

Cognitive Interviewing: An Overview and an Illustration

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Cognitive interviewing (CI) is a pre-testing procedure that is useful during the process of adaptation of a psychological measure/scale. The paper provides a brief overview of this procedure. The issues that may be addressed through the use of CI, during pre-testing of a tool, are enumerated. The actual processes involved, including different techniques are described. The difficulties in application of such techniques across cultures are highlighted. Finally, the paper provides an example of using the CI procedure for pre-testing a measure of emotional processing for use in India.

Key words: Cognitive Interviewing, adaptation of psychological tests/scales, pre-testing psychological measures, cultural issues in testing

Recent years have witnessed a heightened focus on issues related to multicultural and multilingual study designs (Goerman, 2006) as well as a high usage of adapted versions of psychological measures borrowed from different cultures. However, there has been a low emphasis on discussions of methods utilized for pre-testing such measures. Any psychological instrument such as a questionnaire / a scale developed in one culture needs to go through extensive pilot testing before it is ready for use in another culture. This holds true irrespective of the fact whether the measure is intended for use in the original language itself or requires translation in a local language. The present report focuses on "cognitive interview" as one such powerful method in the process of adaptation of psychological measures for use in local samples. Wills (2005) defined cognitive

interview as an in-depth interview, which involves the researcher studying "the manner in which targeted audience understand, mentally process and respond to the materials we present, with a special emphasis on breakdowns in this process".

Scope

Cognitive interviewing techniques may be utilized to address some of the following issues: Whether the meanings of the items, as understood by the respondents, are same as the meanings of the items as intended by the authors/researcher? Whether the items contain any phrases/expressions that are infrequently used in the local culture? (The local subjects may understand such items accurately but may experience alienation / difficulty in relating to the item content.) Does the structure of any item is perceived as very different from the commonly used sentence structures in the local context, resulting in the items being low on reader friendliness? Are the response choices meaningful for the local subjects? Whether some items/parts of the items are culturally inappropriate, offensive / low in cultural relevance? In case of pre-testing

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a translated version, whether certain key word/concepts have been translated well? This is especially important to ensure that translations have resulted in conceptual rather than linguistic equivalence.

Sample recruitment

Cognitive interviewing is a time-intensive procedure and requires a high level of cooperation from the respondents. The commonest procedure is to draw up a small convenience sample from the population, while attempting to ensure that the characteristics of the overall sample (especially in terms of participants' ages and education levels and socio-cultural context) are similar to the larger population group for which the measure would be ultimately utilized.

Interviewing approaches

Cognitive interviewing may be carried out using concurrent or retrospective approaches. Concurrent approaches involve inquiry/probing that proceeds simultaneously with the respondent going through & answering each item. Think aloud procedure (in the concurrent approach) involves respondents verbalizing their thoughts while reading each question and generating/choosing the answer. Another popular technique is to ask the respondent to rephrase an item in his or her own words (paraphrasing). This can indicate whether the item is being misunderstood and can also suggest possible ways of rephrasing the item. Concurrent /think-aloud procedures are demanding for the respondents as well as the interviewers but are likely to result in comprehensive coverage of related issues. In retrospective/debriefing procedure, the interviewer asks questions about the instrument/measure after the respondent has completed answering all the items/a particular section of the survey. Retrospective probing, though less burdensome for the respondents, may result in missing out important information, due to deficiencies in probing/recall/. Both approaches use probes/follow up questions.

Probes can be structured in advanced (scripted) or developed (emergent) as the interview progresses.

Probes can be oriented to articulating meanings as understood by the respondents (meaning- probes) or paraphrasing. Process-oriented probes are used to understand the process used for estimating/decision making while arriving at the answer and recall- probes focus on finding out how respondents retrieve specific information from memory. The interview protocols for all the respondents are content analyzed to ascertain whether certain items appear to have problematic structure/content and hence require revision.

Difficulties in the use of Cognitive interviewing procedure

There are a few research reports that suggest that respondents from varied cultures (even those with advanced education levels) have difficulties with cognitive interviewing procedures, especially think-aloud procedures & process-oriented probes (Pan, 2004; Blumberg & Goerman, 2000). These difficulties have been attributed to inappropriate translations of English language probes or to the respondents being unfamiliar with participating in survey interviews. Respondents with low educational levels may have difficulty with cognitive interviewing in general (Miller, 2003). Other difficulties in cognitive interviewing include the respondents experiencing anger, annoyance, anxiety related to their perception of repetitiveness of interview questions, viewing the interview situation as a test of their capacity (Coronado & Earle, 2002). Several measures to overcome these difficulties have been suggested (Goerman, 2006). Some of these include introducing the interviewing situation as a means of testing the questionnaire rather than as a means of data collection, forewarning that some questions may sound strange/repetitive, providing examples of think-aloud procedure/paraphrasing, meaning or process-

probes & giving an explicit rationale as to why such questions are asked.

An Illustration

The process of utilizing cognitive interviewing and the findings thereof in the case of an emotional processing scale, are described below as illustration of the issues raised above. There is a dearth of measures of emotional processing, a construct that is valuable in research on emotions and also has strong clinical implications in terms of assessment and therapy of various psychiatric disorders that involve emotional dysregulation in different forms.

Emotional Processing Scale (EPS, Baker et al., 2000) was developed to assess various dimensions of emotional processing. The original version of EPS, available in English, consists of 53 items that use a 0- 9-point rating scale format (“completely disagree” to “completely agree”). It was decided to pilot test the applicability of this version of the scale for English speaking adult population of Indian participants. This was considered important in view of the fact that India is multilingual country and a culturally appropriate English version of the measure is likely to have a high utility. Besides, a suitably modified English language version (for use in India) can also form the template for translation of the scale into Indian languages. The same can be subsequently used for testing the psychometric properties of adapted versions & development of local norms.

Sample: Purposive sampling technique was used to select a small sample of ten participants for pilot testing of EPS. Recruitment of subjects was carried out keeping in view the characteristics of the potential subjects in India for whom an English version of EPS may be ultimately utilized. The subjects were 20 years or older & had completed at least three years of college education, the medium of instruction at the college level being English. All the subjects

were employed as professionals /worked on a skilled job. Males and females were equally represented.

Procedure: All the participants were explained the rationale for the study and what their participation entailed in terms of time-investment. The potential subjects were explained the nature of the task in detail as well as the research value of their efforts. This maximized their readiness for facing the demanding procedure of cognitive interview. Written informed consent was obtained from those willing to participate. One to one interviews were used for this exercise. The whole procedure required about one and half hours per participant. The initial part of the session was used in introducing the cognitive interviewing task and familiarizing the participant with the process. The participants were specifically explained that the procedure was “not meant to test their knowledge of English language / their comprehension capacity” but to test the appropriateness of the measure for use in India. Examples of paraphrasing items, meaning probes as well as think-aloud procedure were provided. Concurrent probing was used wherein the participants read aloud the question, thought –aloud about the question as well as the process of answering to the question. The interview was not structured and thus the probes used depended on the content of the interview as it proceeded (emergent probes). Follow up questions were used as & when necessary. The respondents were encouraged to comment on clarity of items, appropriateness of phrases, the overall instructions as well as the response format.

The analyses of the data indicated that 25 items of EPS might benefit from modifications for use with English speaking adults in India. The difficulties encountered were classifiable mainly under three broad and somewhat overlapping categories: 1. Infrequently used sentence structure (e.g. “my feelings were pretty confused”: low clarity, understood

differently by different participants) 2. Infrequently used phrase/words (e.g. “wind down”/ “make feelings happen”: difficulty in understanding) 3. Misunderstood phrases / items: (e.g.”... got strong feelings but I am not sure if they were emotions: difference between emotions & feelings were questioned by all respondents); “... wanted to ... get my own back on someone: meaning not understood /misunderstood); “ I was afraid of strong feelings (understood as strong positive feelings/ strong feelings in others).

The response format was considered to be easy to follow/use by all the respondents.

Without the use of cognitive interview procedure, the difficulties described above were unlikely to come to light as most participants did mark their answers even when they were unclear about the meanings of certain items.

Conclusion

Cognitive interviewing procedure can be a powerful tool for pre-testing psychological measures for use in a given socio-cultural context.

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