Author's response to reviews

Title: Brazilian version of the Jefferson Scale of Empathy: psychometric properties and factor analysis

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Author's response to reviews: see over
Dear BMC Medical Education editors,

We were very pleased with reviewers’ comments on our manuscript and made efforts to improve it as they have suggested. We are addressing reviewers’ comments point-by-point as follows:

Reviewer: Eun-Jung Shim

Major compulsory revisions

1. The terminology in the title of the manuscript and in the methodology section has been reviewed and replaced by exploratory factor analysis, which was the statistics performed for the study.

2. We recognize the lack of comparisons of students’ JSE scores with other measures of empathy as a limitation to our study. This was added in the manuscript as follows: “Although it might have been valuable to our study, we did not test the concurrent validity of the JSE with other measures of empathy. We tried to mitigate students’ response burden during OSCE evaluations and chose to test validity through factor analysis and known-group validity.”

Since the association between empathy and other measures of clinical performance is yet to be consolidated, we believe this association would not test the scale validity. We intend to investigate such associations in future studies with the validated version of the scale and this was stated in the last paragraph of the manuscript: “The use of a validated measure may help evaluate strategies for learning empathy and consolidate its association with clinical performance in future studies”.

3. The sentence “We may also question whether gender differences found in several studies among medical trainees (8,10,12) are due to intrinsic (e.g., genetics, personality) or extrinsic factors (e.g., culture, values, beliefs)” has been reviewed, replaced and references have been added to provide evidence of the current findings on gender differences related to empathy. Paragraph after revision is as follows:

“However, gender differences have been reported in several studies among medical trainees, with the results favoring female students [8,10,12]. Such controversies remain to be elucidated: current neuroscience studies investigate not only intrinsic factors related to empathy such as genetics [27] and brain networks [28,29] but also extrinsic factors such as social values and culture [30] that could possibly explain gender differences. After all, are these differences a matter of sex or gender? This question remains unanswered.”
4. Practical implications of the validation study were added in the last paragraph of the manuscript as follows: “The use of a validated measure may help evaluate strategies for learning empathy and consolidate its association with clinical performance in future studies.”

**Minor essential revisions**
1. Statistical terms were converted to italics.

2. Correlation coefficient value was corrected in the text according to the value described in table 2.

3. The manuscript has been sent to English editing (American Journal of Experts) as suggested by the reviewer.

Statistical review was performed by one of the authors (RMCP – statistics professor) and the “a priori criteria” for Principal Component Analysis (PCA) was withdrawn since it has not been performed. Extracted factors were determined by eigenvalues higher than 1.5, as described in the Methods section.

**Reviewer: Julia Ward**

**Minor Essential Revisions:**

1. The terminology for the name of the scale was reviewed and standardized (JSE for the original scale, JSE-Pt for the Portuguese version and JSE-Br for the Brazilian version).

2. We agreed with the reviewer and edited the text by combining sentences in order to improve readability of the manuscript, especially in the introduction and methods sections. The manuscript has also been sent to professional English editing.

3. The label OSCE was capitalized when spelled out on p. 4 and was used thereafter.

4. The word ‘forth’ was corrected on p. 5 and replaced by ‘fourth’

5. On p.3 the word thousand was converted to a number.

6. On p. 7, the word PCA was identified as the acronym for Principal Component Analysis.

7. On p. 8 a space was placed between reference 20 and 21.
8. On p. 9, the expression “for the comprehension of empathy” was deleted as suggested by the reviewer.

The manuscript has been sent to English editing (American Journal of Experts) as suggested by the reviewer.

Also, we are attaching a copy of the questionnaire used in our study, as permitted by the author of the original scale (Prof. Mohammadreza Hojat). We are certain of reviewers’ contributions in improving our manuscript and hope to receive a positive feedback from BMC Medical Education editors.

Best regards,

Prof. Helena BMS Paro (contacting author)