
**RESEARCH
METHODS IN
CRIMINAL
JUSTICE AND
CRIMINOLOGY**

THIRD EDITION

FRANK E. HAGAN

Research Methods in Criminal Justice and Criminology

Third Edition

Frank E. Hagan, Ph.D.

Mercyhurst College

**Macmillan Publishing Company
NEW YORK**

**Maxwell Macmillan Canada
TORONTO**

Editor: Christine Cardone
Assistant Editor: Patrick Shriner
Production Supervisor: Andrew Roney
Production Manager: Paul Smolenski
Text Designer: Jane Edelstein
Cover Designer: Thomas Mack
Illustrations: Carto-Graphics

This book was set in Melior by Compset, Inc.
and was printed and bound by Hamilton Printing Company.
The cover was printed by Philips Winson, Inc.

Copyright © 1993 by Macmillan Publishing Company,
a division of Macmillan, Inc.

PRINTED IN THE UNITED STATES OF AMERICA

All rights reserved. No part of this book may be reproduced or
transmitted in any form or by any means, electronic or mechanical,
including photocopying, recording, or any information storage and
retrieval system, without permission in writing from the Publisher.

Earlier editions copyright © 1982 by Frank E. Hagan;
copyright © 1989 by Macmillan Publishing Company.

Macmillan Publishing Company
866 Third Avenue, New York, New York 10022

Macmillan Publishing Company is part of
the Maxwell Communication Group of Companies.

Maxwell Macmillan Canada, Inc.
1200 Eglinton Avenue East
Suite 200
Don Mills, Ontario M3C 3N1

LIBRARY OF CONGRESS CATALOGING-IN-PUBLICATION DATA

Hagan, Frank E.

Research methods in criminal justice and criminology / Frank E.
Hagan.—3rd ed.

p. cm.

Includes bibliographical references and index.

ISBN 0-02-348991-X

1. Criminology—Research—Methodology. 2. Criminal justice,
Administration of—Research—Methodology. 3. Criminology—
Statistical methods. I. Title.

HV6024.5.H33 1993

364'.072—dc20

91-46250

CIP

Printing: 2 3 4 5 6 7

Year: 3 4 5 6 7 8 9

Preface

The first edition of *Research Methods in Criminal Justice and Criminology* was prepared in the early 1980s when no comprehensive research text existed that directly addressed the areas of criminal justice and criminology. At the time of this writing, this work represents the first third edition to deal specifically with research methods in these subjects.

The text remains a comprehensive one, emphasizing sources and resources of classic and contemporary research in the field. There continues to be an acceleration of publications in the field employing increasingly more sophisticated and esoteric research designs and statistical analysis. The intent of the third edition remains the same as the first two: to reduce the gap that exists between the types of materials appearing in professional journals and publications in the field and the ability of students and professionals to understand them. The approach is to use criminological and criminal justice studies to illustrate research methods because it is as important to become familiar with examples of research in the field, as it is to learn fundamental research skills.

This edition features major revisions throughout, while retaining a vital core of material from the first two editions. The organization of the work will carry the student through the sequence of the research process. The first chapter introduces the reader to the area of criminological and criminal justice research while attacking commonsense approaches to research. Chapter 1 also outlines the steps in research elaborated on in Chapters 3 through 11. Following the issue of problem formulation in the first chapter, Chapter 2 examines the important issue of research ethics. Research designs and the experimental model, the latter being a benchmark with which to compare all other research in criminal justice, is detailed in Chapter 3. The third chapter includes an expanded treatment of time-series designs, a subject of major importance in recent research.

In Chapter 4, alternative data-gathering strategies are introduced, and the *Uniform Crime Reports* and its recent major revision are examined. Chapter 5 looks at sampling strategies as well as survey research, particularly mail questionnaires and self-report studies. Chapter 6 concentrates on interviews and telephone surveys, particularly recent developments in victim surveys. Participant observation and case studies are the subject of Chapter 7. Such field studies represent some of the most fascinating literature in the field.

Chapter 8 explores the interesting world of nonreactive or unobtrusive techniques, which include criminal justice and criminological applications involving secondary and content analysis, physical trace analysis, the use of official data, and observational strategies—all of which are useful cost-

effective means of gathering data. Alternative means of data gathering such as surveys, field studies, and unobtrusive methods often contain strengths missing in experimental research. The important issues of validity and reliability are detailed in Chapter 9, and triangulated strategies are proposed as the single most logical path by which to resolve these questions. In all of these chapters, examples of both classic and contemporary research in criminal justice and criminology are used as illustrations. In addition to providing an overview of research methods, this text also presents a review and analysis of research literature.

Chapter 10 discusses scaling and index construction and features new and expanded coverage of crime severity scales, salient factor scores, and prediction scales.

Data analysis is the subject of Chapters 11 and 12, with Chapter 11 examining data management activities such as coding, keyboard entry, and table reading and Chapter 12 providing a user's guide to statistics. The latter is intended as a quick reference guide to many of the major statistical techniques presented in the literature. Although the primary goal of this chapter is to provide the reader with the ability to recognize and interpret the meaning of statistics, "pop quizzes" and additional appendixes have been added to assist in improved comprehension. Chapter 13 discusses evaluation research and proposal writing and features a new section on policy analysis that reflects the growing interest of the social sciences in this subject in the past few years.

It is hoped that the style of presentation will convert many readers who may begin the course with apprehension into relatively fluent users of "researchese," a valuable and useful international language.

In addition to updating tables, figures, references, and examples, some principal changes in this edition in response to reviewer and user suggestions include repositioning the expanded ethics chapter (Chapter 2) in order to emphasize its importance. There is an expansion of the proposal writing section in Chapter 13, along with the addition of a new Appendix on "How to Write a Research Report." Other expanded topics include: the latest critiques of the Minneapolis Domestic Violence Experiment, updates on the UCR and National Crime Survey redesigns, expanded coverage of questionnaire wording, "meta-analysis," "Single Subject Designs," the Drug Use Forecasting (DUF) Program, a revised table reading section, and a new detailed presentation on the elaboration model. Also featured is an all-new SPSS-X Appendix, which was prepared by Laure Weber Brooks (University of Maryland).

I would like to thank the many people who assisted me in various ways in writing the editions of this text. To Tim Jacoby and Jack Mayleben who encouraged me to undertake the first edition, I remain indebted. To Chris Cardone, Senior Editor at Macmillan, I particularly owe a debt for her encouragement and counsel throughout the second and third editions. I would also like to thank Howard Abadinsky, John Hudzik, and John Smykla for their helpful reviews of the first edition, as well as James A. Adamitis, the University of Dayton; Rosy A. Ekpenyong, Michigan State University; Randy Martin, Indiana University of Pennsylvania; Robert J. Mutchnick, Indiana University of Pennsylvania; Shirley R. Salem, Southern University at New Orleans; and Frank Schmallegger, Ph.D., Editor of *The Justice Professional* for

their many fine suggestions for the second edition. For their reviews of, suggestions for, and comments concerning the third edition, I would like to thank Pamela Tontodonato, Kent State University; Laure Weber Brooks, University of Maryland; James A. Adamitis, The University of Dayton; William E. Thornton, Loyola University; and Malcolm D. Holmes, University of Texas at El Paso. Mike Blankenship, William McDonald, Gary Sykes, and William Wilbanks are acknowledged for their encouragement and/or for providing materials, as are Peter Benekos, Shirley Williams, and my colleagues in the Criminal Justice Department. I also once again express my gratitude to Marie Haug and Marvin Sussman for providing my early training in research. Although much of what is good about this book is due to the many fine suggestions of the reviewers, the author is solely responsible for any shortcomings.

Finally, I would like to thank my wife, MaryAnn, whose continuing support, editing, typing, and encouragement made completion of this new edition possible. It is to MaryAnn and our daughter Shannon that I dedicate this work.

F. E. H.

Brief Contents

Chapter 1	Introduction to Criminal Justice Research Methods: Theory and Method	1
Chapter 2	Ethics in Criminal Justice Research	26
Chapter 3	Research Design: The Experimental Model and Its Variations	60
Chapter 4	An Introduction to Alternative Data-Gathering Strategies and the Special Case of Uniform Crime Reports	100
Chapter 5	Sampling and Survey Research: Questionnaires	119
Chapter 6	Survey Research: Interviews and Telephone Surveys	155
Chapter 7	Participant Observation and Case Studies	186
Chapter 8	Unobtrusive Measures, Secondary Analysis, and the Uses of Official Statistics	214
Chapter 9	Validity, Reliability, and Triangulated Strategies	248
Chapter 10	Scaling and Index Construction	269
Chapter 11	Data Analysis: Coding, Tabulation, and Simple Data Presentation	295
Chapter 12	Data Analysis: A User's Guide to Statistics	330
Chapter 13	Policy Analysis, Evaluation Research, and Proposal Writing	370
Appendix A	How to Write the Research Report	402
Appendix B	Table of Random Numbers	407
Appendix C	An Overview of SPSS-X	409
Appendix D	Statistics: An Addendum to Chapter 12	423
Appendix E	Answers to Pop Quizzes in Chapter 12	431
Appendix F	Normal Curve Areas	436
Appendix G	Distribution of Chi-Square (χ^2)	439
Appendix H	Factor Analysis	440
	Glossary	443
	Name Index	451
	Subject Index	461

Detailed Contents

Chapter 1 Introduction to Criminal Justice Research Methods: Theory and Method

1

Scientific Research in Criminal Justice	1
Common Sense and Nonsense	3
Why Study Research Methods in Criminal Justice?	5
The Emergence of Science and Criminal Justice	5
Probabilistic Nature of Science	7
Proper Conduct of Critical Inquiry	7
Approaches to Theory and Method in Criminal Justice	8
Pure versus Applied Research	10
Qualitative and Quantitative Research	12
Researchese: The Language of Research	13
Concepts	13
Operationalization	13
Variables	14
Dependent and Independent Variables	15
Theories/Hypotheses	15
Examples of the Research Process	16
Recidivism among Juvenile Offenders	16
General Steps in Empirical Research in Criminal Justice	17
Problem Formulation: Selection of Research Problem	18
Problem Formulation: Specification of Research Problem	19
Summary	20
Key Concepts	21
Review Questions	21
References	22

Chapter 2 Ethics in Criminal Justice Research

26

Ethical Horror Stories	26
Biomedical Examples	26
Social Science Examples	28
Researcher Fraud and Plagiarism	30
The Researcher's Role	30
Research Targets in Criminal Justice	32

Ethical Relativism	32
Ethics and Professionalism	33
Ethics in Criminal Justice Research	34
History of Federal Regulation of Research	34
The Belmont Report	37
HHS Guidelines	37
Research Activities Exempt from HHS Review	38
National Institute of Justice's Human Subject Protection Requirements	40
Confidentiality of Criminal Justice Research	41
A Code of Ethics for Criminology/Criminal Justice Research	42
Avoid Research That May Harm Respondents	42
Honor Commitments to Respondents and Respect Reciprocity	43
Exercise Objectivity and Professional Integrity in Performing and Reporting Research	44
Protect Confidentiality and Privacy of Respondents	44
Ethical Problems	46
The Brajuha Case (Weinstein Decision)	48
The Ofshe Case	49
The Hutchinson Case	49
Additional Ethical Concerns	51
Avoiding Ethical Problems	51
Summary	52
Key Concepts	54
Review Questions	54
References	54

Chapter 3 Research Design: The Experimental Model and Its Variations

60

Types of Research Design	61
The Experimental Model	62
Research Design in a Nutshell	63
Causality	64
Resolution of the Causality Problem	64
Rival Causal Factors	66
Validity	66
Internal Factors: Variables Related to Internal Validity	66
History	66
Maturation	67
Testing	68
Instrumentation	68
Statistical Regression	68
Selection Bias	69
Experimental Mortality	69
Selection-Maturation Interaction	70
External Factors: Variables Related to External Validity	70
Testing Effects	70

Selection Bias	71	
Reactivity or Awareness of Being Studied	71	
Multiple-Treatment Interferences	71	
Related Rival Causal Factors	72	
Hawthorne Effect	72	
Halo Effect	72	
Post Hoc Error	72	
Placebo Effect	73	
Other Rival Causal Factors in Criminal Justice Field		
Experiments	73	
Diffusion of Treatment	74	
Compensatory Equalization of Treatment	74	
Local History	74	
Masking Effects	74	
Contamination of Data	75	
Erosion of Treatment Effect	75	
Criterion Problems	75	
Experimental Designs	76	
The Classic Experimental Design	76	
Some Criminal Justice Examples of the Classic Experimental Design	78	78
Candid Camera	78	
Scared Straight	78	
Neighborhood Safety	79	
Foot Patrol	79	
Other Experimental Designs	80	
Posttest-Only Control Group Design	80	
Solomon Four-Group Design	80	
Preexperimental Designs	81	
One-Group Ex Post Facto Design	81	
One-Group Before–After Design	82	
Two-Group Ex Post Facto Design	83	
Cross-Sectional and Longitudinal Designs	83	
Quasi-Experimental Designs	84	
Time-Series Designs	85	
Multiple Interrupted Time-Series Designs	86	
Counterbalanced Designs	87	
Some Other Criminal Justice Examples of Variations of the Experimental Model	87	
The Provo and Silverlake Experiments	87	
The Kansas City Preventive Patrol Experiment	89	
The Minneapolis Domestic Violence Experiment	89	
The Experiment as a Data Gathering Strategy	91	
Advantages of Experiments	92	
Disadvantages of Experiments	92	
Summary	93	
Key Concepts	94	
Review Questions	95	
References	95	

Chapter 4 An Introduction to Alternative Data-Gathering Strategies and the Special Case of Uniform Crime Reports	100
Alternative Data-Gathering Strategies	100
Social Surveys	102
Participant Observation	103
Life History and Case Studies	104
Unobtrusive Measures	104
The Special Case of Uniform Crime Reports	105
The Crime Index	107
Crime Rate	110
Cautions in the Use of UCR Data	110
<i>Factors Affecting the UCR</i>	110
Related UCR Issues	113
UCR Redesign	113
<i>National Incident-Based Reporting System</i>	114
<i>NIBRS vs. UCR</i>	114
Summary	115
Key Concepts	116
Review Questions	116
References	117
Chapter 5 Sampling and Survey Research: Questionnaires	000
Types of Sampling	120
<i>Probability Samples</i>	120
<i>Nonprobability Samples</i>	125
<i>Sample Size</i>	128
Survey Research	128
Some Guidelines for Questionnaire Construction	130
<i>Questionnaire Wording</i>	131
<i>Pretest</i>	135
Organization of the Questionnaire	135
Mail Surveys	136
Advantages of Mail Surveys	136
Disadvantages of Mail Surveys	137
Ways of Eliminating Disadvantages in Mail Surveys	138
<i>Follow-up</i>	138
<i>Offering Remuneration</i>	139
<i>Attractive Format</i>	140
<i>Sponsorship and Endorsements</i>	140
<i>Personalization</i>	140
<i>Shortened Format</i>	141
<i>Good Timing</i>	141
Self-Reported Measures of Crime	142
Some Problems with Self-Report Surveys	144
Strengths of Self-Report Surveys	145
<i>Reliability</i>	145

Validity	146
Use of Other Data	146
Use of Other Observers	146
Use of Polygraph	147
"Known Group" Validation	147
Use of Lie Scales	147
Measures of Internal Consistency	148
Use of Interviews	148
Summary	149
Key Concepts	150
Review Questions	150
References	151

Chapter 6 Survey Research: Interviews and Telephone Surveys 155

Types of Interviews	156
Advantages of Interviews	157
Disadvantages of Interviews	158
Interviewing Aids and Variations	159
General Procedures in Interviews	161
Training and Orientation Session	161
Arranging the Interview	161
Demeanor of Interviewer	162
Administration of the Structured Interview	162
Probing	163
The Exit	164
Recording the Interview	164
Telephone Surveys	165
Advantages and Prospects of Telephone Surveys	165
Disadvantages of Telephone Surveys	165
Computer Assisted Telephone Interviews (CATI)	166
Random Digit Dialing	166
Techniques Employed in Telephone Surveys	167
Victim Surveys in Criminal Justice	168
National Crime Survey	169
Sampling	170
Panel Design	170
Comparison of the Uniform Crime Reports and the National Crime Survey	172
A Comparison of UCR, NCS and Self-Report Data	173
Some Problems in Victim Surveys	173
Cost of Large Samples	174
False Reports	174
Mistaken Reporting	174
Poor Memory	175
Telescoping	175
Sampling Bias	175
Overreporting and Underreporting	175
Interviewer Effects	176

Coding Unreliability and Mechanical Error	176
Problems Measuring Certain Crimes	177
Benefits of Victim Surveys	177
A Defense of Victim Surveys	177
Controlling for Error in Victim Surveys	178
Bounding	178
Reverse Record Checks	178
Victim Surveys: A Balanced View	179
Redesign of the National Crime Survey	179
Summary	180
Key Concepts	181
Review Questions	182
References	182

Chapter 7 Participant Observation and Case Studies

186

A Critique of Experiments and Surveys	186
<i>Verbal Reports versus Behavior</i>	187
A Defense of Quantitative Research	188
Participant Observation	189
Types of Participant Observation	190
Characteristics of Participant Observation	191
<i>Objectivity in Research</i>	192
<i>"Going Native"</i>	193
General Procedures in Participant Observation	194
<i>Field Notes</i>	195
<i>Mnemonics</i>	195
<i>Caution in Use of Other Recording Methods</i>	195
Participant Observation of Criminals	196
<i>Gaining Access</i>	197
<i>Gatekeepers</i>	197
<i>Announcement of Intentions</i>	198
<i>Sampling</i>	198
<i>Reciprocity and Protection of Identity</i>	198
<i>Concern for Accuracy</i>	199
Examples of Participant Observation	200
Advantages of Participant Observation	201
Disadvantages of Participant Observation	201
Case Studies	202
<i>Life History/Oral History</i>	203
Some Examples of Case Studies	203
<i>Journalistic Field Studies</i>	204
Single-Subject Designs	205
Summary	206
Key Concepts	207
Review Questions	208
References	208

Chapter 8 Unobtrusive Measures, Secondary Analysis, and the Uses of Official Statistics

214

Major Types of Unobtrusive Methods	215
Physical Trace Analysis	216
Use of Available Data and Archives	217
Secondary Analysis	218
Personal Documents and Biographies	219
Examples of Secondary Analysis	220
Limitations of Official Data	223
Measuring Hidden Populations	224
Historical and Archival Data	224
Content Analysis	225
Meta-Analysis	228
Sources of Existing Data	229
Observation	232
Disguised Observation	234
Simulations	237
Advantages of Unobtrusive Measures	238
Disadvantages of Unobtrusive Measures	239
Summary	239
Key Concepts	240
Review Questions	241
References	241

Chapter 9 Validity, Reliability, and Triangulated Strategies

248

Levels of Measurement	248
Error in Research	250
Reasons for Lack of Validation Studies in Criminal Justice	252
Ways of Determining Validity	253
Face Validity	253
Content Validity	254
Construct Validity	255
Pragmatic Validity	255
Convergent-Discriminant Validation/Triangulation	256
Reliability	259
Test-Retest	259
Multiple Forms	260
Split-Half Technique	260
Mythical Numbers	261
Phantom Army of Addicts	261
Drug Use Forecasting (DUF)	262
Other Examples of Research Validation	264
Summary	265
Key Concepts	266
Review Questions	266
References	266

Chapter 10 Scaling and Index Construction**269**

Scaling Procedures	270
Arbitrary Scales	271
The Uniform Crime Report as an Arbitrary Scale	271
Attitude Scales	272
Thurstone Scales	272
Likert Scales	274
Guttman Scales	277
Other Scaling Procedures	280
Q Sort	280
Semantic Differential	280
Other Variations	282
Crime Seriousness Scales	283
Sellin-Wolfgang Index	283
Types of Crime Seriousness Scales	284
Prediction Scales	285
The Salient Factor Score	286
Greenwood's "Rand Seven-Factor Index"	287
Career Criminal Programs	288
Advantages of Scales	288
Disadvantages of Scales	289
Summary	290
Key Concepts	291
Review Questions	291
References	291

Chapter 11 Data Analysis: Coding, Tabulation, and Simple Data Presentation**295**

Variables List	296
Computers	297
Data Management	297
Editing	298
Coding	298
Coder Monitoring	301
Keyboard Entry	301
Data Verification	302
Simple Data Presentation	302
Rates	304
Proportions	304
Percentages	305
Ratios	305
The Frequency Distribution	306
Graphic Presentations	307
Pie Charts	307
Bar Graphs	307
Frequency Polygons (Line Charts)	308
Crime Clocks	310

Table Reading	313
Why Bother with Tables?	314
What to Look for in a Table	314
Steps in Reading a Table	314
Summary of Table 11.3	317
How to Construct Tables	318
Presentation of Complex Data	319
General Rules for Percentaging a Table	320
Improper Percentaging	322
An Example of Table Percentaging	322
Elaboration	324
Lying with Statistics	326
Summary	327
Key Concepts	328
Review Questions	328
References	329

Chapter 12 Data Analysis: A User's Guide to Statistics

330

Why Study Statistics?	331
Types of Statistics	332
Measures of Central Tendency for a Simple Distribution	332
Mode	332
Median	333
Mean	334
Pop Quiz 12.1	335
Measures of Dispersion	335
Range	335
Standard Deviation (σ)	336
Interpreting Standard Deviation	338
Pop Quiz 12.2	338
Standard Deviation Units (Z Scores)	339
Pop Quiz 12.3	340
Chi-Square (χ^2)	341
Calculation of Chi-Square	341
Cautions	343
Pop Quiz 12.4	343
Chi-Square-Based Measures of Association	344
Phi Coefficient (ϕ) and Phi-Square (ϕ^2)	344
Contingency Coefficient (C)	344
Cramer's V	345
Pop Quiz 12.5	345
Nature and Types of Statistics	345
Nonparametric Statistics	345
Null Hypothesis	346
Tests of Significance	346
The t Test (Difference of Means Test)	347
Types of t Tests	348
Pop Quiz 12.6	350

ANOVA (Analysis of Variance)	350
Calculation of ANOVA	351
Pop Quiz 12.7	353
Other Measures of Relationship	353
The Concept of Relationship	353
Correlation Coefficient (Pearson's r)	354
Interpretation of Pearson's r	354
Calculation of Pearson's r	354
Statistical Significance of Pearson's r	356
Pop Quiz 12.8	356
Regression	357
Pop Quiz 12.9	358
Ordinal Level Measures of Relationships	358
Spearman's Rho (r_s)	358
Interpretation of Rho	360
Gamma	360
Pop Quiz 12.10	361
Multivariate Analysis	362
Partial Correlation	363
Multiple Correlation and Regression	363
Final Quiz	364
Caveat Emptor	365
The Ecological Fallacy	365
Summary	367
Key Concepts	368
Review Questions	369
References	369

Chapter 13 Policy Analysis, Evaluation Research, and Proposal Writing

370

Policy Analysis	370
Evaluation Research	371
Policy Experiments	373
Policy Analysis: The Case of the National Institute of Justice Research Program	374
NIJ Mission Statement	374
NIJ Research Priorities	375
A Systems Model of Evaluation Research	376
Types of Evaluation Research	377
Will the Findings Be Used?	379
Is the Project Evaluable?	379
Who Can Do This Work?	380
Steps in Evaluation Research	381
Problem Formulation	381
Design of Instruments	382
Research Design	382
Data Collection	383
Data Analysis	384
Utilization	385