List of Figures and Tables

Figures

Figure 1-1. Effect of language on survey response formation processes 4
Figure 2-1. Distribution of the index of all problematic questions, by race 36
Figure 3-1. A reproduction of the language questions from the 2017 American Community Survey 55
Figure 3-2. Segment of R code specifying a survey design object using the survey package 58
Figure 3-3. Trends in language diversity and prevalence and distribution of non-English speakers across the country, 2006–2017 59
Figure 3-4. Choropleth map of Public Use Microdata Areas colored by the most popular language group other than English, using 2017 Public Use Microdata Sample data 60
Figure 3-5. Choropleth map of Public Use Microdata Areas shaded by the number of limited English proficiency households, using 2017 Public Use Microdata Sample data 61
Figure 3-6. Conditional distributions for response mode across each language group and year have significant differences 61
Figure 3-7. Conditional distributions on both household language and English proficiency exhibit significantly different modes of response distributions 62
Figure 3-8. Average allocation rates across household language groups split by mode of response and level of English proficiency with bands for 95 percent confidence intervals 63
Figure 4-1. Distribution of Spanish and English proficiency on speaking, reading, and writing, by interview language 83
Figure 4-2. Percentage relative difference for items with frequency and quantity scales between Spanish and English interviews, by Spanish translation version 86
Figure 5-1. Taxonomy of language choice, by Afrobarometer country 106
Figure 5-2. Coefficients from multilevel logistic regression models predicting language choice 111

Figure 8-1. Percentages of linguistic features across the languages: Interaction direction and speech 164
Figure 8-2. Percentages of linguistic features across the languages: Types of answers and back channeling 166
Figure 9-1. Back translation process 183
Figure 11-1. A chatbot screen (mock-up by the author) where Nura, a chatbot, is enticing the user with its friendly tone to engage in some product research for audio short stories at Generation1.ca 222
Figure 11-2. Chatbot Wizu initiates a conversation with a guest about a customer experience hotel stay survey 226
Figure 11-3. When prompted by AI chatbot Wizu, a customer reports on the hotel stay service experience candidly 226
Figure 12-1. Smartphone screenshot example of emoji-based answer scales 232
Figure 12-2. Smiley faces used for 5-point satisfaction scale 233
Figure 12-3. Smartphone screenshots of meaning interpretation questions 235
Figure 12-4. Smartphone screenshots of numeric value questions, by condition 236
Figure 12-5. Words and phrases associated with the happiest face 238
Figure 12-6. Words and phrases associated with the unhappiest face 238
Figure 12-7. Median numeric values assigned to faces 239

Tables

Table 2-1. Explanation of verbal behavior codes 34
Table 2-2. Explanation of independent variables 35
Table 2-3. Descriptive statistics of continuous independent variables 36
Table 2-4. Distribution of dichotomous independent variables 36
Table 2-5. Distribution of the factor variable “education” 36
Table 2-6. Logistic hierarchical and hierarchical linear models examining requests for clarifications to problematic questions 38
Table 3-1. American Community Survey modes of survey administration and languages per mode 53

Table 3-2.	Coefficient estimates for main effects and interactions of household languages and response modes both treated as factors from 2006 through 2012	64
Table 3-3.	Coefficient estimates for main effects and interactions of household languages and response modes both treated as factors from 2013 through 2017	65
Table 4-1.	Proportion of "strongly agree" for family cohesion questions, by interview language	85
Table 5-1.	Language taxonomy	105
Table 5-2.	Survey language in Kenya, Mozambique, and Cameroon, by language taxonomy	108
Table 6-1.	Cross-tabulations of units with and without a language barrier and their dwelling or area characteristics	121
Table 7-1.	Frequently used probes	132
Table 7-2.	Examples of behavior codes	140
Table 8-1.	Focus group composition	159
Table 8-2.	Coding scheme definitions and objectives	160
Table 8-3.	Coding scheme examples	161
Table 8-4.	Percentage agreement between coders in each language	163
Table 8-5.	Pairwise differences across the five languages and linguistic features	167
Table 8-6.	English-language focus group interaction	169
Table 8-7.	Chinese-language focus group interaction (Chinese transcript followed by its meaning in English)	171
Table 8-8.	Vietnamese-language focus group discussion (Vietnamese transcript followed by its meaning in English)	172
Table 8-9.	Korean-language focus group interaction (Korean transcript followed by its meaning in English)	173
Table 10-1.	Example 1	209
Table 10-2.	Example 2	209
Table 10-3.	Example 3	210
Table 10-4.	Example 4 and Example 5	211
Table 10-5.	Example 6	212
Table 10-6.	Example 7	212
Table 10-7.	Example 8	213
Table 12-1.	Deviation from ideal interval size	240