

Contents

1	A Plea for Indirect Questioning: Stigmatizing Issues of Social Relevance	1
1.1	Introduction	1
1.2	Real and Hypothetical Examples to Justify the Need for Indirect Methods	3
	References	5
2	Specification of Qualitative and Quantitative Parameters Demanding Estimation	9
2.1	Introduction	9
2.2	Estimating Parameters	16
2.3	How to Sample?	19
2.4	How to Gather Sensitive Data?	19
	References	19
3	Various Indirect Questioning Techniques	21
3.1	Introduction	21
3.2	Randomized Response Technique: Its Rationale	22
3.3	Item Count Technique: Its Rationale	24
3.4	Nominative Technique: Its Rationale	24
3.5	The Three Card Method: Its Rationale	25
3.6	Non Randomized Models	25
3.7	Surveys with Negative Questions	26
	References	26
4	Randomized Response Techniques to Capture Qualitative Features	29
4.1	Introduction	29
4.2	Warner's, Simmons's, Kuk's, Forced Response, and Christofides's RRT	31
4.3	Related Estimation in SRSWR and Sophisticated Sampling	34

4.4	Certain Alternative RR Procedures with Rationales	53
4.4.1	Dalenius and Vitale (1974) Approach	53
4.4.2	Liu, Chow, and Mosley's (1975) RR Device	57
4.4.3	Mangat and Singh's (1990) RR Device	59
4.4.4	Mangat's (1992) RR Device as Modified by Chaudhuri (2011)	61
4.4.5	Mangat, Singh, and Singh's (1992) Device	62
4.4.6	Mangat's (1994) Device	63
4.4.7	Singh and Joarder's (1997a) RR Device	64
4.4.8	Randomized Response Using the Poisson Distribution	65
4.5	Alternative Randomized Response Generation	69
4.6	Estimation for more than one Sensitive Characteristics	77
4.6.1	Estimating Two Characteristics	78
4.6.2	The Crossed Model	81
4.6.3	Multiple Characteristics	83
4.7	Some Aspects of Bayesian Approach in Analyzing RR Data	86
4.8	Further Developments on Randomized Response	90
	References	91
5	Quantitative Issues Bearing Stigma: Parameter Estimation	95
5.1	Introduction	95
5.2	Theory of Estimating Totals/Mean of Stigmatizing Characteristics	96
5.2.1	Device I	97
5.2.2	Device II	99
5.3	Optional Randomized Response	103
5.3.1	The Approach of Huang (2010)	105
5.3.2	The Approach of Gupta, Shabbir and Sehra (2010)	107
5.3.3	Optional Randomized Response for Complex Sampling Designs	109
	References	112
6	Indirect Techniques as Alternatives to Randomized Response	115
6.1	Introduction	115
6.2	The Item Count Technique	117
6.2.1	Revised Version of the Item Count Technique	117
6.2.2	Three Sample Item Count Technique	123
6.2.3	Item Count Technique for Quantitative Sensitive Characteristics	127
6.3	The Nominative Technique	129
6.4	The Three-Card Method	132
6.5	Non Randomized Models	134
6.6	Surveys with Negative Questions	144
	References	147

7 Protection of Privacy 151

7.1 Introduction 151

7.2 Measures of Jeopardy 152

7.3 Protection of Privacy in Case of Quantitative Sensitive
Characteristics..... 162

7.3.1 Randomized Device I..... 164

7.3.2 Randomized Response Device II 166

7.4 Perceived Protection of Privacy 167

References 170

Index..... 173