Reviewer's report

Title: Pitfalls in the statistical examination and interpretation of the correspondence between physician and patient satisfaction ratings: an example from shared decision making research

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Reviewer: Jurgen Kasper

Reviewer's report:

The authors report on ambitious methodological work aiming at demonstrating difficulties regarding the analysis of associations between patients' and physicians' ratings of satisfaction which I consider highly important and to the best of my knowledge also new.

I recommend minor revision of the manuscript to:

a) make the expressed aim better fit with the direction of the analyses
b) adjust the structure of the manuscript according to conventions
c) optimize the utilization of the study results

Although my own level of language competence is critical, I stumbled upon a number of sentences that seemed to me suboptimal regarding the English and that I assume would benefit from some refinement.

First of all the way, the aim of the study is expressed is misleading: The reader expects to find information about the correspondence between patients and physicians regarding their satisfaction. However the further course of the manuscript shows, that the authors aim at evaluating appropriateness of methods used to describe correspondence in such a context. The conclusions also show the real focus of the study, which again I appreciate a lot.

Accordingly, as I understood SDM is just the example or the context to demonstrate these methodological difficulties, this (SDM-) context should appear later in the introduction than it does. The authors should also introduce the SDM field of measurement as a clinical context to which this kind of work might be relevant.

I would also recommend to return to SDM in the methods by stating that because of this abovementioned relevance data from an SDM trial are predestined for such analyses (equivalent to justification of sample and design selection).

The authors use data from a randomised trial evaluating an intervention into the doctor patient communication. While reading the results I wondered whether the manuscript wouldn’t gain from abstaining from analysing and reporting differences between the study groups. To my understanding, these results do not contribute to answering the study question and to understand the pitfalls. I would
recommend analysing the sample as one cohort and using the advantage of potentially having more variance in the date (due to the effects of the intervention).

Regarding the ambitious methods the methods section seems not detailed enough. On the other hand, the authors report methods in the results section. I recommend to exclude methods parts in the results and to just report results. However, to expand the methods to enable the reader to understand the results.

I also found parts belonging to the background within the methods. For instance: the whole passage about Luice and Szklo advocating multi method approaches would support the comprehension of the study question and would better be included into the introduction.

Apart from my comments mentioned above (1. regarding results on study group comparison, 2. reporting methods in the results) I found the results appropriately presented. However, I recommend indicating the scale range in the result tables. Furthermore, the part (p.10) explaining influence of empiric range on the appropriateness of B-Altman seem rather a discussion point.

Particularly when analyses are not standard and somewhat difficult to understand for most of the readers a rigorous structure I mean differentiation between methods, results and interpretation of these results is helpful to comprehend the whole thing.

Coming back to my comment above, I recommend revising the conclusions: Again, there are parts included belonging to other chapters. However, the last two sentences are perfect. I would add one sentence indicating the implications of this conclusion for e.g. SDM research. I understood, researchers should be cautious interpreting results of associations, which presently is an issue in the SDM research.

I marked several sentences, where I found small grammar mistakes or where the wording seemed to me not English. However, I assume language editing will be helpful.

Thank you for being asked to comment on this interesting and important paper!

**Declaration of competing interests:**

'I declare that I have no competing interests'