crime and justice problems is a good way to get ideas about research topics and to see how social science addresses problems that are treated more casually in popular literature. The box "Getting Ideas About Research Topics" offers more advice in this regard.

GETTING IDEAS ABOUT RESEARCH TOPICS

Many people will have some idea what sort of research questions they're interested in, no matter how general the idea may be. Even so, it can be difficult for beginning researchers to get started. Here are some tips for finding and fleshing out preliminary ideas about research topics.

DO AN INTERNET SEARCH, BUT USE SPECIALIZED TOOLS

For example, type the following phrase into a Google search panel: "sex offender residency restrictions." In April 2013, this entry produced an estimated 203,000 results that included mass media stories, links to legislation, and many other types of sites. Now, type the same phrase into a Google Scholar search panel (go to http://scholar.google.com). In April 2013, this search yielded about 238 results of scholarly books and articles on the topic. Reading examples of these results, or mass media stories for that matter, will give you ideas about how to begin research on sex offender residency restrictions.

REPLICATE AN EXISTING STUDY

Jacqueline Berenson and Paul Appelbaum (2010) examined where sex offenders lived in two New York counties. They were interested in laws that required sex offenders to live a minimum distance from places like schools and other public facilities, as well as the effects that such laws have on housing choices for sex offenders. Two findings were noteworthy. First, 73 to 97 percent of existing housing units in the two counties were off-limits to sex offenders because they were too close to specified facilities. Second, and as a consequence of the first finding, most sex offenders living in the two counties were in violation of the restrictions. What about in your city or county?

Because data on where sex offenders live are widely available, you could conduct a similar kind of study in a different place.

FOLLOW UP ON RECOMMENDATIONS FOR FURTHER RESEARCH

Many research articles and books conclude by describing how subsequent research can add to knowledge. So if you find an article interesting, you might get an idea from the authors' suggestions for further research. For example, Norman White and Rolf Loeber (2008) examined links between bullying in school, placement in special education programs, and later involvement in serious delinquency. They found that later delinquency often followed bullying, regardless of placement in special education programs. Their research was based on interviews over a period of years with students in Pittsburgh, Pennsylvania, schools. Near the end of their article, they recommend that future research use systematic observations of behavior in different types of school activity (White and Loeber, 2008:393). If you are interested in the problem of bullying or violence in middle schools, reading articles that report research on the topic could give you ideas about designing your own study.

ASK YOUR PROFESSOR

If one of the requirements for your research methods course is to write a research proposal or actually do some research, you should find out what topics are of special interest to your instructor. This does not mean you should engage in idle flattery. Instead, think of your instructor as both an expert and a professional scholar, someone who is probably doing research for a book, scholarly article, or dissertation. Your professor is an expert in what research might need to be done in a particular area. So don't hesitate to ask for ideas. Be sure to use focused questions, such as "What sorts of topics are you interested in?" That's better than asking something like "Can you give me some ideas? I don't know where to begin."

Reviewing the Literature

Researchers begin a research project with a review of the literature.

Research should be seen as an extension of what has been learned previously about a particular topic. A review of the literature will tell you what's already known and not known. In most cases, you should organize your search of the literature around the key concepts you wish to study. Alternatively, you may want to study a certain population: corrections officers, sex offenders, drug counselors, computer hackers, and so forth. In any case, you'll identify a set of terms that represent your core interests.

With the expansion of information and search tools on the Internet, conducting a literature review has become simultaneously easier and more challenging. It's easier in the sense that much information can be accessed through the Internet without having to visit brick-and-mortar libraries. Most colleges and universities now have online access to academic journals. Reports by government agencies and private organizations are readily available to anyone with online access.

Reviewing what others have found about a problem has become more difficult largely for the same reason—it's easy to access a seemingly endless supply of documents. This has produced a related problem of how to sort through all the information, separating research findings from the demented ramblings of ideologues and everything in between. After providing guidelines on how to find relevant literature, we'll suggest some cautionary strategies.

General Strategies

Doing a literature review is basically a process of accumulating, sorting through, and synthesizing information. We do this every day in different, usually informal ways. Doing a literature review for research is more systematic and deliberate, much like the research process itself. It's best to keep notes of articles, books, websites, or other resources as you review them. Also keep in mind that research literature accumulates; research studies usually build on previous studies, as we noted in the box "Getting Ideas About Research Topics."

Getting Started Start with a book or article that deals with your topic and expand from there. We'll call this your source document. Expanding can mean going backward (consulting readings cited in your source document), or forward, in which you find later research that is based on your source document. For example, if you're interested in terrorism, you might read the book *Outsmarting the Terrorists* by Ronald Clarke and Graeme Newman (2006). In conducting your literature review, you would read selected references shown in the book's bibliography.

But you would also be interested in later research that expands on what Clarke and Newman wrote in 2006. One of the best ways to do this is to use the website Google Scholar (http://scholar.google.com). Type "clarke newman outsmarting" in the search box, and one of the first references that pops up should be their book. In March 2016, this search showed that 221 subsequent publications have cited the book. Clicking on "cited by 221" produces a list of these publications, together with links to further information about the books or journals that cite Clarke and Newman. For example, in 2015 Joshua Freilich and associates examined how various criminological theories of crime were useful in understanding terrorist attacks. Their research built on the early book by Clarke and Newman. This is an example of how you can find out about more current research that's been published since your source document.

Being Selective Sources like Google Scholar offer a built-in quality control by limiting your search to academic journals and related publications. However, you may want to find other types of materials, such as government reports or studies published by other types of organizations. Ronald Clarke and Phyllis Schultze (2005:24) offer a useful warning and guidelines:

> Unlike scholarly books and journal articles, websites are seldom reviewed or refereed. You need to be critical of the information you use when it comes to the Web, because anyone can make a website that looks expert. In general, rely more heavily on those sites sponsored by colleges and universities, government agencies, and professional organizations.

Some college or university libraries provide more detailed suggestions on how to evaluate information you discover in your research. For example, the Meriam Library at California State University Chico (2010) describes evaluation criteria referred to as the "CRAAP Test":

Currency: Information timeliness.
Relevance: Does the information apply to your specific topic?
Authority: The source of the information.
Accuracy: Is the information based on fact or opinion?
Purpose: Why does the information exist? Why is it presented?

Using a Library Although it is no longer necessary to visit a physical library to access many published research materials, libraries and librarians remain critical resources for research. Librarians can help you develop strategies for searching the literature and evaluating the different sources you find. Ronald Clarke and Phyllis Schultze (2005) offer excellent advice on how to use different types of libraries. For research on crime and justice, the Don M. Gottfredson Library of Criminal Justice at Rutgers University, under the direction of Phyllis Schultze, is the best single library resource available anywhere, with unmatched physical and online resources. Visit the library through the World Criminal Justice Library Electronic Network (http://andromeda.rutgers.edu/~wcjlen/WCJ/).

How to Read Scholarly Research

You don't read a social research report the way you'd read a novel. You can, of course, but it's not the most effective approach. Journal articles and books are laid out somewhat differently, so here are some initial guidelines for reading each.

Reading a Journal Article In most journals, each article begins with an abstract. Read it first. It should tell you the purpose of the research, the methods used, and the major findings. The abstract serves two major functions. First, it gives you a good idea as to whether you'll want to read the rest of the article. If you're reviewing the literature for a paper you're writing, the abstract tells you whether that particular article is relevant. Second, the abstract establishes a framework within which to read the rest of the article. It may raise questions in your mind regarding method or conclusions, thereby creating an agenda to pursue in your reading. Several journals in criminal justice now present abstracts in a standard format that makes it easier to learn about each published article. Abstracts are presented under four headings: *Objectives, Methods, Results, and Conclusions*.

After you've read the abstract, you might go directly to the summary and/or conclusions at the end of the article. That will give you a more detailed picture of what the article is all about. Jot down any new questions or observations that occur to you.

Next, skim the article, noting the section headings and any tables or graphs. You don't need to study any of these items in your skimming, although it's fine to review anything that catches your attention. By the end of this step, you should start feeling familiar with the article. You should be pretty clear on the researcher's conclusions and have a general idea of the methods used in reaching them.

If you decide to read the entire article carefully, you'll have a good idea of where it's heading and how each section fits into the logic of the whole. Keep taking notes. Mark any passages you think you might like to quote later on. After reading the article thoroughly, it's a good idea to skim it quickly one more time. This way, you get back in touch with the forest after having focused on the trees.

If you want to fully grasp what you've just read, find someone else to explain it to. If you're doing the reading in connection with a course, you should have no trouble finding someone willing to listen. However, if you can explain it coherently to someone who has no prior contact with the subject matter, you'll know you have an absolute lock on the material.

Reading a Book-Length Report The approach for articles can be adapted to reading a book-length report, sometimes also called a research monograph. These longer research reports cover the same basic terrain and use roughly the same structure. Instead of an abstract, the preface and opening chapter of the book lay out the purpose,

method, and main findings of the study. The preface is usually written more informally, and so may be easier to understand than an abstract.

As with an article, it's useful to skim through the book, getting a sense of its organization, its use of tables and graphs, and its main findings. You should come away from this step feeling somewhat familiar with the book. Take notes as you go along, writing down things you observe and questions that are raised.

As you settle in to read the book more carefully, you should repeat this same process with each chapter. Read the opening paragraphs to get a sense of what's to come, and then skip to the concluding paragraphs for the summary. Skim the chapter to increase your familiarity with it, and then read more deliberately, taking notes as you go.

It's sometimes okay to skip portions of a scholarly book, but this depends on your purpose in reading it in the first place. Perhaps only a few portions of the book are relevant to your research. However, if you're interested in the researcher's findings, you must pay some attention to the methods used (e.g., who was studied? How? When?) in order to judge the quality of the author's conclusions.

The Research Proposal

Research proposals describe planned activities, and include a budget and time line.

If you undertake a research project—an assignment for this course, perhaps, or a study funded by your university or a research foundation—you probably will have to provide a research proposal describing what you intend to accomplish and how. We now offer advice on how you might prepare such a proposal. As we do this, think of the research proposal as another way to get an overview of the research process.

Elements of a Research Proposal

Some funding agencies have specific requirements for a proposal's elements, structure, or both. For example, in its research solicitation announcement for graduate research fellowships, the National Institute of Justice (NIJ) describes what should be included in research proposals regardless of topic (http://www.nij.gov/nij/funding/fellowships/graduate-research-fellowship/faqs.htm). Your instructor may have certain requirements for preparing a research proposal in this course. Here are some basic elements that should be included in almost any research proposal.

Problem or Objective What exactly do you want to study? Why is it worth studying? Does the proposed study contribute to our general understanding of crime or policy responses to crime? Does it have practical significance? If your proposal describes an evaluation study, then the problem, objective, or research questions may already be specified for you. For example, in its request for research on research and evaluation in connection with changes in policing, the NIJ asked that proposals address specific topics described in a report on policing in the twenty-first century. One set of questions centered on training and education in police use of force (National Institute of Justice, 2016:10).

Literature Review As we described in the previous section, research begins by reviewing what others have said about your topic.

Research Questions What specific questions will your research try to answer? Given what others have found, as stated in your literature review, what new information do you expect to find? It's useful to view research questions as a more specific version of the problem or objective described earlier. Then, of course, your specific questions should be framed in the context of other research findings.

Subjects for Study Whom or what will you study in order to collect data? Identify the subjects in general terms, and then specifically identify who (or what) is available for study and how you will reach them. Is it appropriate to select a sample? If so, how will you do that? If there is any possibility that your research will have an impact on those you study? If so, how will you ensure that they are not harmed by the research? Finally, if you will be interacting directly with human subjects, you will probably have to include a consent form, as we describe in Chapter 3.

PUTTING IT ALL TOGETHER

"Driving While Black"

INTRODUCTION

Racial profiling of drivers on the nation's streets and highways became a prominent issue in the late 1990s. Concern was fueled by compelling stories of minority motorists stopped by police for minor traffic violations, then subjected to aggressive questioning, searches, and even arrest. One of the most highly publicized examples involved:

> . . . Robert Wilkins, a Harvard Law School graduate and a public defender in Washington, D.C., who went to a family funeral in Ohio in May 1992. On the return trip, he and his aunt, uncle, and 29-year-old cousin rented a Cadillac for the trip home. His cousin was stopped for speeding in western Maryland while driving 60 miles per hour in a 55-mile-per-hour zone of the interstate. The group was forced to stand on the side of the interstate in the rain for an extended period while officers and drug-sniffing dogs searched their car. Nothing was found. Wilkins, represented by the ACLU, filed suit and received a settlement from the state of Maryland. (Ramirez, McDevitt, and Farrell, 2000:6)

What came to be known as "driving while black" generated a number of lawsuits and eventually legislation at the state and federal level.

The underlying question was whether police traffic stops targeted African American and other minority drivers in a discriminatory way. Because the U.S. Constitution prohibits law enforcement officers from discriminatory behavior based on race, allegations of racial profiling generated a number of legal challenges and court cases.

By their nature, lawsuits revolve around individual cases, such as that of Robert Wilkins, and whether evidence of discrimination was present in Wilkins's encounter with the Maryland State Police. In this sense, court cases tend to seek idiographic explanations of what happened in an individual case. Eventually, however, social scientists became involved in trying to assess the scope of racial profiling and what sorts of things might be associated with the practice. And social scientists focused more on nomothetic explanations of what kinds of things accounted for more general patterns of police actions in traffic stops.

Racial profiling also offers examples of different types of errors in traditional human inquiry. You might recognize the role overgeneralization plays in most forms of prejudice. Selective observation is another example. If police believe minorities are more often involved in drug or weapons smuggling, they will selectively stop cars driven by minorities. Assuming the extreme case where police stop only minorities, they will only be able to detect possible weapons or

Measurement What are the key variables in your study? How will you define and measure them? Do your definitions and measurement methods duplicate (that's okay, incidentally) or differ from those of previous research on this topic?

Data Collection Methods How will you collect the data for your study? Will you observe behavior directly or conduct a survey? Will you undertake field research, or will you focus on the reanalysis of data already collected by others? Criminal justice research often includes more than one such method.

Analysis Briefly describe the kind of analysis you plan to conduct. Spell out the purpose and logic of your analysis. Are you interested in precise description? Do you intend to explain why things are the way they are? Will you analyze the impact of a new program? What possible explanatory variables will your analysis consider, and how will you know whether you've explained the program impact adequately?

References Be sure to include a list of all materials you consulted and cited in your proposal.

drug offenses among minority motorists. In that case, race profiling might become a self-fulfilling prophecy.

This box is the first of a running example that appears throughout the book. We examine racial profiling for several reasons. First, it was a highly publicized issue that promoted policy action and research throughout the United States. Second, for most people, a traffic stop is their most common experience of coming under suspicion of police. A much larger proportion of people have a contact with police through a traffic stop than a criminal arrest. Further, in the words of David Harris (1999), "almost any black person any place in the country" could describe a personal experience of what was believed to be a discriminatory traffic stop. Third, police and other public officials challenged accusations of discrimination, claiming any disproportionate traffic stops of black motorists reflected different rates of traffic violations. This raised questions about how to determine whether individual traffic stops or patterns of traffic stops were based on the race of drivers or on something else. In this way, measuring patterns of traffic stops and the reasons underlying those patterns became an important research topic.

Finally, researchers at New Jersey's Rutgers University conducted their own research on race profiling in New Jersey, a state that came to symbolize race profiling for many people. Maxfield collaborated with colleagues George Kelling and Carsten Andresen to conduct research on the New Jersey State Police (Maxfield and Andresen, 2002; Maxfield and Kelling, 2005). And Carsten Andresen completed his own dissertation research on this topic (Andresen, 2005). Thus, the running example reflects some direct experiences in the messy realities of criminal justice research, realities that are not usually depicted in published studies.

HOW DO WE KNOW?

Let's consider what we have covered so far and examine how these general issues in research are reflected in the questions about racial profiling on the nation's highways.

- What percentage of cars stopped have minority drivers (descriptive)? What affects police decisions to stop particular vehicles (explanatory)? What changes should be made in police practices regarding traffic stops (applied)?
- How do we come to believe that discriminatory practices underlie patterns of police traffic stops? What evidence supports that belief? And what evidence supports claims that police actions are not affected by race or ethnicity?
- In addition to those mentioned above, what errors of traditional human inquiry might be involved? What about ideology and politics?
- Are particular theories available to guide our inquiry?
- Quite a lot of research has been conducted on municipal policing and police actions with respect to crime, but state police and traffic enforcement have hardly been studied at all. Can findings from other police actions help understand traffic enforcement?

How might the problem of racial profiling illustrate other topics described in this chapter?

Formats for citations vary. Your instructor may specify certain formats or refer you to specific style manuals for guidelines on how to cite books, articles, and web-based resources.

Schedule It is often appropriate to provide a schedule for the various stages of research. Even if you don't do this for the proposal, do it for yourself. If you don't have a time line for accomplishing the stages of research and keeping track of how you're doing, you may end up in trouble.

Budget If you are asking someone to give you money to pay the costs of your research, you will need to provide a budget that specifies where the money will go. Large, expensive projects include budgetary categories such as personnel, equipment, supplies, and expenses (such as travel and copying). Even for a more modest project you will pay for yourself, it's a good idea to spend some time anticipating any expenses involved: office supplies, photocopying, transportation, and so on.

As you can see, if you are interested in conducting a criminal justice research project, it is a good idea to prepare a research proposal for your own purposes—even if you aren't required to do so by your instructor or a funding agency. If you are going to invest your time and energy in such a project, you should do as much planning as you can to ensure a return on that investment.

Knowing Through Experience: Summing Up and Looking Ahead

Empirical research involves measurement and interpretation.

This chapter introduced the foundation of criminal justice research: empirical research, or learning through experience. Doing scientific research in criminal justice is different from the ordinary ways we learn about things, because ordinary modes of inquiry have some built-in limits. The coming chapters describe how science tries to avoid such limits and biases.

We also considered the different purposes we may have in mind for conducting criminal justice research, ranging from exploration to examining links between policy action and justice problems.

Our advice on how to design a research project will be useful in two respects. First, consider it an annotated outline of what a typical research report would include. In that capacity, this can be useful if you are going to prepare a research report or proposal for this course. Second, Figure 1.1 and our discussion of how to design a research project offer an introduction and overview to later chapters.

The box "Putting It All Together: Driving While Black" presents the first installment of an example of criminal justice research we will consider throughout the book. This running example will illustrate some features of topics discussed in each chapter, drawing largely on research completed by Michael Maxfield and former colleagues at Rutgers University. In this chapter's example, we introduce the topic and compare how researchers approach it to how it has been presented in courts and the media generally.

Finally, much of criminal justice research centers on two basic activities: measurement and interpretation. Researchers measure aspects of reality and then interpret the meaning of what they have measured. All of us are observing all the time, but measurement refers to something more deliberate and rigorous than ordinary human inquiry. Parts Two and Three of this book describe ways of structuring observations to produce more deliberate, rigorous measures.

The other key to criminal justice research is interpretation. Much of interpretation is based on data analysis, which is introduced in Part Four. More generally, however, interpretation very much depends on how observations are structured, a point we will encounter repeatedly.

As we put the pieces together—measurement and interpretation—we are in a position to describe, explain, or predict something. And that is what social science is all about.

SUMMARY

- Knowledge of research methods is valuable to criminal justice professionals as consumers and producers of research.
- The study of research methods is the study of how we know what we know.
- Inquiry is a natural human activity for gaining an understanding of the world around us.
- Much of our knowledge is based on agreement rather than on direct experience.
- Tradition and authority are important sources of knowledge.
- Empirical research is based on experience and produces knowledge through systematic observation.
- Scientists avoid illogical reasoning by being as careful and deliberate in their thinking as they are in their observations.
- The scientific study of crime guards against, but does not prevent, ideological and political beliefs from influencing research findings.
- Different research purposes are exploratory, descriptive, explanatory, and applied.
- The research process is flexible, involving different steps that are best considered together. The process usually begins with some general interest or idea.
- A careful review of previous literature is an essential part of the research process.
- A research proposal provides an overview of why a study will be undertaken and how it will be conducted. It is a useful device for planning and is required in some circumstances.

KEY TERMS

Key terms are introduced in each chapter and are defined in the book's glossary.

Applied research *(p. 13)*
Conceptualization *(p. 17)*
Descriptive research *(p. 13)*
Empirical *(p. 7)*
Explanatory research *(p. 13)*
Exploratory research *(p. 12)*
Methodology *(p. 7)*
Operationalization *(p. 17)*
Replication *(p. 10)*

REVIEW QUESTIONS AND EXERCISES

1. Review the common errors of personal inquiry discussed in this chapter. Searching the Internet or a newspaper, find an article about crime that illustrates one or more of those errors. Discuss how a social scientist would avoid making that error.
2. Briefly discuss examples of descriptive research and explanatory research about crime rates in a large city near your college or university.
3. Often, things we think are true and supported by considerable experience and evidence turn out not to be true, or at least not true with the certainty we expected. Criminal justice seems especially vulnerable to this phenomenon, perhaps because crime and criminal justice policy are so often the subjects of mass and popular media attention. If news stories, movies, and television shows all point to growing gang or drug-related violence, it is easy to assume that these are real problems identified by systematic study. Choose a criminal justice topic or claim that's currently prominent in news stories or entertainment. Using Google Scholar or some other bibliographic tool, search the Internet for two research studies that examine the topic in systematic ways we described in this chapter. Briefly summarize the studies' findings.

CHAPTER 2

Foundations of Criminal Justice Research

We'll see what distinguishes scientific theory from everyday reasoning and how the social scientific approach to criminal justice research is linked to theory. We'll also lay a foundation for understanding the research techniques discussed throughout the rest of the book.

Learning Objectives

1. Summarize the three fundamental features of social science: theory, data collection, and data analysis.
2. Describe why social scientists are interested in explaining aggregates, not individuals.
3. Understand that social scientists are primarily interested in discovering relationships that connect variables.
4. Understand the difference between idiosyncratic and nomothetic explanations.
5. Distinguish between inductive and deductive forms of reasoning.
6. Distinguish between quantitative and qualitative approaches to research.
7. Recognize that intersubjective agreement, not objectivity, is a fundamental norm of science.
8. Describe the traditional image of social science theory.
9. Understand how scientific inquiry alternates between induction and deduction.
10. Describe how observations contribute to theory development in grounded theory.
11. Discuss how criminological theories draw on other social sciences, and sometimes on the natural sciences.
12. Describe how theory and public policy can be closely linked.

Theory and Serial Sex Offenders

Criminologists Eric Beauregard, D. Kim Rossmo, and Jean Proulx (2007) studied 69 incarcerated serial sex offenders in Canada. The research had two objectives. First, the researchers developed a descriptive model of how sex offenders "hunted" for victims. Drawing on lengthy interviews with subjects, they systematically classified the different search methods and places where offenders looked for victims. Rational choice and routine activity theories of crime helped Beauregard and colleagues classify sex offender actions into summary categories for their descriptive model:

Victim Search Methods

- Offender's routine activities
- Victim's routine activities
- Choice of a hunting field
- Victim selection preferences

Offender Attack Methods

- Attack location choice
- Method to bring victim to crime location
- Crime location choice

The second objective was to see if this descriptive model was potentially useful in *profiling* serial sex offenders. If the researchers could identify patterns of behavior based on what they learned from convicted sex offenders, then it might be possible to profile the actions of active offenders at large. Profiling is a form of prediction based on observed regularities. Results showed clear patterns and sequences of offense stages. Sex offenders' behavior was limited to certain situations where they encountered victims. For example, 57 percent of offenders chose public areas such as parks or shopping malls as their "hunting field"—where they searched for possible victims. In this regard, these serial sex offenders were quite different than sex offenders generally, who tend to limit their search to family members and acquaintances (Leclerc, Wortley, and Smallbone, 2011).

This example illustrates three ways in which theory is involved in criminal justice research. First, Beauregard and associates drew on existing theories to frame their analysis of serial sex offender behavior. We will see further examples of this *deductive* use of theory. Second, findings from the preliminary model

"also make a contribution to the theoretical assumptions regarding offender profiling" (Beauregard, Rossmo, and Proulx, 2007:461). This is *inductive* theory building, pulling together research findings to make more general statements and predictions. Third, criminal justice theory and policy have much in common. Each depends on general explanations and patterns of behavior.

Also notice how this example examines aggregates of sex offenders, not individuals. Finally, the researchers are interested in relationships between types of places and sex offender behavior.

Introduction

Criminal justice in particular, and human behavior in general, can be studied scientifically.

The evolution of social science has brought a greater emphasis on systematic explanation and a reduced emphasis on description. For example, political scientists now focus on explaining political behavior rather than describing political institutions. The growth of such subfields as econometrics has had this effect in economics, as has historiography in history. Criminal justice and criminology have followed this same trend. Research on the causes of crime and the effects of criminal justice policy has supplanted an earlier emphasis on describing strategies for police investigation or corrections management.

This book is grounded in the position that human behavior can be subjected to scientific study as legitimately as can the physicist's atoms or the biologist's cells. The study of crime and criminal justice concentrates on particular types of human behavior, and so is no less amenable to scientific methods. Our attention now turns to the overall logic of social scientific inquiry in criminology and criminal justice. That logic is fundamentally rooted in the use of theory to guide inquiry.

At the same time, criminal justice research often examines questions that cannot easily be reduced to scientific measures. Sometimes researchers are more interested in gaining a detailed understanding about a particular individual or small number of people. (e.g., Amber Horning's research on pimps sought to learn more about the range of their roles in linking sex workers and consumers; see Chapter 10). Addressing such questions requires approaches to gathering information that differ from those used by natural scientists.

Foundations of Social Science

Social scientific inquiry generates knowledge through logic and observation.

Science is sometimes characterized as "logico-empirical." This ungainly term carries an important message: The two pillars of science are (1) logic or rationality and (2) observation. A scientific understanding of the world must make sense and must agree with what we observe. Both of these elements are essential to social science and relate to three key aspects of the overall scientific enterprise: *theory, data collection,* and *data analysis*.

As a broad generalization, scientific theory deals with the logical aspect of science, data collection deals with the observational aspect, and data analysis looks for patterns in what is observed. This book focuses mainly on issues related to data collection—demonstrating how to conduct empirical research—but social science involves all three elements. Later in this chapter, we consider the theoretical context of designing and executing research. Chapter 14 presents a conceptual introduction to the statistical analysis of data.

Let's turn now to some of the fundamental issues that distinguish social science from other ways of looking at social phenomena.

Theory, Not Philosophy or Belief

Social scientific theory has to do with what is, not what should be. This means that scientific theory—and, more broadly, science itself—cannot settle debates on value or worth. Social science cannot determine, for example, whether prosecutors who are elected (as in most states) are "better" than prosecutors who are appointed by a state official (as in New Jersey) except in terms of some agreed-on criteria. We could determine

scientifically whether elected or appointed prosecutors are more respected by the citizens they serve. But we could do that only if we agreed on some measures of citizen respect, and our conclusion would depend totally on those measures.

By the same token, if we agree that, say, conviction rate or average sentence length is a good measure of a prosecutor's quality, then we will be in a position to determine scientifically whether a prosecutor in one city is better or worse than a prosecutor in another city. Again, however, our conclusion will be inextricably tied to the agreed-on criteria. As a practical matter, however, people are seldom able to agree on criteria for determining issues of value, so science is seldom of any use in settling such debates.

As an example, consider the dilemma of how to identify a good parole officer. On the one hand, a parole officer whose clients are rarely cited for violations and returned to prison might be considered a good officer. However, parole officers might attain low violation rates by ignoring misbehavior among clients they are supposed to supervise—in effect, by not supervising them at all. Therefore, we might view a parole officer who frequently cites parolees for violations as being especially attentive to his or her job. We might also consider other factors. Someone who routinely cites parolees for trivial rule infractions would not necessarily be considered a good officer, especially if such actions swell already crowded prison populations. In a study of parole and community supervision of offenders, the National Research Council (2007) considered this question in examining the purposes of parole.

Thus, social science can assist us in knowing only what is and why. It can be used to address the question of what ought to be only when people agree on the criteria for deciding what makes one thing better than another. But this agreement seldom occurs. With that understanding, let's turn now to some of the fundamentals that social scientists use to develop theories about what is and why.

Regularities

Ultimately, social science aims to find patterns of regularity in social life. This assumes, of course, that life is regular and not chaotic or random. That assumption applies to all science, but it is sometimes a barrier for people when they first approach social science.

Certainly, at first glance, the subject matter of the physical sciences appears to be more regular than that of the social sciences. A heavy object, after all, falls to Earth every time we drop it. In contrast, a judge may sentence one person to prison and give another probation, even though both are convicted of the same offense. Driving 10 miles per hour over the speed limit will produce a speeding ticket in Ohio, but not in New Jersey.

A vast number of norms and rules in society create regularity. For example, only persons who have reached a certain age may obtain a driver's license. Only lawyers are considered for positions on the U.S. Supreme Court. Informal and formal prescriptions, then, regulate or regularize social behavior.

In addition to regularities produced by norms and rules, social science deals with other types of regularities based on observation. For example, teenagers commit more crimes than middle-aged people. When males commit murder, they usually kill another male, but female murderers more often kill a male. On average, white urban residents view police more favorably than nonwhites do. Judges receive higher salaries than police officers. And probation officers have more empathy for the people they supervise than prison guards do.

What About Exceptions?

The objection that there are always exceptions to any social regularity does not mean that the regularity itself is unimportant. A police officer in a large city might earn more than a judge in a small town, but overall, judges earn more than police officers. The pattern still exists. Social regularities represent *probabilistic* patterns, and a general pattern does not have to be reflected in 100 percent of the observable cases to be a pattern.

This rule applies in the physical as well as the social sciences. In genetics, for example, the mating of a blue-eyed person with a brown-eyed person will *probably* result in a brown-eyed offspring. The birth of a blue-eyed child does not challenge the observed regularity, however. Rather, the geneticist states only that a brown-eyed offspring is *more likely* and, furthermore,

that a brown-eyed offspring will be born in only a certain percentage of cases. The social scientist makes a similar, probabilistic prediction: Women overall are less likely to murder anybody, but when they do, their victims are most often males.

Aggregates, Not Individuals

Social scientists primarily study social, rather than individual, patterns. All regular patterns reflect the aggregate or combined actions and situations of many individuals. Although social scientists study motivations that affect individuals, **aggregates** are more often the subject of social science research.

A focus on aggregate patterns rather than on individuals distinguishes the activities of criminal justice researchers from the daily routines of most criminal justice practitioners. Consider, for example, the task of processing and classifying individuals newly admitted to a correctional facility. Prison staff administer psychological tests and review the prior record of each new inmate to determine security risks, program needs, and job options. A researcher studying whether white inmates tend to be assigned to more desirable jobs than nonwhite inmates would be more interested in patterns of job assignment. The focus would be on *aggregates* of white and nonwhite persons, rather than the assignment for any particular individual.

Social scientific theories typically deal with aggregate, not individual, behavior. Their purpose is to explain why aggregate patterns of behavior are so regular even when the individuals who perform them change over time. In another important sense, social science doesn't even seek to explain people. Rather, it seeks to understand the systems within which people operate—the systems that explain why people do what they do. The elements in such systems are not people, but variables.

A Variable Language

Our natural attempts at understanding usually take place at the concrete, idiosyncratic level. That's just the way we think. Suppose someone says to you, "Women are too soft-hearted and weak to be police officers." You are likely to "hear" that comment in terms of what you know about the speaker. If it's your old Uncle Albert, who, you recall, is also strongly opposed to daylight savings time, cell phones, and indoor plumbing, you are likely to think his latest pronouncement simply fits into his dated views about things in general. If, however, the statement comes from a candidate for sheriff who is trailing a female challenger, and who has begun making other statements about women being unfit for public office, you may "hear" his latest comment in the context of this political challenge.

In both of these examples, we try to understand the thoughts of a particular, concrete individual. In social science, however, we go beyond that level of understanding to seek insights into classes or types of individuals. In the two preceding examples, we might use terms like *old-fashioned* or *bigoted* to describe the person who made the comment. In other words, we try to identify the actual individual with some set of similar individuals, and that identification operates on the basis of abstract concepts.

One implication of this approach is that it enables us to make sense out of more than one person. In understanding what makes the bigoted candidate think the way he does, we can also learn about other people who are "like him." This is possible because we have not been studying *bigots* as much as we have been studying *bigotry*.

Here's another example. Consider the problem of whether police should make arrests in cases of domestic violence. The object of a police officer's attention in handling a domestic assault is the individual case. Of course, each case includes at least two people, and police are concerned with preventing further harm to the parties involved. The officer must decide whether to arrest someone or to take some other action. The criminal justice researcher's subject matter is different: Does arrest as a general policy prevent future assaults? The researcher may study an individual case (victim and offender), but that case is of interest only because arrest policy might be invoked, which is what the researcher is really studying.

This is not to say that criminal justice researchers don't care about real people. They certainly do. Their ultimate purpose in studying domestic violence cases is to identify ways to protect potential victims from future assaults. But in this example,

victims and offenders are most relevant for what they reveal about the effectiveness of the arrest policy. As researchers, our interest centers on variables and aggregates, not on individuals.

Variables and Attributes

Social scientists study variables and the attributes that compose them. Social scientific theories are written in a variable language, and people get involved mostly as the carriers of those variables. Here's how social scientists define attributes and variables:

Attributes are characteristics or qualities that describe some object such as a person. Examples are "bigoted," "old-fashioned," "married," "unemployed," and "intoxicated." Any quality we might use to describe ourselves or someone else is an attribute.

Variables are logical groupings of attributes. Thus, for example, "male" and "female" are attributes, and "gender" is the variable composed of the logical grouping of those two attributes. The variable "occupation" is composed of attributes like "dentist," "professor," and "security guard." "Prior record" is a variable composed of a set of attributes such as "prior convictions," "prior arrests without convictions," and "no prior arrests." It's helpful to think of attributes as the categories that make up a variable. Figure 2.1 provides a schematic view of what social scientists mean by variables and attributes.

Variables Logical groupings of attributes. The variable "gender" includes the attributes of "female" and "male."

A.

Some Common Criminal Justice Concepts
Female
Probation
Thief
Gender
Sentence
Property crime
Middle aged
Age
Auto theft
Occupation

B.

Two Different Kinds of Concepts	
Variables	**Attributes**
Gender	Female
Sentence	Probation
Property crime	Auto theft
Age	Middle aged
Occupation	Thief

C.

The Relationship Between Variables and Attributes	
Variables	**Attributes**
Gender	Female, male
Age	Young, middle aged, old
Sentence	Fine, prison, probation
Property crime	Auto theft, burglary, larceny
Occupation	Judge, lawyer, thief

FIGURE 2.1 Variables and Attributes

The relationship between attributes and variables lies at the heart of both description and explanation in science. For example, we might describe a prosecutor's office in terms of the variable "gender" by reporting the observed frequencies of the attributes "male" and "female": "The office staff is 60 percent men and 40 percent women." An incarceration rate can be thought of as a description of the variable "incarceration status" of a state's population in terms of the attributes "incarcerated" and "not incarcerated." Even the report of family income for a city is a summary of attributes composing the income variable: $47,124, $64,980, $86,000, and so forth.

The relationship between attributes and variables becomes more complicated as we try to explain things. Here's a simple example involving two variables: type of defense attorney and sentence. For the sake of simplicity, let's assume that the variable "defense attorney" has only two attributes: "private attorney" and "public defender." Similarly, let's give the variable "sentence" two attributes: "probation" and "prison." Now let's suppose that 90 percent of people represented by public defenders are sentenced to prison and the other 10 percent are sentenced to probation. And let's suppose that 30 percent of people with private attorneys go to prison and the other 70 percent receive probation. This is shown visually in Figure 2.2A.

Figure 2.2A illustrates a relationship between the variables "defense attorney" and "sentence." This relationship can be seen by the pairings of attributes on the two variables. There are two predominant pairings: (1) persons represented by private attorneys who are sentenced to probation and (2) persons represented by public defenders who are sentenced to prison. But there are two other useful ways of viewing that relationship.

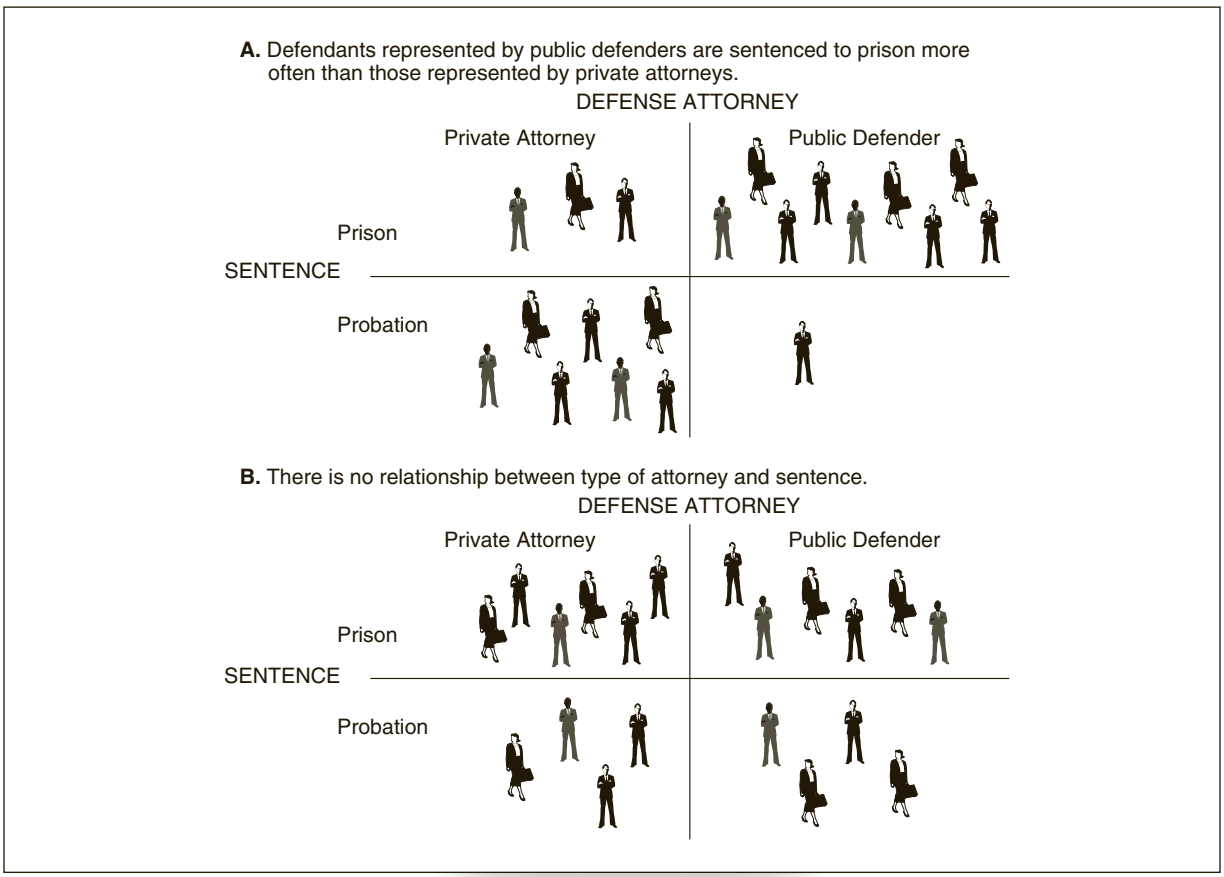

FIGURE 2.2 Illustration of Relationships Between Two Variables

First, imagine that we play a game in which we bet on your ability to guess whether a person is sentenced to prison or probation. We'll pick the people one at a time (not telling you which ones we've picked), and you have to guess which sentence each person receives. We'll do it for all 20 people in Figure 2.2A. Your best strategy in this case is to always guess prison because 12 out of the 20 people are categorized that way. Thus, you'll get 12 right and eight wrong, for a net success score of four.

Now suppose that we pick a person from Figure 2.2A and we have to tell you whether the person has a private attorney or a public defender. Your best strategy now is to guess prison for each person with a public defender and probation for each person represented by a private attorney. If you follow that strategy, you will get 16 right and four wrong. Your improvement in guessing the sentence based on knowing the type of defense attorney illustrates what it means to say that the variables are related. You would have made a probabilistic statement based on some empirical observations about the relationship between type of lawyer and type of sentence.

Second, let's consider how the 20 people would be distributed if type of defense attorney and sentence were unrelated. This is illustrated in Figure 2.2B. Notice that half the people have private attorneys and half have public defenders. Also notice that 12 of the 20 (60 percent) are sentenced to prison—six who have private attorneys and six who have public defenders. The equal distribution of those sentenced to probation and those sentenced to prison, regardless of type of defense attorney, allows us to conclude that the two variables are unrelated. Here, knowing what type of attorney a person had would not be of any value to you in guessing whether that person was sentenced to prison or probation.

Variables and Relationships

We will look more closely at the nature of the relationships between variables later in this book. For now, let's consider some basic observations about variables and relationships that illustrate the logic of social scientific theories and their use in criminal justice research.

Theories describe relationships that might logically be expected among variables. This expectation often involves the notion of causation: A person's attributes on one variable are expected to *cause* or encourage a particular attribute on another variable. In the example just given, having a private attorney or a public defender seemed to cause a person to be sentenced to probation or prison, respectively. Apparently, there is something about having a public defender that leads people to be sentenced to prison more often than if they are represented by a private attorney.

Type of defense attorney and sentence are examples of independent and dependent variables, respectively. These two concepts are implicit in causation, which is the focus of explanatory research. In this example, we assume that criminal sentences are determined or caused by something; the type of sentence depends on something and thus is called the **dependent variable**. The dependent variable depends on an **independent variable**; in this case, sentence depends on type of defense attorney.

Notice, at the same time, that type of defense attorney might be found to depend on something else—our subjects' employment status, for example. People who have full-time jobs are more likely to be represented by private attorneys than those who are unemployed. In this latter relationship, the type of attorney is the dependent variable, and the subject's employment status is the independent variable. In cause-and-effect terms, the independent variable is the cause, and the dependent variable is the effect.

How does this relate to theory? Our discussion of Figure 2.2 involved the interpretation of data. We looked at the distribution of the 20 people in terms of the two variables. In constructing a theory, we form an expectation about the relationship between the two variables based on what we know about each. For example, we know that private attorneys tend to be more experienced than public defenders. Many people fresh out of law school gain a few years of experience as public defenders before they enter private practice. Logically, then, we would expect the more experienced private attorneys to be better able to get more lenient sentences for their clients. We might explore this question directly by examining the relationship

between attorney experience and sentence, perhaps comparing inexperienced public defenders with public defenders who had been working for a few years. Pursuing this line of reasoning, we could also compare experienced private attorneys with private attorneys fresh out of law school.

Notice that the theory has to do with the variables "defense attorney," "sentence," and "years of experience," not with individual people per se. People are the carriers of those variables. We study the relationship between the variables by observing people. Ultimately, however, the theory is constructed in terms of variables. It describes the associations that might logically be expected to exist between particular attributes of different variables.

The vignette that opens this chapter, "Theory and Serial Sex Offenders," illustrates how researchers used theory to guide their inquiry to research behaviors by sex offenders.

Differing Avenues for Inquiry

Social scientific research is conducted in a variety of ways.

Three broad and interrelated distinctions underlie many of the variations of social scientific research: (1) idiographic and nomothetic explanations, (2) inductive and deductive reasoning, and (3) quantitative and qualitative data. Although they might appear to be competing choices, a good researcher masters each of these orientations.

Idiographic and Nomothetic Explanations

All of us go through life explaining things; we do it daily. In our everyday explanations, we engage in two distinct forms of causal reasoning, although we do not ordinarily distinguish them. Sometimes we attempt to explain a single situation exhaustively. You might have done poorly on an exam because (1) you had forgotten there was an exam that day, (2) it was in your worst subject, (3) a traffic jam caused you to be late to class, or (4) your roommate kept you up the night before with loud music. Given all these circumstances, it is no wonder that you did poorly on the exam.

This type of causal reasoning is **idiographic** explanation. *Idio* in this context means "unique, separate, peculiar, or distinct," as in the word *idiosyncrasy*. When we complete an idiographic explanation, we feel that we fully understand the many causes of what happened in a particular instance. At the same time, the scope of our explanation is limited to the case at hand. Although parts of the idiographic explanation might apply to other situations, our intention is to explain one case fully.

Now consider a different kind of explanation. For example, every time you study with a group, you do better on an exam than if you study alone. Your favorite team does better at home than on the road. Traffic around your campus is heavier on weekdays than on the weekend. This type of explanation—called **nomothetic**—seeks to explain a class of situations or events rather than a single one. Moreover, it seeks to explain efficiently, using only one or just a few explanatory factors. Finally, it settles for a partial rather than a full explanation of a type of situation.

In each of the preceding nomothetic examples, you might qualify your causal statements with phrases such as "on the whole" or "usually." You usually do better on exams when you've studied in a group, but there have been exceptions. Your team has won some games on the road and lost some at home. And during last Saturday's home football game, traffic was terrible, much worse than any day the previous week. Such exceptions are an acceptable price to pay for a broader range of overall explanation.

Both idiographic and nomothetic approaches to understanding can be useful in daily life. They are also powerful tools for criminal justice research. The researcher who seeks an exhaustive understanding of the inner workings of a particular juvenile gang or the rulings of a specific judge is engaging in idiographic research. The aim is to understand that particular group or individual as fully as possible.

Rick Brown and Ron Clarke (2004) sought to understand thefts of a particular model of Nissan trucks in the south of England. Most stolen trucks were never recovered. Their research led Brown and Clarke to a shipping yard where trucks were taken apart and shipped to ports in France and Nigeria as scrap metal. They later learned that trucks