Reviewer’s report

Title: Validation of the modified Fresno Test: assessing physical therapists’ evidence based practice knowledge and skills

Version: 1 Date: 4 February 2010

Reviewer: Rose Hatala

Reviewer’s report:

The author has presented a very thorough research project, in which the Fresno test (FT) has been modified for physical therapists and the reliability and validity of the modified FT is assessed. The author is to be commended for the rigorous approach to the establishment of the validity evidence for the modified instrument.

Discretionary:

- As the major strength of the paper is the rigour in which validity evidence was assessed, the overall paper would benefit from using a framework in which to present the validity evidence. The author could refer to the work of Downing (Med Ed 2003; 37:830-7) to provide a framework in which to discuss the study results.

- Rater training is a great strength of this paper as shown in the high reliabilities. Please consider discussing this in further detail in the discussion. Given the complexity of the scoring rubric, this is an important component of successfully implementing the modified FT.

Minor:

- Please consider presenting reliability prior to validity evidence, as adequate reliability is a necessary pre-condition for many of the validity assessments.

Major:

- In it’s current form, the paper is too long and tries to do too many things (a model for instrument development, adding new constructs to the original instrument, assessing the psychometrics of the modified tool). The author should consider focusing the paper on the psychometric assessment of the modified FT as this is the most robust part of the study. The author’s steps in developing the discipline-specific instrument are important to describe, in order for the reader to follow the process. However, simply having followed this rubric in PT does not imply that the same rubric will be successful for other disciplines. If the purpose of the study was to truly develop a robust rubric for discipline-specific instrument development, then the study should have assessed multiple disciplines following the rubric. It is on the basis of this argument that I feel strongly that the focus of the paper should be on the assessment of the modified FT.
- In order to focus the paper, please consider deleting the following:
- Table 2 is not necessary as the introduction deals adequately with the need for a discipline specific test
- Appendix 1 could be deleted as readers will be mainly interested in viewing the final instrument and scoring rubric. Create a single Appendix with these two items. It is not necessary to include the training items; these can be made available upon request to interested readers.
- Table 3 is not necessary if the focus of the manuscript is on assessing the modified instrument
- Figure 1 is not central to the thesis of the manuscript. If it is to be included, it would need a description of how the % were arrived at. However, this information is apparent by assessing the final tool
- Research Question: The final paragraph of the introduction should clearly state the research focus. In its current form, it does not mention assessing the evidence for validity of the modified tool.
- Methods: Please describe in additional detail the PT experts. Were they all from a single institution? Why were only 4 chosen? Given the number of modifications suggested by this small group, please justify why the group wasn’t expanded until no new recommendations were being obtained from the experts (ie. reaching saturation of their suggestions)
- Participants: A brief description of what specific EBP content the different levels of learners had would strengthen the argument for construct validity of the instrument (either include in Table 4 or in the body of the manuscript). It is mentioned in the discussion that the novice group had a lecture on question development—this should be presented in the section on participants.
- Participants: The number of participants approached for participation in each group should be given. Please be explicit in the methods that this was a convenience sample.
- Participant Survey: If this is to be included, it should be mentioned in the methods. However, it does not add important information to the overall study and could be deleted from the discussion in order to present a focused paper.
- Rater Training: This is a key component of the study, and likely made a significant contribution to the excellent inter- and intra-rater reliabilities. It should be given its own section in the methods and described in additional detail.
- Data Analysis: Please justify why a passing score was set at >50% as this decision has implications for the IDI and the interpretation of the item difficulty.
- Data Analysis: The post hoc standardized residuals do not add much information to the analysis of group pass rates, and may complicate the data interpretation for some readers.
- Data Analysis: Please consider calculating item-total correlations for each item. This may help to clarify whether the new items (8, 9) are adding anything from a
psychometric perspective to the modified tool.

- Discussion: The discussion would benefit from being more concise and focused on the primary thesis of the manuscript. It does not adequately address some of the results, namely whether the new items enhanced or limited the modified tool. Given that items 8 and 9 had low reliability and item 9 was not sensitive to differences in performance among the groups, it could be argued that these items did not enhance the tool. The discussion appears to overstate the benefit of these items.

- Limitations: The small expert group used for assessing content validity (and the point that their feedback may not have been saturated) limits the generalizability of the study and should be discussed.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.