Author’s response to reviews

Title: How Participants Report Their Health Status: Cognitive Interviews of Self-Rated Health Across Race/Ethnicity, Gender, Age, and Educational Attainment

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Author’s response to reviews:

Thank you to the editor and the reviewers for your careful consideration of our manuscript, “How Participants Report Their Health Status: Cognitive Interviews of Self-Rated Health Across Race/Ethnicity, Gender, Age, and Educational Attainment." Responding to your comments has greatly improved the quality of this manuscript. Below we address the methodological and substantive issues raised in each of your comments. Given the amount of information being moved to and from appendices in order to address changes, we did not use red to indicate changes in the document. Rather, we note the page and paragraph where each comment that warranted a change to the manuscript is addressed.

Reviewer 1:

1) The paper, "How Participants Report Their Health Status" examines qualitative interview data collected to explain respondents' ratings on a single, self-rated health (SRH) question. While this question may be used widely in survey research as the authors indicate, in this reviewer's experience it is rarely used as the only health question exactly because it is so global and open to diverse interpretations. This question in any health or mental health survey would likely be combined with assessing symptoms, diagnosed illnesses, anthropomorphic measures, lifestyle and behaviors and socio-demographic factors. I fail to understand the utility of sorting out the meanings behind such a global question, nor do I understand the transformation of qualitative to quantitative data that permit inter-correlations when it would be much more effective to collect comprehensive quantitative survey data in the first place.
a) Thank you for these comments, which made clear that we needed to do more to situate our research in the literature and motivate its importance. We highlight the potential importance of the research in the first paragraph of the introduction (page 4), and situate the current study on pages 5-6 (paragraph starting with “However, the prior research on”), page 6 (paragraph starting with “In the course of documenting”), and page 7 (section labeled “Current Study”).

2) Qualitative data plays an important role in research, specifically because it provides a broader perspective, experiences, detail, a coherent narrative, a way of fitting the focal issue in the context of peoples’ lives and as an important complement to quantitative data. This paper shows us that a quantitative global assessment of health is a compilation of many different perspectives; in my view this outcome is not very useful nor informative.

a) The overall qualitative approach we use here is cognitive interviews to elicit descriptions of how respondents rate their health. We then employ an inductive and iterative coding of what participants say to arrive at analytic categories that capture dimensions of their talk. We enumerate the presence/absence of certain features of what we coded, and look for differences across sociodemographic groups. Part of the contribution of this paper is the development of the analytic categories and their subdimensions in addition to hypothesis generation of plausible mechanisms through which differences in SRH occurs across groups. Qualitative studies such as these are useful and informative for researchers who use the SRH measure, as it provides a more nuanced understanding of how SRH functions.

3) The quota sampling for the qualitative interviews is described as seeking a balance of ethnicity (white, black, Latino and American Indian), gender (male and female), age (older v. younger), and educational attainment (greater v. lesser). By my count that is 4 x 2 x 2 x 2 or 32 cells with 2 in each cell if the authors were actually seeking "equal numbers" or many zero cells if only some dimensions were used as the sampling frame. It is hard to imagine that even the Fisher’s Exact test to handle such a sampling frame.

a) Using the quota sampling frame, there are 32 respondents for each group with 2 categories (gender, age, and education) and 16 for the group with 4 (race/ethnicity), which is a sufficient number of respondents per cell for the Fisher’s exact test since we do not examine combinations across categories. We edited the methods section to make this clearer (page 13, Analytic Strategy section). As we note in the paper, examining these group differences is clearly exploratory (page 13, Analytic Strategy section and page 23, paragraph starting with “Although the characterizations of “how” participants”).
4) While the authors claim a bottom up approach to coding their focus on "valence," temporality" and "conditionality" seems to emerge as an a priori theoretical perspective. Their use of the terms "unitization," "utterance," "turns-of-talk" and "substring" rather than elucidating, mystifies the management and interpretation of qualitative data. The reading, initial coding, rereading and recoding of qualitative data described by the authors will drive away anyone considering getting involved in qualitative analysis.

a) The analytic categories emerged from our inductive and iterative coding process. These categories were not known a priori. The terms “utterance” and “turn-of-talk” follow the conventions of conversation analysis, one of the theoretical perspectives that informs the analysis of cognitive interviews. We changed uses of utterance to “words or phrases” where appropriate, and we define “turn-of-talk” in the methods section (page 9, Coding Process section). We do agree that “unitization” and “substring” are superfluous for publication and have removed this discussion from the methods section.

5) The Results section is less about what has been found and more about methodological issues of the coding process including more discussion of the nuances of the coding process and the component parts of SRH. More troubling is when "results" of the small subsamples are explained with stereotypic explanations (embedded in the results section) about men, Latinos, those with higher education and other groups. Such statements as, "Given that men are less likely to seek health care than women...," "...whites are more likely to discuss physical functioning...," "Latinos have a more collectivist orientation..." to explain results in these limited subsamples propel generalizations that are not even delimited to this subsample or to a location in Wisconsin.

a) In the first submission, we included the analytic categories that emerged from our analysis in the Results sections, as we consider these to be results of the qualitative analysis. However, we have moved the more detailed descriptions back to the methods section (pages 10-13, Analytic Categories section). When we were reporting the results for differences across sociodemographic groups, we sought to contextualize the findings. Rather than being stereotypical explanations, these are findings that we seek to ground in extant literature with supporting citations. However, we agree that these belong in the Discussion section and have moved them there (pages 23-25 in the Discussion section). In addition, we have reiterated at multiple points that the analysis of group differences is exploratory (page 13, Analytic Strategy section and page 23, paragraph starting with “Although the characterizations of “how” participants”). Furthermore, a focus on between-group differences should be supplemented with a focus on intersecting systems of identity and oppression, which cannot be examined in this small convenience quota sample. We note
this is the discussion as well (page 23, paragraph starting with “Although the characterizations of “how” participants”). We hope these revisions are responsive to your concerns.

6) The methodological issues presented in the Results and Discussion sections overwhelm the presentation of the results and the utility of this investigation leaving the reader to wonder just what was the outcome of this research. A more straightforward and simplified presentation of methodology, a cleaner presentation of the results and a discussion of the application of the outcomes is need make this paper publishable.

   a) We agree and we have substantially reorganized the methods, results, and discussion based on these comments and those from reviewer 2.

Reviewer 2:

7) I thank the authors for this interesting read. The paper is principally well written but I have three major and several minor comments to be addressed. General and major comments: Throughout the manuscript, text sections appear in the wrong chapters. The authors have to make a clear distinction between 'results', 'methods' and 'discussion' and don't mix up text sections in the wrong chapters.

   a) Thank you for this suggestion, we have incorporated your detailed suggestions, which we describe below.

8) An additional table should be created that lists the methods used and the corresponding classifications, outcomes, categories, etc. (more below).

   a) We appreciate this suggestion. Rather than creating a table to describe the methods and take up additional space, we have moved all the components of the methods to the methods section as suggested by the reviewers, so that the methods are succinctly described in one place. The analytic categories that emerged in the research are clearly numbered in the Methods section (Analytic Categories section) and comprise the subheadings of the Results section, thus we find a table describing the themes to be superfluous.

9) The discussion needs a major revision. It is now too much a repetition of the introduction, methods and results chapters. Instead, it should discuss the results found and compare them
with other literature. Some of the introduction chapter could potentially be shifted to the discussion. The references given in the discussion are too few.

a) Thank you for this suggestion. We have incorporated your detailed suggestions for doing so, described in more detail below.

10) Abstract: In the first sentence, add ’…to measure perceived health’.

a) We have chosen to add “subjective” based on your suggestion.

11) Under results, the first two sentences are describing methods: "Our qualitative analysis consisted of identifying and classifying various dimensions of the following analytical categories: Which types of health factors are mentioned, the valence of health factors, the temporality of health factors, conditional health statements, and response process statements. We examined whether the presence of each dimension of an analytical category varies across sociodemographic groups.”

a) Thank you for this suggestion. The identifying and classifying of the various dimensions is part of the results of the qualitative analysis. To clarify this, we have edited the abstract to read: “Our qualitative analysis led to the identification and classification of various subdimensions of the following analytic categories.” We also moved the last sentence noted by the reviewer to the methods section as suggested.

12) Introduction: The introduction is very lengthy. Try to trim down to the point where possible. Move some to discussion Page 5: "(but see Manderbacka ….. for exeptions."

This raises more questions than it answers. What are those exeptions? Page 8: Starting from "We identified and calssfied the following...." until the end of this chapter belongs to Methods, not Introduction.

a) Thank you for these comments. We have edited the introduction in several places for concision based on this feedback. In addition, the paragraph containing “exceptions” was deleted as it was ancillary to the current study. Finally, we deleted some of what was in the “Current study” Background subsection as it was already part of the methods section.
13) Methods: The authors should explain why they have done two rounds of interviews and discuss in the Discussion chapter, how this could have influenced the results.

a) We have added the following to the methods section: “The two rounds facilitated testing different versions of other questions in the study; the SRH question and its probes remained unchanged across the two rounds” (page 8, Sample section). We do not believe that having the study conducted in two rounds would influence the results for the SRH question which appeared as the initial question in the interview in both rounds and would not be affected by question order effects. None of the methods external to the questionnaire – such as the methods used to recruit participants – changed between rounds.

14) The authors should provide the questionnaire as a supplementary file.

a) We include in the manuscript the text for the SRH question and the follow-up probes (page 7, Cognitive Interviewing Protocol section). Since this study analyzes just the SRH question (which appeared as the first question in the questionnaire) and not the other questions, we believe including the full questionnaire would be burdensome for readers but we will do so if desired by the Editor and Reviewers.

15) There should be a statement on how many interviewers conducted the interviews and how they were recruited. Consequently, there should be a discussion in the Discussion chapter, on how this recruitment and number of interviewers could have biased the results. Same goes for the coders.

a) Thank you for this suggestion. We have added information about the interviewers and coders to the methods section (pages 8-9, sections on Interviewing and Transcription and Coding Process). As with any interviewer-administered survey, it is possible that the interviewers selected for this study could have affected participants’ answers through their behavior or through their characteristics. However, we do not have a design or the statistical power to test the independent effect of the interviewers and so we do not describe ways in which they could have influenced the data. It was unclear to us what the Reviewer meant by how the coders could have biased the results. Based on other suggestions of the Reviewers, we have edited the Methods section to be comprehensive and transparent in the description of our coding methods so that these methods could be replicated. We hope the more complete description we provide is responsive to the Reviewer’s concerns.
16) In light of the mixing up of text elements and the complexity of the methods used, I suggest to the authors to make a table that explains the methods used, the classifications applied, the categories made, etc. This would very much simplify the readers understanding instead of having it dispersed throughout the text.

a) Please see the response to #8 above.

17) Results: The table in appendix A is describing the study population and is therefore the first important finding of the present research, hence, put as Table 1 of the manuscript. Consequently, the first sub-chapter in the Results chapter should be describing the study population. This is also important because the authors put an emphasis on the different groups - as mentioned on several occasions as well as the title of the manuscript.

a) Thank you for the suggestion. We think that if anything, the study sample should be in the methods section, so we have moved the table to the manuscript as Table 1.

18) Rethink the sub-chapter titles. If leaving them as a question "Which types of health factors inform health ratings" add a question mark. Alternatively, formulate as a result "Health factors informing health ratings." Same for "How health factors…" 

a) Thank you for this suggestion. We have streamlined the presentation of the headings in the Results section to align with the five analytic categories.

19) In the following, text in this chapter that is methods:

a) As described above, we divided the transcripts into units of talk or utterances that corresponded to the unique coding categories.

i) We agree that this is methodological and have deleted this from the manuscript as it is already stated in the Methods section.

b) Everything from page 15 "In psychology, …." until page 16 "Table 2 shows the percent…" is METHODS.

c) Another way our analysis considers how participants account for health in formulating their answers [...] such as "if I didn't have diabetes."
d) A cascade occurs […] my health is really good.

i) Thank you for these suggestions (19b, c, d). Our analysis consists of uncovering these analytic categories and specifying their subdimensions as well as tabulating the categories and examining differences across groups. We have moved the larger descriptions of these analytic categories to the Methods section as noted above, but we retain brief definitions of each in the results section to briefly contextualize the results.

20) In the following, text in this chapter that is discussion:

a) The differences across groups correspond to expectations based on previous research.

i) We agree and have moved these sorts of comments to the Discussion

b) Given that men are less likely to seek health care than women (see Williams, 2003, for a review), it is plausible that health information from a practitioner or setting is particularly notable and salient for the men who have accessed it.

i) We agree and would have moved to the Discussion except the finding is no longer relevant (as we are interpreting two-tailed Fishers exact test, while the prior draft was using the less conservative one-tailed test).

c) a finding consistent with prior research (Krause and Jay 1994).

i) We agree and have added to the Discussion (page 24).

d) This finding aligns with previous research which shows that Latinos have a more […] by invoking hierarchy or individuation.

i) We agree and have added to the Discussion (page 25).

e) highlighting an interesting juxtaposition […] to rate one's health (Kaplan and Baron-Epel 2003; Simon et al. 2005).

i) We agree and have added to the Discussion (page 24).

f) While the number of participants is too small […] given the gendered nature of ageism in the US (Holstein 2015).
i) We agree and have added to the Discussion (page 25).

g) Somewhat unsurprisingly, …

i) We retained this sort of editorial comment as it helps to situate the results being presented.

h) which is consistent with research showing that education is linked to better health.

i) We agree and have added to the Discussion (page 24).

i) This finding highlights one pathway through which the apparent "health optimism" of men in the US […] or neutrality as opposed to polarity.

i) We agree and have added to the Discussion (page 25).

j) … that highlight the cognitive response […] (Tourangeau et al)

i) This has been removed from the current draft.

21) Starting at page 17, the third paragraph, it seems that the results are no longer shown/presented in tables or figures. Is that intentional? I suggest to add the results in tables.

a) Thank you for the suggestion, this is done for the results that benefit from an additional table in the text (e.g., the results for temporality are easily summarized in the text without a table) and we note “not shown” to indicate which results are being presented in the manuscript text only.

22) The discussion chapter should start with a 1-2 sentence summary of the main findings.

a) The findings are summarized throughout the Discussion. However, we use the first paragraph to provide a roadmap for readers by highlighting the two aims of the study (starting on page 20).

23) There is a mention in the Results chapter on page 15, that "While the number of participants is too small to draw any conclusions about group differences, …": this is surprising as this was - in my understanding - one of the main objectives of the research conducted.
a) It is one of the two main objectives, yet it is still exploratory research given the small sample size and subgroups. We note this in the manuscript (page 13, Analytic Strategy section and page 23, paragraph starting with “Although the characterizations of “how” participants”).

24) References need to be added here. Statements such as "This indicates that prior research…", "…correspond to those documented in prior research…", "but was previously undescribed" need to be underlined with references.

a) Thank you for this suggestion, which we have incorporated.

25) The references are numerated in the bibliography but not in the text. Adhere to authors guidelines from the journal.

a) Thank you for pointing this out. We have revised as you suggested.

26) The reference Williams 2013 is not listed in the bibliography. Also, is there a more recent study on this?

a) Thank you for this note. This citation has been removed from the current manuscript.

27) Was the informed consent taken orally or written? Please add this to the informed consent statement in the declarations.

a) We have incorporated this suggestion.

28) The acknowledgement declaration has to be reworked. It is a repetition of the funding declaration instead it should address e.g. gratitude to study participants, authorities, interviewers, statisticians, etc.

a) Thank you for pointing this out. We do want to include the funders in the acknowledgments, but have also included gratitude to the participants and interviewers as suggested.
29) In Table 2 & 3, differences between socio-demographic groups should be shown. Or instead presented in another table.

a) The cells in Tables 4 and 5 (what were tables 2 and 3) become too small to be meaningful when parsing, for example, by type of health factor and valence and sociodemographic group, as this has to be measured at the level of the respondent in order to be an accurate presentation of the distribution (ever a negative health condition mention vs. not across race/gender/age/education). In addition, these tables are meant to show the distribution of valence across health mentions (Table 4) and SRH response categories (Table 5) to demonstrate the integration of heterogeneous types of information when rating one’s health, the first aim of the study. Future research with a larger sample than ours could examine whether the combinations of health factors and valence (Table 4) and valence and SRH (Table 5) varies across sociodemographic groups. What we can examine is the distribution of ever having a particular valence across race/ethnicity, gender, age, and education, which we now present as Table 3 and interpret in the Results section (pages 15-16).

30) Table Appendix A: Add totals.

a) This is now Table 1. We did not add totals because total across rows and columns could be confusing to readers, as the point of the table is to show the crossing of respondents across the four sociodemographic categories. We did add the total sample size to the title.

Reviewer 3:

31) Current manuscript describes the work undertaken to understand the health factors and the process participants take in order to respond to Self-Rated Health surveys. This qualitative research compares the response processes across different sex, ethnicity and educational attainment groups and can be used as a preliminary model to understand survey results in healthcare settings. I have a couple of suggestions in order to better understand implications of current research findings and understanding next steps: The first question that the authors may consider to answer in their discussion section is threats to validity of findings in terms of confoundings such as occupations (noticing that significant ethnic differences in physical functioning, OR age group difference for mental health), access to care (Medicare vs. commercial insurance with or without coverage for certain services that might prompt a response for those types of health factors). How do the authors envision generalizability of the findings and application of current results in research across States and by regions?
a) Thank you for these suggestions. We have added them to the Discussion section when we discuss limitations (page 26, paragraph starting with “Some limitations to note”).

32) What will be the implications of the study findings in interpreting and understanding SRH results? How the policy makers or public health researchers could be assisted and/or cautioned by these findings in terms of understanding and using SRH in surveys such as NHIS?

a) Thank you for this suggestion. This is a great addition to the Discussion section. We have added text regarding the implications of our findings for researchers and analysts who use SRH (pages 22-23, paragraph starting with “We argue that it is important”, Conclusion on page 27).

33) If possible I would suggest that the authors also provide a brief description of non-responders and whether there was a certain patterns in health condition or other general demographic factors emerge?

a) We do not have any information about non-respondents given the purposive sampling performed in the recruitment phase of the project. For example, one of our methods of recruitment was through flyers strategically posted at community centers, churches, etc. We have no way of knowing how many read the flyer and made a conscious decision not to participate.

34) Finally, I feel a review by an expert qualitative researcher would be appropriate to evaluate the methods used in this study and appropriateness of inferences made.

a) Although the label “expert qualitative researcher” is fairly subjective, we note that each of the authors has training and experience in various types of qualitative research design, implementation, and analysis.