Reviewer’s report

Title: A revised short version of the Compassionate Love Scale for Humanity (CLS-H-SF): Evidence from Item Response Theory Analyses and Validity Testing

Version: 2 Date: 20 Jan 2020

Reviewer: Tianlan Wei

Reviewer's report:

Dear Editor,

Thank you for this opportunity. This is the second time I review for BMC Psychology the manuscript titled "A revised short version of the Compassionate Love Scale for Humanity (CLS-H-SF): Evidence from Item Response Theory Analyses and Validity Testing." I applaud the authors' efforts in addressing the comments from me and the other reviewer and would like to acknowledge the improvement of the manuscript over its original version submitted earlier to your Journal. I remain to have some minor but essential concerns for you to consider.

First, I would like to thank the authors for referring me to Edelen & Reeve (2007), which is, as the authors suggest, a credible source for applied researchers of IRT. Regarding the justifications for this study as added in the revised manuscript, I have these comments for the authors to consider:

1. One of the justifications given is regarding the content validity of the scale: the authors argue that the content validity has been a concern questioned by theorists, but their confirmatory factory analysis (CFA) yielded results that strongly endorse the unidimensionality of the scale. What are the authors' thoughts on this?

2. Edelen & Reeve's (2007) IRT-based item selection procedure (can be found on p. 14 of the article) may still seem a little "post hoc" and exploratory, without any clear-cut guidelines (this is not a problem per se). I wonder if there's any more recent publications (e.g., 2015-present) shedding lights on this issue.

3. When the two graphs in Figure 2 were recreated to be align with each other using the same scale, we could still observe some loss of the test information, as well as increased standard error. To make the following statement convincing, the authors do need to cite credible resources to show that the advantages of the shortened scale may outweigh the loss of information and increased standard errors, preferable in a more object, quantitative way.

"Since the shortening of the scale inevitably results in the reduction of the amount of information provided by the scale, the drop was consistent with the large number of items that were removed (from 21 items to 9 items.). However, it is important to note that the standard errors were very similar, suggesting that the measurement precision was preserved in the abbreviated scale."
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?
6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.