

# CONTENTS

---

PREFACE TO THE FIRST EDITION	xv
PREFACE TO THE SECOND EDITION	xix
ACKNOWLEDGMENTS	xxi
<b>CHAPTER 1. AN INTRODUCTION TO SURVEY METHODOLOGY</b>	
1.1 Introduction	2
1.2 A Brief History of Survey Research	3
1.2.1 The Purposes of Surveys	3
1.2.2 The Development of Standardized Questioning	5
1.2.3 The Development of Sampling Methods	6
1.2.4 The Development of Data Collection Methods	7
1.3 Some Examples of Ongoing Surveys	7
1.3.1 The National Crime Victimization Survey	8
1.3.2 The National Survey on Drug Use and Health	14
1.3.3 The Surveys of Consumers	17
1.3.4 The National Assessment of Educational Progress	20
1.3.5 The Behavioral Risk Factor Surveillance System	24
1.3.6 The Current Employment Statistics Program	27
1.3.7 What Can We Learn From the Six Example Surveys?	29
1.4 What is Survey Methodology?	30
1.5 The Challenge of Survey Methodology	32
1.6 About this Book	34
Keywords	35
For More In-Depth Reading	35
Exercises	36

## CHAPTER 2. INFERENCE AND ERROR IN SURVEYS

2.1	Introduction	39
2.2	The Lifecycle of a Survey from a Design Perspective	41
2.2.1	Constructs	41
2.2.2	Measurement	43
2.2.3	Response	43
2.2.4	Edited Response	44
2.2.5	The Target Population	44
2.2.6	The Frame Population	45
2.2.7	The Sample	45
2.2.8	The Respondents	46
2.2.9	Postsurvey Adjustments	47
2.2.10	How Design Becomes Process	48
2.3	The Lifecycle of a Survey from a Quality Perspective	49
2.3.1	The Observational Gap between Constructs and Measures	50
2.3.2	Measurement Error: the Observational Gap between the Ideal Measurement and the Response Obtained	52
2.3.3	Processing Error: the Observational Gap between the Variable Used in Estimation and that Provided by the Respondent	53
2.3.4	Coverage Error: the Nonobservational Gap between the Target Population and the Sampling Frame	54
2.3.5	Sampling Error: The Nonobservational Gap between the Sampling Frame and the Sample	56
2.3.6	Nonresponse Error: The Nonobservational Gap between the Sample and the Respondent Pool	59
2.3.7	Adjustment Error	59
2.4	Putting It All Together	60
2.5	Error Notions in Different Kinds of Statistics	61
2.6	Nonstatistical Notions of Survey Quality	62
2.7	Summary	63
	Keywords	64
	For More In-Depth Reading	64
	Exercises	65

## CHAPTER 3. TARGET POPULATIONS, SAMPLING FRAMES, AND COVERAGE ERROR

3.1	Introduction	69
3.2	Populations and Frames	69

3.3	Coverage Properties of Sampling Frames	72
3.3.1	Undercoverage	72
3.3.2	Ineligible Units	76
3.3.3	Clustering of Target Population Elements Within Frame Elements	77
3.3.4	Duplication of Target Population Elements in Sampling Frames	79
3.3.5	Complicated Mappings between Frame and Target Population Elements	80
3.4	Alternative Frames for the Target Population of Households or Persons	81
3.4.1	Area Frames	81
3.4.2	Telephone Number Frames for Households or Persons	81
3.4.3	<i>Frames for Web Surveys of General Populations</i>	83
3.5	Frame Issues for Other Common Target Populations	84
3.5.1	Customers, Employees, or Members of an Organization	84
3.5.2	Organizations	85
3.5.3	Events	86
3.6.4	Rare Populations	87
3.6	Coverage Error	87
3.7	Reducing Undercoverage	88
3.7.1	The Half-Open Interval	88
3.7.2	Multiplicity Sampling	90
3.7.3	Multiple Frame Designs	91
3.7.4	Increasing Coverage While Including More Ineligible Elements	93
3.8	Summary	94
	Keywords	95
	For More In-Depth Reading	95
	Exercises	95

## **CHAPTER 4. SAMPLE DESIGN AND SAMPLING ERROR**

4.1	Introduction	97
4.2	Samples and Estimates	99
4.3	Simple Random Sampling	103
4.4	Cluster Sampling	106
4.4.1	The Design Effect and Within-Cluster Homogeneity	110
4.4.2	Subsampling within Selected Clusters	113

4.5 Stratification and Stratified Sampling	113
4.5.1 Proportionate Allocation to Strata	116
4.5.2 Disproportionate Allocation to Strata	122
4.6 Systematic Selection	123
4.7 Complications in Practice	125
4.7.1 Two-Stage Cluster Designs with Probabilities Proportionate to Size (PPS)	127
4.7.2 Multistage and Other Complex Designs	129
4.7.3 How Complex Sample Designs are Described: The Sample Design for the NCVS	130
4.8 Sampling US Telephone Households	133
4.9 Selecting Persons Within Households	136
4.10 Summary	138
Keywords	139
For More In-Depth Reading	139
Exercises	139

## **CHAPTER 5. METHODS OF DATA COLLECTION**

5.1 Alternative Methods of Data Collection	150
5.1.1 Degree of Interviewer Involvement	153
5.1.2 Degree of Interaction with the Respondent	154
5.1.3 Degree of Privacy	155
5.1.4 Channels of Communication	156
5.1.5 Technology Use	157
5.1.6 Implications of these Dimensions	158
5.2 Choosing the Appropriate Method	159
5.3 Effects of Different Data Collection Methods on Survey Errors	160
5.3.1 Measuring the Marginal Effect of Mode	160
5.3.2 Sampling Frame and Sample Design Implications of Mode Selection	162
5.3.3 Coverage Implications of Mode Selection	163
5.3.4 Nonresponse Implications of Mode Selection	166
5.3.5 Measurement Quality Implications of Mode Selection	168
5.3.6 Cost Implications	173
5.3.7 Summary on the Choice of Method	174
5.4 Using Multiple Modes of Data Collection	175
5.5 Summary	177
Keywords	178
For More In-Depth Reading	179
Exercises	179

**CHAPTER 6. NONRESPONSE IN SAMPLE SURVEYS**

6.1	Introduction	183
6.2	Response Rates	183
	6.2.1 Computing Response Rates	184
	6.2.2 Trends in Response Rates Over Time	186
6.3	Impact of Nonresponse on the Quality of Survey Estimates	189
6.4	Thinking Causally About Survey Nonresponse Error	191
6.5	Dissecting the Nonresponse Phenomenon	192
	6.5.1 Unit Nonresponse Due to Failure to Deliver the Survey Request	193
	6.5.2 Unit Nonresponse Due to Refusals	197
	6.5.3 Unit Nonresponse Due to the Inability to Provide the Requested Data	201
6.6	Design Features to Reduce Unit Nonresponse	201
6.7	Item Nonresponse	208
6.8	Are Nonresponse Propensities Related to Other Error Sources?	210
6.9	Summary	210
	Keywords	211
	For More In-Depth Reading	211
	Exercises	211

**CHAPTER 7. QUESTIONS AND ANSWERS IN SURVEYS**

7.1	Alternatives Methods of Survey Measurement	217
7.2	Cognitive Processes in Answering Questions	218
	7.2.1 Comprehension	220
	7.2.2 Retrieval	220
	7.2.3 Estimation and Judgment	222
	7.2.4 Reporting	223
	7.2.5 Other Models of the Response Process	223
7.3	Problems in Answering Survey Questions	225
	7.3.1 Encoding Problems	225
	7.3.2 Misinterpreting the Questions	226
	7.3.3 Forgetting and Other Memory Problems	229
	7.3.4 Estimation Processes for Behavioral Questions	234
	7.3.5 Judgment Processes for Attitude Questions	236
	7.3.6 Formatting the Answer	237
	7.3.7 Motivated Misreporting	240
	7.3.8 Navigational Errors	241
7.4	Guidelines for Writing Good Questions	242

7.4.1 Nonsensitive Questions About Behavior	243
7.4.2 Sensitive Questions About Behavior	246
7.4.3 Attitude Questions	248
7.4.4 Self-Administered Questions	251
7.5 Summary	252
Keywords	254
For More In-Depth Reading	254
Exercises	255

## **CHAPTER 8. EVALUATING SURVEY QUESTIONS**

8.1 Introduction	259
8.2 Expert Reviews	260
8.3 Focus Groups	261
8.4 Cognitive Interviews	263
8.5 Field Pretests and Behavior Coding	265
8.6 Randomized or Split-Ballot Experiments	267
8.7 Applying Question Standards	268
8.8 Summary of Question Evaluation Tools	269
8.9 Linking Concepts of Measurement Quality to Statistical Estimates	274
8.9.1 Validity	274
8.9.2 Response Bias	279
8.9.3 Reliability and Simple Response Variance	281
8.10 Summary	286
Keywords	287
For More In-Depth Reading	287
Exercises	288

## **CHAPTER 9. SURVEY INTERVIEWING**

9.1 The Role of the Interviewer	291
9.2 Interviewer Bias	292
9.2.1 Systematic Interviewer Effects on Reporting of Socially Undesirable Attributes	292
9.2.2 Systematic Interviewer Effects on Topics Related to Observable Interviewer Traits	292
9.2.3 Systematic Interviewer Effects Associated with Interviewer Experience	294
9.3 Interviewer Variance	295
9.3.1 Randomization Requirements for Estimating	

Interviewer Variance	296
9.3.2 Estimation of Interviewer Variance	297
9.4 Strategies for Reducing Interviewer Bias	300
9.4.1 The Role of the Interviewer in Motivating Respondent Behavior	300
9.4.2 Changing Interviewer Behavior	301
9.5 Strategies for Reducing Interviewer-Related Variance	302
9.5.1 Minimizing Questions that Require Nonstandard Interviewer Behavior	303
9.5.2 Professional, Task-Oriented Interviewer Behavior	304
9.5.3 Interviewers Reading Questions as They Are Worded	305
9.5.4 Interviewers Explaining the Survey Process to the Respondent	306
9.5.5 Interviewers Probing Nondirectively	308
9.5.6 Interviewers Recording Answers Exactly as Given	311
9.5.7 Summary on Strategies to Reduce Interviewer Variance	312
9.6 The Controversy About Standardized Interviewing	312
9.7 Interviewer Management	315
9.7.1 Interviewer Selection	315
9.7.2 Interviewer Training	316
9.7.3 Interviewer Supervision and Monitoring	317
9.7.4 The Size of Interviewer Workloads	318
9.7.5 Interviewers and Computer Use	318
9.8 Validating the Work of Interviewers	319
9.9 The Use of Recorded Voices (and Faces) in Data Collection	322
9.10 Summary	323
Keywords	324
For More In-Depth Reading	324
Exercises	325

## **CHAPTER 10. POSTCOLLECTION PROCESSING OF SURVEY DATA**

10.1 Introduction	329
10.2 Coding	331
10.2.1 Practical Issues of Coding	332
10.2.2 Theoretical Issues in Coding Activities	334
10.2.3 “Field Coding” – An Intermediate Design	334
10.2.4 Standard Classification Systems	337

10.2.5 Other Common Coding Systems	341
10.2.6 Quality Indicators in Coding	342
10.2.7 Summary of Coding	344
10.3 Entering Numeric Data into Files	344
10.4 Editing	345
10.5 Weighting	347
10.5.1 Weighting with a First-Stage Ratio Adjustment	348
10.5.2 Weighting for Differential Selection Probabilities	349
10.5.3 Weighting to Adjust for Unit Nonresponse	350
10.5.4 Poststratification Weighting	352
10.5.5 Putting All the Weights Together	352
10.6 Imputation for Item-Missing data	354
10.7 Sampling Variance Estimation for Complex Samples	359
10.8 Survey Data Documentation and Metadata	363
10.9 Summary	365
Keywords	366
For More In-Depth Reading	367
Exercises	367

## **CHAPTER 11. PRINCIPLES AND PRACTICES RELATED TO ETHICAL RESEARCH**

11.1 Introduction	371
11.2 Standards for the Conduct of Research	371
11.3 Standards for Dealing with Clients	374
11.4 Standards for Dealing with the Public	375
11.5 Standards for Dealing with Respondents	376
11.5.1 Legal Obligations to Survey Respondents	376
11.5.2 Ethical Obligations to Respondents	377
11.5.3 Informed Consent: Respect for Persons	379
11.5.4 Beneficence: Protecting Respondents from Harm	381
11.5.5 Efforts at Persuasion	383
11.6 Emerging Ethical Issues	384
11.7 Research About Ethical Issues in Surveys	384
11.7.1 Research on Informed Consent Protocols	385
11.7.2 Research on Confidentiality Assurances and Survey Participation	390
11.8 Administrative and Technical Procedures for Safe-Guarding Confidentiality	392
11.8.1 Administrative Procedures	392
11.8.2 Technical Procedures	393
11.9 Summary and Conclusions	398



Keywords	400
For More In-Depth Reading	400
Exercises	400

**CHAPTER 12. FAQs ABOUT SURVEY METHODOLOGY**

12.1 Introduction	405
12.2 The Questions and Their Answers	405

REFERENCES	421
------------	-----

INDEX	451
-------	-----