Reviewer’s report

Title: Psychometric properties and population norms of the Positive Mental Health instrument in a representative multi-ethnic Asian population

Version: 0 Date: 02 Dec 2017

Reviewer: Xiangfei Meng

Reviewer’s report:

This study aimed to establish psychometric properties and population norms of a positive mental health instrument (PMH-I), a measure of positive mental health developed in Singapore. A nationally representative survey of 1925 adults were included. A six-factor-higher-order structure of the PMH-I was confirmed.

There are several issues to be addressed.

* Although the survey targets the general population, the response rate is 35%, the representativeness of the findings need to be carefully interpreted.

* The generalizability of the study findings - the usage of PMH-I may be limited due to the fact of multi-ethnic nature. What if other populations have different proportions of multi-ethnic groups than this study population? Caution needs to be paid for this kind of explanatory study.

* There was no information on missing data. What is the missing rate for the study? What approach has been used in the analysis?

* Statistical analyses: why structural equation modeling was not used to explore the relationships between PMH, distress, and other socio-demographic factors.

* I have a major concern with the normative values based on this study cohort. As mentioned previously, this study cohort cannot represent their initial target population and even if it can represent their population, the results still cannot generalize to other populations without the comparison between the proportions of multi-ethnic groups.

* One of strengths discussed in the text was the representative sample. I think it provides misleading information for the potential usage and interpretation of study findings. The sample is not representative. The findings of this study cannot simply apply to other populations.

There are several typos in the text, for instance, p9 line 57 "…using known known group…", figure 1 subscale of PGA, apg 1~10?, page 15 line 4 "…belonging to Other ethnic groups…",
* Authors need to provide the PMH-I in the appendix. I assume the subscales of PMH-I include each items. Figure 1 needs to provide notes for it.

**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.

Yes

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

No

**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