Lost in Translation: Bilinguals’ Item-stem Understanding and Responses to Mandarin and English Versions of the CES-D

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Introduction

Background

Questionnaires in psychology are commonly translated into various languages to gather data on populations across different cultures (Cummings, 2018). The Center for Epidemiologic Studies Depression Scale (CES-D, Radloff, 1977) has been translated into numerous languages. Most studies comparing response patterns across translated forms use between-subjects designs; in these cases, post-hoc explanations of differences between response patterns on forms may be attributed to between-group cultural differences. In the current study, bilingual respondents’ judgements of item content equivalency and understanding of items across Mandarin and English versions of the CES-D are examined with data collected using a within-subjects design.

This study examines different patterns of responses as well as different interpretations of items on English (Radloff, 1977) and Mandarin (Zhang et al., 2010) versions of the CES-D, particularly with regard to the items with the English-wording: “I felt that everything I did was an effort”. I enjoyed life,” I had crying spells,” and “I could not get “going” among bilingual (Mandarin and English speaking and reading) study participants using two post-questionnaire completion interview protocols.

Research Questions

RQ1. Do respondents perceive they have a different understanding of items between Mandarin and English forms?

RQ2. Are there items in any language that respondents found confusing or difficult to process as a result of the translation? If yes, which items and why were they confusing or difficult to process?

RQ3. Does the language of the item-stems yield specific response patterns?

Methods

Participants

Participants were undergraduate students (N = 80) with a mean age of 20.7 (SD=2.84), 51.3% were Female. Due to intended recruitment strategy, participants were bilingual or multilingual, with 90% who spoke Mandarin as their first-language and 7.5% who spoke Cantonese as their first-language. 12.5% of respondents reported being more fluent or as fluent in English than their first language.

Procedure and Measure

Participants completed the English and Mandarin versions of the CES-D (counterbalanced) using think-aloud protocol, followed by a post-questionnaire completion interview yielding information on their reasons for confusing responses between language forms, their understanding and interpretation of particular items (7, 16, 17, 20), reasons for their confusion/difficulty processing certain items, and demographic information regarding language background.

 CES-D: The CES-D is a 20 item measure of symptoms of depression over the past week. Response options are on a 4-point scale with higher scores indicating a more frequent occurrence of symptoms.

Focal Post-Questionnaire Completion Interview Transcript Coding

Coders examined transcripts individually to identify possible themes for focal questions. As a result of this, a qualitative coding strategy was used for responses between language forms. Reasons for confusion/difficulty included: 1. Reasons for confusion in understanding between English and Mandarin CES-D (e.g., Could Not Understand Meaning of Items in English/Better Understanding in Mandarin); 2. Reasons for confusion/difficulty (e.g., Don’t Understand English Item wording (DU)); 3. Reason for changing responses between English and Mandarin CES-D (e.g., Understand “Effort” as Positive in English, Mandarin Item Understood as “Tired”)

Note: Exemplar quotes from post-questionnaire interviews for each of the above research questions are provided.

Results

RQ1 – Different Understanding of Items between Mandarin and English. Analyses showed that 82.5% (n=66) of respondents reported “yes” when asked whether they had a different understanding between questionnaires in Mandarin and English (Protocol 1) or if they felt that having to respond to items in two different languages had an effect on their understanding (Protocol 2). When probed for reasons why, 28.8% (n>23) of respondents mentioned that they “Could Not Understand the Meaning of Items in English”. Another 7.5% (n<7) of respondents mentioned “I could not get “going””. Figure 2 shows the proportion of respondents who listed items 7, 16, 17, 20 as confusing/difficult to process compared to the average proportion of other items listed as confusing/difficult to process. When probed, respondents provided explanations such as, they did not understand the language of the item. Between within-group ANOVA for mean responses to items 7 and 16 showed statistically significant results (F(7, p<0.01, n=33; 17, p<0.01, n=32) and Versus Understanding interaction effects (7: p=0.01, n=38; 17: p<0.01, n=32) (Figures 3 a and b illustrate these patterns).

RQ3 – Response Patterns between Mandarin and English CES-D. A comparison of our post-questionnaire completion interview responses between language forms revealed: 13% (n=23) of respondents changed their response to item 7 (“I felt that everything I did was an effort”) from one language form to another. When asked in the post-questionnaire completion interview for reasons why they changed their response, 21.3% (n>17) respondents attributed the change to “Understanding ‘effort’ as positive, and understanding the Mandarin equivalent as ‘tired’”. Another 18.8% (n>15) of respondents mentioned that they did not understand the English item wording “effort” as their reason for changing item 7. The correlations between responses to corresponding Mandarin and English were not significantly different from zero for respondents who changed their responses from one version to the next (p=.05).

Note: Exemplar quotes from post-questionnaire interviews for each of the above research questions are provided.

Conclusion

This study highlights the importance of translation of questionnaire items as part of the creation of equivalent forms of questionnaires for use across language and cultural backgrounds, as well as the use of post-questionnaire completion interviews for informing understanding of item interpretation and construct validity (Embretson, 2016)

Definitions of Codes and Themes

RQ2 – Confusing/Difficult

Item 7 – “I felt that everything I did was an effort”.

P1: “Well first of all, in Chinese, it should be negative in this case. But in English version, I wouldn’t defend this as positive. Chinese word “fei” […] you work really hard and you try, but there’s nothing else you can do, you still failed. While in English, my understanding, “effort” is a positive vocabulary [in my mind].” T

P2: “Because this item [item 7 on English] indicate[s] that I make effort… so I think it’s positive. But the Chinese version, it’s very like tried after I make or do all of the things. T

P7: “Cause the word ‘effort’ I don’t understand it clearly in English, I don’t really get it [as] clear as Mandarin.”

Item 17 – “I had crying spells”

P8: “Chinese people, I think, more like ‘I’ve cried before or wanted to cry, but I had crying spells’ sounds like you cried a lot, often, easily.” T

P9: “I cannot understand ‘crying spells’.”

Item 20 – “I could not get ‘going’”

P10: “The “could not get going” [means] that life is so stuck, I cannot keep going.”

P11: “I don’t understand this one, this question (get going). But in Chinese version I can understand.”

RQ3 – Response Patterns

Item 7: “I felt like everything I did was an effort”.

P12: “Because the way I comprehended the question was different. [Chinese item] means ‘I feel like everything I did went to waste’; but then ‘I feel like everything I did was an effort’, to me ‘an effort’ is like, you try to give something; I’m trying hard for what I did.”

P13: “I think item 7 means ‘when I do these things, it’s effort I put on’, but 7 in Mandarin, the question says ‘everything I do is not very energetic’… it’s just the differences in understanding.”

P14: “I think that’s misunderstanding of the language. I was confused about the word ‘effort’. I had no problem understanding in Mandarin.”

P15: “I didn’t clearly understand the question; I misunderstand ‘effort’”

Exemplar Quotes

The following provides example quotes from post-questionnaire interviews from 15 participants grouped by RQ and an overall theme of either Translation Difference (T) and Don’t Understand Item Wording (DU).

RQ1 – Different Understanding

P1: “Certain words in English have some different connotations than the corresponding words in Chinese” T

P2: “Yeah it has a difference. I don’t know if the question is exactly the same, but in a different language… When I read English, it come[s] out in my mind one meaning. When I read in Chinese, it come[s] out another meaning, so to me, it’s two totally different kinds of questions.” T

P3: “My first language is Mandarin, so I have a better understanding of the questions in Mandarin. If the question is in English, I might not understand what it means,” DU

P4: “My English was the second language, and my Mandarin is my first language… Mandarin will be much easier to understand,” DU

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References


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