Reviewer’s report

Title: Psychometric Assessment of Three Newly Developed Implementation Outcome Measures

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Reviewer: Melissa Brouwers

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Psychometric Assessment of Three Newly Developed Implementation Outcome Measures

Thank you for the opportunity to review this paper.

A. Overall Comments

Overall, it is a very strong and important piece of work.

* The introduction statements and the study rationale are comprehensive and compelling.

* Placing this study in the context of the work of Proctor et al. was smart and an added asset to appeal (and make sense of this area) to a broader range of this journal's readers.

* That the authors bundled all three studies together as a package, rather than as three separate papers was very useful, and generous. It enabled the "whole" measurement package to be considered at once and to provide the confidence that the resulting measures are of highest quality.

* Description of the methods and results sections is complete and framed in a very accessible manner. This holds true for all three studies.

* The conclusions were thoughtful and for the most part well-balanced.

The researchers did a very good job and this paper makes an important contribution.

B. Most substantial consideration.

From what I understand of the design and the results and Table 2, within each vignette the manipulation of the concept to reflect the three measures (acceptability, appropriateness, and feasibility) were all high or all low. So there was not a situation within a vignette where high and low was manipulated between the 3 measures to create some sort of fractured factorial design. Given the correlation between the measures - what are the limitations of this approach? In other words, could of the validity testing and other measurement properties be inflated if the concepts of acceptability, appropriateness, and feasibility reinforced each other to make the highs
perceived to be even more high and the lows perceived to be even more low? While still an excellent study a statement about choice and potential drawback about this choice would strengthen this paper. It would also be relevant to the Proctor model - the examples given by the authors speak to circumstances where 1 or 2 of the three concepts - acceptability, appropriateness and feasibility may not be aligned.

C. Smaller considerations.

* Response rate for Study 1 was forgotten - how many individuals had to be invited to find the 62 participants - and by what means were they recruited. This did not happen in the other two studies - I believe an oversight.

* Suggestion. The authors may wish to unpack the results and separate the more technical phrases from the interpretation phrases into two distinct statement to reduce cognitive load of reader and to consider simplifying the interpretation message in places. While the technical aspects are extremely well written, for some readers of this paper the methods may be quite new.

For example. From this:

Median weighted assignments for all but five items were significantly greater than zero after applying the Hochberg correction for multiple tests, indicating that participants judged the items to reflect to a significantly greater degree the constructs they were intended to measure than they did the other constructs.

To something like this:

Median weighted assignments for all but five items were significantly greater than zero after applying the Hochberg correction for multiple tests. Thus, items were judged to "fit" significantly better to the construct they were intended to measure than to the alternative constructs.

* 2³ANOVA - I would consider spelling out (again) the three factors and that the levels are high and low.

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