

Wiley Series in Survey Methodology

# COGNITIVE INTERVIEWING METHODOLOGY

*Edited by*

**Kristen Miller • Stephanie Willson • Valerie Chepp • José Luis Padilla**



**WILEY**

## WILEY SERIES IN SURVEY METHODOLOGY

Established in Part by WALTER A. SHEWHART AND  
SAMUEL S. WILKS

Editors: *Mick P. Couper, Graham Kalton, J. N. K. Rao,  
Norbert Schwarz,*

*Christopher Skinner*

Editor Emeritus: *Robert M. Groves*

The ***Wiley Series in Survey Methodology*** covers topics of current research and practical interests in survey methodology and sampling. While the emphasis is on application, theoretical discussion is encouraged when it supports a broader understanding of the subject matter.

The authors are leading academics and researchers in survey methodology and sampling. The readership includes professionals in, and students of, the fields of applied statistics, biostatistics, public policy, and government and corporate enterprises.

ALWIN Margins of Error: A Study of Reliability in Survey Measurement

BETHLEHEM Applied Survey Methods: A Statistical Perspective

BETHLEHEM, COBBEN, and SCHOUTEN Handbook of Nonresponse in Household Surveys

BIEMER Latent Class Analysis of Survey Error

\* BIEMER, GROVES, LYBERG, MATHIOWETZ, and SUDMAN Measurement Errors in Surveys

BIEMER and LYBERG Introduction to Survey Quality

BIEMER Latent Class Analysis of Survey Error

BRADBURN, SUDMAN, and WANSINK Asking Questions: The Definitive Guide to Questionnaire Design---For Market Research, Political Polls, and Social Health Questionnaires, *Revised Edition*

BRAVERMAN and SLATER Advances in Survey Research: New Directions for Evaluation, No. 70

CALLEGARO, BAKER, BETHLEHEM, GÖRITZ, KROSNICK, and LAVRAKAS (editors) Online Panel Research: A Data Quality Perspective

CHAMBERS and SKINNER (editors) Analysis of Survey Data

COCHRAN Sampling Techniques, *Third Edition*

CONRAD and SCHOBEN Envisioning the Survey Interview of the Future

COUPER, BAKER, BETHLEHEM, CLARK, MARTIN, NICHOLLS, and O'REILLY (editors) Computer Assisted Survey Information Collection

COX, BINDER, CHINNAPPA, CHRISTIANSON, COLLEDGE, and KOTT (editors) Business Survey Methods

\* DEMING Sample Design in Business Research

DILLMAN Mail and Internet Surveys: The Tailored Design Method

FULLER Sampling Statistics

GROVES and COUPER Nonresponse in Household Interview Surveys

GROVES Survey Errors and Survey Costs

GROVES, DILLMAN, ELTINGE, and LITTLE Survey Nonresponse

GROVES, BIEMER, LYBERG, MASSEY, NICHOLLS, and WAKSBERG Telephone Survey Methodology

GROVES, FOWLER, COUPER, LEPKOWSKI, SINGER, and TOURANGEAU Survey Methodology, *Second Edition*

\* HANSEN, HURWITZ, and MADOW Sample Survey Methods and Theory, Volume 1: Methods and Applications

\* HANSEN, HURWITZ, and MADOW Sample Survey Methods and Theory, Volume II: Theory

HARKNESS, BRAUN, EDWARDS, JOHNSON, LYBERG, MOHLER, PENNELL, and SMITH (editors) Survey Methods in Multinational, Multiregional, and Multicultural Contexts

HARKNESS, van de VIJVER, and MOHLER (editors) Cross-Cultural Survey Methods

HUNDEPOOL, DOMINGO-FERRER, FRANCONI, GIESSING, NORDHOLT, SPICER, and DE WOLF Statistical Disclosure Control

KALTON and HEERINGA Leslie Kish Selected Papers

KISH Statistical Design for Research

\* KISH Survey Sampling

KORN and GRAUBARD Analysis of Health Surveys

KREUTER (editor) Improving Surveys with Paradata: Analytic Uses of Process Information

LEPKOWSKI, TUCKER, BRICK, DE LEEUW, JAPEC, LAVRAKAS, LINK, and SANGSTER (editors) Advances in Telephone Survey Methodology

LESSLER and KALSBECK Nonsampling Error in Surveys

LEVY and LEMESHOW Sampling of Populations: Methods and Applications, *Fourth Edition*

LUMLEY Complex Surveys: A Guide to Analysis Using R  
LYBERG, BIEMER, COLLINS, de LEEUW, DIPPO,  
SCHWARZ, TREWIN (editors) Survey Measurement and  
Process Quality

LYNN Methodology of Longitudinal Surveys

MADANS, MILLER, and MAITLAND (editors) Question  
Evaluation Methods: Contributing to the Science of Data  
Quality

MAYNARD, HOUTKOOP-STEENSTRA, SCHAEFFER, and  
VAN DER ZOUWEN Standardization and Tacit  
Knowledge: Interaction and Practice in the Survey  
Interview

MILLER, WILLSON, CHEPP, and PADILLA (editors)  
*Cognitive Interviewing Methodology*

PORTER (editor) Overcoming Survey Research  
Problems: New Directions for Institutional Research,  
No. 121

PRESSER, ROTHGEB, COUPER, LESSLER, MARTIN,  
MARTIN, and SINGER (editors) Methods for Testing and  
Evaluating Survey Questionnaires

RAO Small Area Estimation

REA and PARKER Designing and Conducting Survey  
Research: A Comprehensive Guide, *Third Edition*

SARIS and GALLHOFER Design, Evaluation, and  
Analysis of Questionnaires for Survey Research, *Second  
Edition*

SÄRNDAL and LUNDSTRÖM Estimation in Surveys with  
Nonresponse

SCHWARZ and SUDMAN (editors) Answering Questions:  
Methodology for Determining Cognitive and  
Communicative Processes in Survey Research

SIRKEN, HERRMANN, SCHECHTER, SCHWARZ,  
TANUR, and TOURANGEAU (editors) Cognition and  
Survey Research

SNIJKERS, HARALDSEN, JONES, and WILLIMACK  
Designing and Conducting Business Surveys

STOOP, BILLIET, KOCH and FITZGERALD Improving  
Survey Response: Lessons Learned from the European  
Social Survey

SUDMAN, BRADBURN, and SCHWARZ Thinking about  
Answers: The Application of Cognitive Processes to  
Survey Methodology

UMBACH (editor) Survey Research Emerging Issues:  
New Directions for Institutional Research No. 127

VALLIANT, DORFMAN, and ROYALL Finite Population  
Sampling and Inference: A Prediction Approach

WALLGREN and WALLGREN Register-based Statistics:  
Administrative Data for Statistical Purposes, *Second  
Edition*

\* Now available in a lower priced paperback edition in the  
Wiley Classics Library.

# **COGNITIVE INTERVIEWING METHODOLOGY**

*Edited by*

**Kristen Miller**

*National Center for Health Statistics*

**Stephanie Willson**

*National Center for Health Statistics*

**Valerie Chepp**

*Hamline University*

**José-Luis Padilla**

*University of Granada, Spain*

**WILEY**

Copyright © 2014 by John Wiley & Sons, Inc. All rights reserved.

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.

Published simultaneously in Canada.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise, except as permitted under Section 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 750-4470, or on the web at [www.copyright.com](http://www.copyright.com). Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008, or online at <http://www.wiley.com/go/permissions>.

**Limit of Liability/Disclaimer of Warranty:** While the publisher and author have used their best efforts in preparing this book, they make no representations or warranties with respect to the accuracy or completeness of the contents of this book and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose. No warranty may be created or extended by sales representatives or written sales materials. The advice and strategies contained herein may not be suitable for your situation. You should consult with a professional where appropriate. Neither the publisher nor author shall be liable for any loss of profit or any other commercial damages, including but not limited to special, incidental, consequential, or other damages.

For general information on our other products and services or for technical support, please contact our Customer Care Department within the United States at (800) 762-2974, outside the United States at (317) 572-3993 or fax (317) 572-4002.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic formats. For more information about Wiley products, visit our web site at [www.wiley.com](http://www.wiley.com).

***Library of Congress Cataloging-in-Publication Data:***

Cognitive interviewing methodology / edited by Kristen Miller, National Center for Health Statistics, Stephanie Willson, National Center for Health Statistics, Valerie Chepp, National Center for Health Statistics, Jose-Luis Padilla, University of Granada, Spain.

pages cm

Includes bibliographical references and index.

ISBN 978-1-118-38354-4 (paperback)

1. Interviewing. 2. Cognition. 3. Questionnaires-Methodology. 4. Social surveys-Methodology. 5. Social sciences-Research-Methodology. 6.

Psychology-Research-Methodology. I. Miller, Kristen.

H61.28.C64 2014

001.4'33-dc23



2014011436

*Dedicated to Janet Harkness,  
friend and pioneer of cross-cultural survey methods*

# CONTENTS

[Foreword](#)

[Acknowledgments](#)

[Contributors](#)

[1 Introduction](#)

[1.1 Cognitive Interviewing Methodology](#)

[2 Foundations and New Directions](#)

[2.1 Introduction](#)

[2.2 Sociology and the Interpretivist Tradition](#)

[2.3 New Directions: Interpretation and Cognition](#)

[2.4 Methodological Implications for Cognitive Interviewing](#)

[2.5 Conclusion](#)

[3 Data Collection](#)

[3.1 Introduction](#)

[3.2 Cognitive Interviewing Study Sample](#)

[3.3 The Cognitive Interview](#)

[3.4 The Role of Interviewer](#)

[3.5 Conclusion](#)

[4 Analysis](#)

[4.1 Introduction](#)

[4.2 Analysis of Cognitive Interviews: Overview](#)

[4.3 Analytic Steps for Cognitive Interviews](#)

[4.4 The Benefits of a Complete Analysis](#)

[4.5 Conclusion](#)

[Note](#)

## 5 Assessing Translated Questions via Cognitive Interviewing

### 5.1 Introduction

### 5.2 Why Use Cognitive Testing in Multilingual Survey Research

### 5.3 Translation and Translation Assessment Procedures

### 5.4 Cognitively Testing Translations of Survey Questions

### 5.5 Problems Uncovered by Cognitive Testing of Translations

### 5.6 Conclusion

### Note

## 6 Conveying Results

### 6.1 Introduction

### 6.2 Contents of a Cognitive Interviewing Report

### 6.3 Characteristics of a Cognitive Interviewing Report

### 6.4 Conclusion

## 7 Case Study: Evaluation of a Sexual Identity Question

### 7.1 Introduction

### 7.2 Background

### 7.3 Case Study: Cognitive Interviewing Evaluation of the National Health Interview Survey Revised Sexual Identity Question

### 7.4 Case Study Findings

### 7.5 Conclusion

### Notes

## 8 Analysis Software for Cognitive Interviewing Studies: Q-Notes and Q-Bank

[8.1 Introduction](#)

[8.2 Q-Notes Analysis Features](#)

[8.3 Project Management Features](#)

[8.4 Q-Bank: Making Cognitive Interview Findings Publicly Accessible](#)

[8.5 Q-Bank Features](#)

[8.6 Q-Bank: Challenges for the Past and Future](#)

[8.7 Conclusion](#)

[Note](#)

[9 Cognitive Interviewing in Mixed Research](#)

[9.1 Introduction](#)

[9.2 The Mixed Research Paradigm: Characteristics and Design](#)

[9.3 Mixed Method Research and Survey Question Evaluation](#)

[9.4 Conclusion](#)

[10 Conclusion](#)

[10.1 Introduction](#)

[10.2 Summary of Practices](#)

[10.3 New Directions](#)

[Key Concepts](#)

[Question Evaluation Resources](#)

[Online Resources](#)

[Checklists and Standards](#)

[Academic Journals](#)

[Professional Organizations/Meetings](#)

[References](#)

[Index](#)

[End User License Agreement](#)

# List of Tables

## Chapter 5

### Table 5.1

## Chapter 6

### Table 6.1

## Chapter 7

### Table 7.1

### Table 7.2

### Table 7.3

### Table 7.4

## Chapter 8

### Table 8.1

## Chapter 9

### Table 9.1

### Table 9.2

### Table 9.3

### Table 9.4

### Table 9.5

### Table 9.6

### Table 9.7

### Table 9.8

### Table 9.9

### Table 9.10

# List of Illustrations

## Chapter 4

**FIGURE 4.1** Products of data reduction for analytic steps

**FIGURE 4.2** Tiers of theory building for analytic steps

**FIGURE 4.3** Visual representation of thematic schema

**FIGURE 4.4** Visual representation of thematic schema

**FIGURE 4.5** Entire thematic schema

**FIGURE 4.6** Advanced schema: comparing across groups

## Chapter 7

**FIGURE 7.1** Revised sexual identity question and follow-up questions

**FIGURE 7.2** Conceptual map of sexual identity constructs

## Chapter 8

**FIGURE 8.1** Thematic schema for self-care question

## Chapter 9

**FIGURE 9.1** Research designs

**FIGURE 9.2** Anxiety questions examined in the cognitive interviewing study

**FIGURE 9.3** Anxiety field test questions

# FOREWORD

As an early practitioner of cognitive interviewing, I can remember presenting many talks on this new science throughout the 1990s. Occasionally, an audience member would ask a pointed question: Although its proponents spoke of the cognitive interview as an application of psychology, were we perhaps missing something by not taking into account other disciplines as well—like linguistics, sociology, anthropology, and so on? I thought this to be a good point, despite my strong focus on cognitive psychology as an anchoring point. In fact, over the ensuing years, there have been a number of contributions that have emphasized a wider disciplinary perspective—including the argument that responses to survey questions involve more than just the individual mind of the respondent, especially as they incorporate social and cultural phenomena in a social context.

In the current volume, Kristen Miller and her colleagues provide what I believe to be the clearest statement of this truth, and the furthest point in the evolution of cognitive interviewing as a mature expression of qualitative research that provides a rich multidisciplinary perspective. The arguments, illustrations, and examples within this book challenge practitioners of cognitive interviewing—and more broadly, anyone having an interest in the subtleties of questionnaire design—to think in new ways about how survey questions are developed by designers, answered by respondents, and consumed by data users. In particular, as what I believe to be the main contribution of the volume, they expand our fundamental notion of why we choose to conduct a cognitive interview. Rather than viewing this endeavor only as an attempt to “patch up” deficiencies by



identifying and remediating flawed survey questions, the authors conceptualize the cognitive testing enterprise as an opportunity to obtain a more comprehensive view of the items under our microscope. This *interpretivist* viewpoint allows us to alter our underlying research question—so that rather than asking “What's wrong with the survey question?”—we can conversely ask “What's right with it?” More to the point, we can hone that question by asking “How does the question function, and what does this imply about the contexts in which it can profitably be employed?” This expansive viewpoint is clearly of interest across a wide range of applications involving the use of self-report data collection instruments.

Although I use the term “microscopic” above, Miller et al. also further the field of cognitive interviewing by incorporating a vital macroscopic view in leading us to step back and consider the wider context of how survey items function across a range of cultures, languages, countries, and other contexts that are increasingly relevant to survey methodology. The book is the first to tackle the challenges of *comparative* cognitive interviewing, and takes a head-on approach to providing practical assistance to those who face the myriad challenges of question development and evaluation when faced with requirements of instrument translation, interviewing teams that speak different primary languages, and questionnaires that simply do not apply well due to cultural and structural variation. Having collaborated with Dr. Miller in particular over the recent years in which cross-cultural cognitive interviewing has taken root and grown, I can well appreciate the way she has been able to make use of battle-tested experience to save others from having to learn the same hard lessons over again.

A third unique contribution of this volume relates to *analysis*—well-recognized as the Achilles Heel of the

cognitive interviewing process. In a word, the authors preach transparency: We need to put our cards on the table in demonstrating exactly what we mean when we say we have conducted cognitive interviews, what our data consist of, and most importantly, how we came to the conclusions we present within a cognitive testing report. Following an increasingly salient thread within the qualitative research tradition, the book provides clear examples, and conceptual direction, concerning how the results of cognitive interviews should be systematically and openly processed, so that a *complete analysis* is conducted. By paying significantly more attention to our analytic processes, we end up with a product that is coherent, defensible, and that sets the stage for replication and further advancement of the field as a whole.

Finally, Miller and colleagues look beyond the cognitive interview to also consider the associated pretesting approaches that exist within our ready toolbox of questionnaire development, evaluation, and testing methods. Although the notion that we can look to alternatives, such as behavior coding, psychometric, and field-based experimental studies, has deep roots in the survey methods field, the current volume advocates tying these roots together, through the use of mixed-method studies that leverage the unique strengths of each approach. In particular, the use of quantitative methods reveals how much, or how often, a phenomenon exists; whereas the overlaying of intensive qualitative methods like the cognitive interview reveals “why this happens” due to the richness of the information the qualitative perspective provides. In summary, the current book provides a clear pathway to new thinking, new methods, and new directions for questionnaire designers, survey managers, and data users.

GORDON WILLIS

*National Cancer Institute*

# ACKNOWLEDGMENTS

This book has taken us somewhat longer to write than we initially anticipated. The additional time, however, brought additional critique, debate, and refinement of our ideas.

We thank Catherine Simile for providing perspective and significant insight, and Mitch Loeb for his helpful review and input. We thank our colleagues from Swan Solutions, Florencia Ramirez and Luis Cortes, for editorial comments and insurmountable help in pulling together the entire manuscript including figures, tables, bibliography, and appendices. Special thanks go to Lee Burch also of Swan Solutions for his many years of inspiration and support, as well as Karen Whitaker—office manager extraordinaire—who continuously reminds us to think about the “big picture” while keeping us on task in the here and now. We are especially grateful for all our colleagues in the Questionnaire Design Research Laboratory at the National Center for Health Statistics (NCHS) who, collectively, have helped to improve cognitive interviewing methodology.

We also thank the members of the question evaluation community who developed and sharpened the field over the past 20 years. We are particularly grateful for conversation (and sometimes loud debate!) with Gordon Willis, Norman Bradburn, Janet Harkness, Jack Fowler, Paul Beatty, Fred Conrad, Terry DeMaio, Jennifer Rothgeb, Peter Mohler, Rory Fitzgerald, and Debbie Collins—all of whom helped to shape our thinking.

Additionally, we thank our institutions: the National Center for Health Statistics along with the NCHS Office of Research and Methodology which, under the direction of Nat Schenker, promoted and prioritized question evaluation

methodology, providing us the resources and time to develop this work. The University of Granada and the Spanish National Statistics Institute, particularly, Miguel Angel Martínez Vidal who pushed the cognitive interviewing projects in Spain.

We are appreciative of Wiley and our editors, Sari Friedman and Steve Quigley, for realizing the value of this project.

A most special thank you to the NCHS Associate Director of Science, Jennifer Madans, who for over a decade pushed us, argued with us, forced us to articulate better (and sometimes drove us crazy!) more than anyone else. Without her mentorship and sincere dedication to question evaluation and the advancement of survey methodology, this book would not exist. For this, we are truly grateful.

# **CONTRIBUTORS**

ISABEL BENITEZ BAENA, University of Granada, Spain

VALERIE CHEPP, Hamline University

CAROLINE GRAY, Research Institute of the Palo Alto  
Medical Foundation

MEREDITH MASSEY, National Center for Health Statistics

JUSTIN MEZETIN, National Center for Health Statistics

KRISTEN MILLER, National Center for Health Statistics

JOSÉ-LUIS PADILLA, University of Granada, Spain

J. MICHAEL RYAN, The American University in Cairo

PAUL SCANLON, National Center for Health Statistics

ALISÚ SCHOUA-GLUSBERG, Research Support Services

ANA VILLAR, City University London

GORDON WILLIS, National Cancer Institute

STEPHANIE WILLSON, National Center for Health  
Statistics

# 1

## Introduction

KRISTEN MILLER

National Center for Health Statistics

Although the beginnings of survey research can be traced as far back as the late 1880s, the discussion of question design and the need for standardized questions did not appear for another 50 years (Groves et al. 2009). Since this time, notions about question design have dramatically transformed, particularly in regard to question evaluation. In 1951, Stanley Payne published his book, *The Art of Asking Questions*, and laid out 100 considerations for writing survey questions. Although he maintained that question evaluation studies could be helpful, he argued that the actual writing process should be the higher concern. Today, however, there is a greater emphasis on question evaluation. Also, with the entrance of psychologists, psychometricians, and more recently, anthropologists, qualitative methodologists, and cognitive sociologists, the scientific rigor and scope have increased.

A significant advancement for question evaluation occurred in the 1980s with the entrance of cognitive psychology and the study of the cognitive aspects of survey methodology (CASM). The CASM movement not only brought attention to the issue of measurement error, it also established the idea that individual processes, specifically, respondents' thought processes, must be understood to assess the validity and potential sources of error (Schwarz 2007). The underlying supposition is that, as noted by Willis (2005), "the respondent's cognitive processes drive the survey response, and an understanding of cognition is central to

designing questions and to understanding and reducing sources of response error” (p. 23). Thus, with the advent of CASM, the focus of question design shifted from the question writer to the respondent and cognitive processes.

The cognitive processes that make up question response have been represented in a number of theoretical models. A commonly cited question-response model contains four stages: comprehension, retrieval, judgment, and response (Tourangeau 1984; Tourangeau et al. 2000; also see Willis 2005 for a detailed discussion). To provide a response, each respondent proceeds through four specific steps: (1) determining what the question is asking, (2) recalling or retrieving the relevant information, (3) processing the information to formulate an answer, and (4) mapping that answer onto the provided response categories. By recognizing the cognitive processes, it is possible to understand the complexity of the question-response process as well as the numerous possibilities for response error (Tourangeau et al. 2000; Willis 2004, 2005). By establishing a theoretical foundation for survey question response, the CASM movement provided a basis for scientific inquiry as well as a practical basis for understanding and reducing response error in survey data.

Today there is little debate that question design—how questions are worded and the placement of those questions within the questionnaire—impacts responses (e.g., Fowler 2009; Krosnick and Presser 2010). Newly developed or reconceptualized methodologies (e.g., latent class analysis, behavior coding, and item-response theory) have repeatedly demonstrated the impact of question design (Madans et al. 2011). Psychometricians, for example, have shown that scale items with more response categories are increasingly likely to produce response distributions with a wider spread than those with fewer categories (Crocker and Algina 2008). Split sample experiments—a method that



divides a survey sample into two groups whereupon one group receives a question and the other receives a different version of the same question—have also shown varying estimates (Krosnick 2011; Fowler 2004). In terms of substance and practicality, each methodology has its own benefits but also limitations (see Madans et al. 2011 for in-depth explication). The future of question evaluation lies in the use and integration of varying methodologies. Understanding the range of methodological perspectives—the suppositions, benefits, and limitations—will improve knowledge of question response and survey error, and ultimately ensure quality survey data.

## **1.1 COGNITIVE INTERVIEWING METHODOLOGY**

This book focuses on the question evaluation method of cognitive interviewing—a method arising directly from the CASM movement. It is a qualitative method that examines the question-response process, specifically the processes and considerations used by respondents as they form answers to survey questions. Traditionally the method has been used as a pretest method to identify question-response problems before fielding the full survey. The method is practiced in various ways (Forsythe and Lessler 1991), but is commonly characterized by conducting in-depth interviews with a small, purposive sample of respondents to reveal respondents' cognitive processes. The interview structure consists of respondents first answering a survey question and then providing textual information to reveal how they went about answering the question. That is, cognitive interview respondents are asked to describe how and why they answered the question as they did. Through the interviewing process, various types of question-response problems that would not

normally be identified in a traditional survey interview, such as interpretive errors and recall accuracy, are uncovered. DeMaio and Rothgeb (1996) have referred to these types of less evident problems as “silent misunderstandings.” When respondents have difficulty forming an answer or provide answers that are not consistent with a question's intent, the question is typically identified as “having problems.” A problematic question can then be modified to reduce response error.

By definition, cognitive interviewing studies determine the ways in which respondents interpret questions and apply those questions to their own lives, experiences, and perceptions. In that cognitive interviewing studies identify the content or experiences contained in the respondents' answers, the method is a study of construct validity. That is, the method identifies the phenomena or sets of phenomena that a variable would measure once the survey data is collected. Moreover, cognitive interviewing studies can examine issues of comparability, for example, the accuracy of translations or equivalence across socio-cultural groups (Goerman and Caspar 2010; Willis and Miller 2011). In this way, the method is an examination of bias since it investigates how different groups of respondents may interpret or process questions differently. To this end, cognitive interviewing studies can encompass much more than identifying question problems. Cognitive interviewing studies can determine the way in which questions perform, specifically their interpretive value and the phenomena represented in the resulting statistic.

This book will lay out procedures for conducting cognitive interviewing studies with an eye toward studying constructs, including processes and considerations for data collection, analysis, and making conclusions. The book will also describe how to write results of cognitive interviewing studies so that findings can serve as ample documentation

for both survey managers and data users who will use the study to more fully understand and better interpret survey data. Finally, the book will lay out limitations of cognitive interviewing studies and explore the benefits of cognitive interviewing with other methodological approaches. This book is not intended to be a stand-alone guide for conducting a cognitive interviewing study. There are many aspects of the method that cannot be fully addressed in this volume. Other books and articles, such as Willis' (2005) already cited work, *Cognitive Interviewing*, offer significant and complementary material.

Unlike other works, however, the perspective of this book is set specifically within an interpretivist framework in which the construction of meaning is considered elemental to the question-response process. The method explicated in this book, then, is oriented toward the collection and analysis of interpretive patterns and processes that constitute the question-response process. This perspective does not run counter to the psychological focus of cognition, but rather emphasizes interpretive value and the fluidity of meaning within the context of a questionnaire as well as (and perhaps more significantly) within the socio-cultural context of respondents' lives. An interpretivist perspective understands that meanings and thought patterns do not spontaneously occur within the confines of a respondent's mind, but rather those meanings and patterns are inextricably linked to the social world (Berger and Luckman 1966). Context is not identified only as the context of the survey interview, but most significantly it includes the socio-cultural context of that respondent's life circumstance and the perspective that he or she brings to the survey interview. How respondents go about the four cognitive stages—of comprehending, recalling, judging, and responding—is informed by respondents' social location, including such significant factors as their socio-

economic status, education, gender, age, and cultural group. Consequently, not all respondents will necessarily process questions in the same manner. An important aspect, therefore, addressed in this book includes a method for examining the socio-cultural influence and comparability across groups.

In thinking about the various objectives that can be accomplished by cognitive interviewing studies, the ultimate goal of a cognitive interviewing study is to better understand question performance. Again, this includes not only identifying respondent difficulties (a.k.a. “problems with questions”), but also identifying the interpretive value of a question and the way in which that question may or may not be consistent with its intent—across particular groups and in different contexts. With a more complete picture of a question's performance, more options emerge in regard to how a question could be altered before fielding or how the resulting variable should be utilized by data users. Moreover, by understanding question performance, a more sophisticated portrayal of response error emerges—one that illustrates response error as a non-binary variable when considered across the entirety of the survey sample. When interpretive findings from cognitive interviewing studies are combined with quantitative studies (as described in Chapter 9), insights into question performance are exponential. A particular limitation of cognitive interviewing methodology is that, while it can discern various patterns of interpretation, it cannot determine the extent to which interpretive patterns exist or vary in the actual survey data. Coupled with a quantitative design, however, it is possible to begin measurement of interpretive variation.

In keeping with the basic tenets of scientific investigation, a predominant theme throughout the book is the necessity for systematic and transparent processes. Systematic data

collection and analysis ensure accuracy in the identification of interpretive patterns and processes. Transparency allows readers to understand as well as to cross-examine the ways in which studies were conducted and how conclusions were reached. In addition, transparency instills the trustworthiness of a study and the reputability and believability of study findings. These tenets carry through data collection and analysis to the final report, which must document the analytic process and present evidence to support findings.

The chapters of this book are presented as components of a cognitive interviewing study. Chapter 2 lays out the theoretical foundations of cognitive interviewing methodology, more closely connecting an interpretivist framework to the method that will be articulated in this book. Chapter 3 discusses issues of sampling as well as issues pertaining to quality interview data. The role of the interviewer and the role of the respondent become central themes in the discussion of data quality for cognitive interviews. Chapter 4 lays out a step-by-step process for performing analysis of cognitive interview data while, at the same time, producing an audit trail that links analytic findings with the original interview data. Chapter 5 is a separate analytic chapter devoted to cross-cultural and multi-lingual cognitive interviewing studies. From an interpretive perspective, the impact of socio-cultural context on comparability is a significant component of question evaluation and, therefore, is highlighted in its own chapter. Chapter 6 describes the process for conveying the results of a cognitive interviewing study. In this chapter attention focuses on the importance of transparency and the presentation of empirical evidence—a necessary criterion for producing a credible study. Chapter 7 provides a case study which illustrates how a cognitive interviewing project conducted in the manner presented in this book can

be practiced. Chapter 8 presents newly developed tools that benefit cognitive interviewing studies as well as the field of question evaluation. Those tools include Q-Notes, a data entry and analysis application, and Q-Bank, an online resource that, among various other features, houses question evaluation studies and is searchable by question. Chapter 9 discusses limitations of cognitive interviewing studies and illustrates how the method can be integrated with quantitative methodologies to improve understanding of question performance. Finally, the concluding chapter summarizes key principles articulated throughout the book as well as presents emerging ideas and recommendations for the field of question evaluation and survey research.