

Contents

<i>Preface</i>	ix
1 The Science in Social Science	3
1.1 Introduction	3
1.1.1 <i>Two Styles of Research, One Logic of Inference</i>	3
1.1.2 <i>Defining Scientific Research in Social Sciences</i>	7
1.1.3 <i>Science and Complexity</i>	9
1.2 Major Components of Research Design	12
1.2.1 <i>Improving Research Questions</i>	14
1.2.2 <i>Improving Theory</i>	19
1.2.3 <i>Improving Data Quality</i>	23
1.2.4 <i>Improving the Use of Existing Data</i>	27
1.3 Themes of This Volume	28
1.3.1 <i>Using Observable Implications to Connect Theory and Data</i>	28
1.3.2 <i>Maximizing Leverage</i>	29
1.3.3 <i>Reporting Uncertainty</i>	31
1.3.4 <i>Thinking like a Social Scientist: Skepticism and Rival Hypotheses</i>	32
2 Descriptive Inference	34
2.1 General Knowledge and Particular Facts	35
2.1.1 <i>"Interpretation" and Inference</i>	36
2.1.2 <i>"Uniqueness," Complexity, and Simplification</i>	42
2.1.3 <i>Comparative Case Studies</i>	43
2.2 Inference: the Scientific Purpose of Data Collection	46
2.3 Formal Models of Qualitative Research	49
2.4 A Formal Model of Data Collection	51
2.5 Summarizing Historical Detail	53
2.6 Descriptive Inference	55
2.7 Criteria for Judging Descriptive Inferences	63
2.7.1 <i>Unbiased Inferences</i>	63
2.7.2 <i>Efficiency</i>	66

3 Causality and Causal Inference	75
3.1 Defining Causality	76
3.1.1 <i>The Definition and a Quantitative Example</i>	76
3.1.2 <i>A Qualitative Example</i>	82
3.2 Clarifying Alternative Definitions of Causality	85
3.2.1 <i>"Causal Mechanisms"</i>	85
3.2.2 <i>"Multiple Causality"</i>	87
3.2.3 <i>"Symmetric" and "Asymmetric" Causality</i>	89
3.3 Assumptions Required for Estimating Causal Effects	91
3.3.1 <i>Unit Homogeneity</i>	91
3.3.2 <i>Conditional Independence</i>	94
3.4 Criteria for Judging Causal Inferences	97
3.5 Rules for Constructing Causal Theories	99
3.5.1 <i>Rule 1: Construct Falsifiable Theories</i>	100
3.5.2 <i>Rule 2: Build Theories That Are Internally Consistent</i>	105
3.5.3 <i>Rule 3: Select Dependent Variables Carefully</i>	107
3.5.4 <i>Rule 4: Maximize Concreteness</i>	109
3.5.5 <i>Rule 5: State Theories in as Encompassing Ways as Feasible</i>	113
4 Determining What to Observe	115
4.1 Indeterminate Research Designs	118
4.1.1 <i>More Inferences than Observations</i>	119
4.1.2 <i>Multicollinearity</i>	122
4.2 The Limits of Random Selection	124
4.3 Selection Bias	128
4.3.1 <i>Selection on the Dependent Variable</i>	129
4.3.2 <i>Selection on an Explanatory Variable</i>	137
4.3.3 <i>Other Types of Selection Bias</i>	138
4.4 Intentional Selection of Observations	139
4.4.1 <i>Selecting Observations on the Explanatory Variable</i>	140
4.4.2 <i>Selecting a Range of Values of the Dependent Variable</i>	141
4.4.3 <i>Selecting Observations on Both Explanatory and Dependent Variables</i>	142
4.4.4 <i>Selecting Observations So the Key Causal Variable Is Constant</i>	146
4.4.5 <i>Selecting Observations So the Dependent Variable Is Constant</i>	147
4.5 Concluding Remarks	149

5 Understanding What to Avoid	150
5.1 Measurement Error	151
5.1.1 <i>Systematic Measurement Error</i>	155
5.1.2 <i>Nonsystematic Measurement Error</i>	157
5.2 Excluding Relevant Variables: Bias	168
5.2.1 <i>Gauging the Bias from Omitted Variables</i>	168
5.2.2 <i>Examples of Omitted Variable Bias</i>	176
5.3 Including Irrelevant Variables: Inefficiency	182
5.4 Endogeneity	185
5.4.1 <i>Correcting Biased Inferences</i>	187
5.4.2 <i>Parsing the Dependent Variable</i>	188
5.4.3 <i>Transforming Endogeneity into an Omitted Variable Problem</i>	189
5.4.4 <i>Selecting Observations to Avoid Endogeneity</i>	191
5.4.5 <i>Parsing the Explanatory Variable</i>	193
5.5 Assigning Values of the Explanatory Variable	196
5.6 Controlling the Research Situation	199
5.7 Concluding Remarks	206
6 Increasing the Number of Observations	208
6.1 Single-Observation Designs for Causal Inference	209
6.1.1 <i>“Crucial” Case Studies</i>	209
6.1.2 <i>Reasoning by Analogy</i>	212
6.2 How Many Observations Are Enough?	213
6.3 Making Many Observations from Few	217
6.3.1 <i>Same Measures, New Units</i>	219
6.3.2 <i>Same Units, New Measures</i>	223
6.3.3 <i>New Measures, New Units</i>	224
6.4 Concluding Remarks	229
<i>References</i>	231
<i>Index</i>	239