Reviewer's report

Title: Voluntary vs. Compulsory Student Evaluation of Clerkships: Effect on Validity and Potential Bias

Version: 1 Date: 07 Nov 2017

Reviewer: Edward Krupat

Reviewer's report:

The authors have worked hard to be responsive to the reviewers' comments, and I think that this paper is coming close to being publishable, but I do not believe that it has yet reached this stage. I have three areas of needed improvement, one an important statistical reservation about the analysis that I had not realized in my reading of the original draft.

1. I had proposed that the authors need to make directional hypotheses, however they suggest in the paper that there is not enough evidence to determine which direction the bias in evaluations was likely to go. I disagree with that somewhat, but I can live with that if their reading of the literature suggests this. However, the Intro section ends in the most tentative way in this draft with the statement, "We suggest that inducing responses using authority does not provide accurate information about the clerkship;" and then in the Methods section (beginning with p8/line 21) the authors begin offering hypotheses. Such hypothesizing very definitely belongs at the end of the Intro section (rather than that general statement about what the authors suggest.

2. While they might have stated this directly, the authors made me do the math to determine that the responses came from 49 students who each were asked to rate 7 clerkships. First, the authors never tell us, when responses were voluntary, the extent to which there was consistency across clerkships by individual as to response/nonresponse (or consistency in response to the sham question). For instance, did some individuals rarely or never respond to any of the clerkships, or were different people accounting for nonresponse according to the clerkship. The answer to this question will surely determine how we interpret the data. Second, the authors treat the data in the two conditions, voluntary and required, as if the responses were all independent, but actually the responses were nested within individual. This requires a different kind of analysis than that reported, one that accounts for the non-independence of the responses. The authors must consult a statistical expert/consultant to re-do their analyses so that the tests account for this and are therefore appropriate for their data (in which a small number of individuals account for a large number of responses).

3. Finally, the authors are terribly inconsistent in reporting whether there were differences between compulsory vs required in terms of whether there were mean differences between the two. First, we are told that "Average ratings were comparable between the voluntary
group, unbiased compulsory group, and biased compulsory group. However, ratings were consistently lower in the biased group though this difference did not reach statistical significance." If the means were not statistically significant, then there were no differences, although it is legitimate to say, parenthetically, that there was a "non-significant tendency" for the findings to be lower. Then we are told that "improving response rate using the compulsory approach… added a quality bias to clerkship evaluations." If there were no significant differences, then what is the evidence for bias??? Finally, in their conclusion, the authors say, "we propose that using authority to improve response rates… could threaten the validity by affecting the quality of rating." I am just not sure what the authors mean here? The writing around the key finding of this paper needs considerable cleaning up so that the message of the findings is both clear and consistent.

This is an interesting paper, and the authors’ inclusion of the sham question and consideration of the possible effects of non-response bias in differing contexts (only some of which may apply to this kind of survey) is thoughtful, so it can be a publishable paper. I just don't think it is quite there yet.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**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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I recommend additional statistical review

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