Author’s response to reviews

Title: Applications of the reflective practice questionnaire in medical education

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Author’s response to reviews:
Point-by-point responses to Editor and Reviewer comments

Technical Comments:
RESPONSE: N/A

Editor Comments:
Please make the following minor but essential revisions to your manuscript.

Please address the following concerns from Reviewer 1 (in response to original submission and revision 1) in your next revision:

1. You describe and reference several other questionnaires about reflective practice besides your own reflective practice questionnaire (RPQ), including those by Mamede and colleagues, Sobral, and Aukes and colleagues and Anderson and colleagues (Groningen reflection ability scale). Reviewer 1 requests that you also mention other work on measurement of reflection to put your work in a broader context, specifically another questionnaire (Kember et al, 2000, Development of a questionnaire to measure the level of reflective thinking. Assessment & evaluation in higher education, 25(4), 381-395), an observer-rated instrument of student responses to case vignettes (Boenink, et al. 2004, Assessing student reflection in medical practice. The development of an observer-rated instrument: reliability, validity and initial experiences. Medical Education, 38(4), 368-377), and a rubric for assessing reflection exercises (Learman et al. 2008, Reliability and
validity of reflection exercises for obstetrics and gynecology residents. American journal of obstetrics and gynecology, 198(4), 461-e1). Please work this into your Introduction.

RESPONSE: Details and additional references have been added (including those specifically requested) to the introduction under a new sub-heading ‘Measures of reflection in medical education’.

2. Reviewer 1 would also like you to address the construct validity and theoretical background of your questionnaire. I note that you describe in the methods section on page 8 the subscales of your reflective practice questionnaire (RPQ), including your four dimensions of reflection which are included in the reflective capacity subscale. Perhaps this could be moved to the Introduction, along with some justification for these dimensions. For example, rather than citations to Schon’s concepts of reflection-in-action and reflection-on-action in the supplementary material, please briefly discuss in the Introduction and include the citations there. Does the ‘Reflection with others’ subscale relate to reflective supervision relationships, those relationships being discussed in your first publication on the reflective practice questionnaire (Priddis and Rogers, 2018, Reflective Practice 19(1):89-104)? Does the ‘Self-appraisal’ subscale relate to Kolb’s learning cycle and/or Gibbs’ cycle of reflection? Again, these were mentioned in Priddis and Rogers but not in the present manuscript. Reviewer 1 particularly questions the inclusion of the job satisfaction and confidence in communication subscales in your RPQ. Please address this in the Introduction.

RESPONSE: Details and additional references have been added to the introduction under a new sub-heading ‘The reflective practice questionnaire (RPQ)’.

3. Reviewer 1 is concerned with possible over-interpretation in the Discussion of your correlation results presented in Table 3 and cautions that correlation should not be confused with causation. This should be addressed in the Limitations. Also consider softening interpretation in the first two pages of the Discussion section, or offer (as you sometimes do) potential alternative causation in the opposite direction, e.g., perhaps medical students who are satisfied with their work (‘job satisfaction’) are more likely to want to improve to do better for their patients, or perhaps these are simply associated, without a causal relationship.

RESPONSE: We now soften our interpretation in the fourth paragraph of the discussion, and we added the following sentences to the end of the limitations subsection (borrowing a few of the words you suggested);

"Finally, some of our data (i.e., Table 3) show associations that may or may not reflect causal relationships. For example, perhaps medical students who are satisfied with their work (‘job satisfaction’) are more likely to want to improve to do better for their patients (‘desire for improvement’), or perhaps these are simply associated, without a causal relationship."
I request that you address the following additional points in your revised manuscript:

4. Why did you use two-sample t-tests rather than post-hoc comparisons after one-way ANOVA to ‘compare the RPQ sub-scales across samples’ (statistical methods, page 9)? Usually, post-hoc comparisons such as Tukey (similar group sizes and similar variances amongst groups), Gabriel’s (unequal group sizes) or Games-Howell (if unequal variance) are performed after one-way ANOVA rather than t-tests when all groups are being compared, which you did (supplementary information section 3).

RESPONSE: Thank you for pointing out our oversight. We used Bonferroni adjusted comparisons following ANOVA (not two-sample t-tests) to compare groups in both supplement sections 3 and 5, but we forgot to change the terminology in our statistical methods. The terminology has now been changed.

5. Methods, page 7, line 22. I do not see the need for the words ‘optional’ or ‘latter’ in the sentence ‘Two of the latter responses were incomplete, leaving 98 optional and anonymous responses for the present analysis.’ It seems to me that ‘latter’ and ‘optional and’ could be deleted from this sentence.

RESPONSE: These words have been deleted.

6. In the Introduction you state you increased the sample size from 45 (Priddis and Rogers reference) to 100 mental health practitioners, but then in the Methods (page 7, line 36-40) you state 100 mental health practitioners were reassessed in the present study. The Introduction indicates 55 respondents are new in this study, so ‘reassessed’ does not seem the correct word for their responses. Also, clarify this at the beginning of the Discussion: your mental health practitioner sample has not been published previously in its entirety. Were there any differences between the 55 new and 45 previously published mental health practitioner datasets?

RESPONSE: This wording has been clarified in the second paragraph of the Methods and first paragraph of the Discussion sections. The increase in sample size produced modest decreases in the mean subscale scores for RC, DfI, Unc, and SiP, and small increases in the means for CG, CC, and JS.

7. Supplementary information, section 3: ‘ANOVA for each sub-scale, with ‘cluster group’ as the between participants factor’ – ‘cluster group’ is confusing. The follow-up comparisons compare medical students, general public, and mental health practitioners, whereas section 5 compares the cluster analysis groups. I wonder if you copied this from section 5 to section 3 and forgot to reword in section 3.
RESPONSE: Thank you. You are correct. This portion of section 3 in the supplement has been reworded.

8. The description of the method of cluster analysis in the Results, page 11, lines 50-54, ‘…hierarchical agglomerative cluster analysis using weighted average linkage method and using absolute-value distance as the dissimilarity measure’ would be more appropriate in the statistical methods section, page 9, lines 31-35. Similarly, the factor analysis methodology in Results, page 9, lines 44-51, belongs in the statistical methods section immediately above.

RESPONSE: These former portions of the Results have been moved to the statistical methods section.

9. Bearing in mind the very small number (n=5) for the ‘dissatisfied’ group, the key difference is their much lower job satisfaction, and perhaps that should be the only aspect emphasised in the Discussion (page 15, lines 48-52) rather than beginning characterising them as having ‘lower levels of confidence in communication’.

RESPONSE: The change you suggest has been made in the last paragraph of the Discussion.

Reviewer reports:

Silvia Mamede, M.D., PhD (Reviewer 1): In my previous review, one of my main concerns referred to the theoretical background of the questionnaire. The revised version of the manuscript does not show any amendments or additions with regard to this point. I believe each publication has to speak for itself, and readers should not need to search for a previous publication to find the background literature upon which the study has been built. I also find it questionable the argument that reliability is to be investigated without concerning about validity, which is to be tested only latter.

The additional information regarding aspects of the Methods are welcome. Other problems, however, remain. For example, I find the discussion of the findings of correlation analysis (page 14) needs revision, which has not occurred. The correlations say nothing about underlying mechanisms and therefore they do not "show how RC may help…". In addition, there causality seems to be confused with correlation here.

RESPONSE: These issues have been addressed as described under items 1 – 3 above.

Dejano Tavares Sobral, M.D. (Reviewer 2): Dear Authors,

Thank you for your point-by-point responses to the comments and suggestions.
RESPONSE: Thank you all for your helpful suggestions.