COGNITIVE INTERVIEWING

OVERVIEW

Cognitive interviewing is a qualitative step in the scale development process in which items and response sets are tested with individuals or groups using verbal probing or think-aloud procedures. It can also be called cognitive testing or pretesting. Cognitive interviewing occurs after items have been developed based on the theoretical construct to be measured and reviewed by experts. The interviews may be conducted in person or over the phone. With the verbal probing technique, research participants are typically asked to read, respond to, and provide feedback about one item at a time (concurrent verbal probing). Alternatively they may be asked to give feedback about a set of questions after responding to all of them (retrospective probing). The think-aloud technique entails having the participant say what he or she is thinking while reading items and choosing responses. The two techniques can also be combined. Vignettes and card sorts can also be used to obtain cognitive information related to item development. Cognitive interviewing is often used to test data collection techniques as well as items. For example, instructions and prompts for data collectors may be tested and improved using cognitive methods.

Cognitive interviewing data are analyzed using qualitative methods and results are used formatively to improve questions and response sets. The most systematic (but uncommon) analysis methods involve developing a codebook indicating what the intent of an item is, definitions of the constructs being evaluated, etc.; and training raters to use the codebook reliably in conjunction with obtained data. Cognitive interviewing can provide rich and valuable information about vocabulary, constructs, item construction, and the compatibility of items with their response sets. It should be considered in all scale development efforts, but may be especially important for scales being developed for populations who are different from the researchers developmentally, culturally, economically, or in terms of life experiences.

ARTICLES AND CHAPTERS

Description of Method

Beatty, P. C., and Willis, G. B. (2007). Research synthesis: The practice of cognitive interviewing. Public Opinion Quarterly, 71(2), 287-311. This synthesis is a great place to start as you compare and contrast the different paradigms of cognitive interviewing and the considerations and decisions which must be made in connection with each.

This article provides a brief assumptions underlying standardized measurement and a brief summary of the components of measurement error. The cognitive methods toolkit provides information on two basic techniques (think aloud, probing) and provides a useful comparison/contrast.

Drennan focuses on the use of cognitive interviewing data to explain and prevent non-response. Points out the weaknesses in the literature regarding the analysis of interview data, and provides some interesting references to approaches for maximizing validity and objectivity.

Advocates an interesting mixed-methods approach to validity of a measure of national identity. CFA and EFA are used to identify poor performing items, and cognitive interviews are used to identify the sources of the issues with poor performing items.

A practical, short form version of the Willis text.

This article reports on the development and evaluation of a procedure to evaluate cognitive interviewing data. A code book specifying what information the researchers wanted to gain from items and a coding scheme were developed. Master’s level social workers trained in the system evaluated responses in relation to the codebook, and reliability of their codes was assessed.

Applications

This article summarizes the process and results of three rounds cognitive testing of online survey items with children. Evidence of the benefits of cognitive interviewing for survey development and recommended procedures for testing items with children in middle childhood are presented.

This article includes a description of the application of cognitive interviewing to improve a questionnaire used to answer a research question in educational policy. The article illustrates the complexity of participant thought processes, and demonstrates how the use of cognitive interviews can inform improvement of more than just the wording of questionnaire items.


Summarizes activities and results of a study of the validity of responses to the National Survey of Student Engagement (NSSE).

**Texts**


Willis’ how-to text was a welcome addition to the literature on cognitive interviewing when it came out. His chapters describe the stages of cognitive testing and how they relate to scale development. He also provides concrete strategies for carrying them out. The text includes 12 recommendations for researchers using the method and lots of examples of cognitive data. Highly recommended for anyone new to the approach.

- The e-book is available through the OSU Library at [Link](#).


This edited text is also an excellent source of information on cognitive interviewing and other methods of pretesting questionnaire items. The book is more theoretical and talks about item development more broadly than Willis’ text, but it is an authoritative and useful reference. The chapters on developing and testing measures for special populations in Part VI, among others, provide valuable practice advice.