Reviewer's report

Title: Identifying High Risk Subgroups of MSM: A Latent Class Analysis using Two Samples

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Reviewer: Lauren Brinkley-Rubinstein

Reviewer's report:

This a well written paper that uses LCA with two different samples drawn from a nationwide survey and a survey at only one province in China. However, this reviewer has some major concerns that need to be addressed before it is suitable for publication:

1) My major critique of the paper is that it reads in the abstract and introduction as though the main aim is to assess the ability of LCA to properly identify risk profiles, but actually the paper is using LCA to assess the validity of certain aspects of the research design. A revision of the paper will need to make this point crystal clear to the reader.

2) I have some concerns, generally, about comparing a survey that was conducted online and one that was conducted face to face in the clinic and required testing--even without the LCA, we would expect that these samples are going to be different.

3) In addition to #2 above, one of the major conclusions as stated in the discussion is that the online sample is more representative on China than the one province only survey, but this is something we already know. A survey conducted in one particular place should never be considered representative of the whole.

4) The authors state in the paper that motivations to test may be one reason why the in person survey didn't have lower risk participants--however, the convenience of the online survey probably also plays a role.

5) The first two paragraphs of the discussion are a re-hashing of the results--the space could instead be used to dive more deeply into the implications of the findings.

6) The end of the paper should include a more definitive summary of the paper--the final sentence of the paper, as it is currently written, includes a recruitment suggestions for future studies rather than a wrap-up of the papers implications.

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

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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.
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