Reviewer's report

Title: Depression and Anxiety in Patients with Rheumatoid Arthritis: A comparison of the Depression, Anxiety and Stress Scale (DASS) and the Hospital, Anxiety and Depression Scale (HADS)

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Reviewer: Sarah Dean

Reviewer's report:

Title: Depression and Anxiety in Patients with Rheumatoid Arthritis: A comparison of the Depression, Anxiety and Stress Scale (DASS) and the Hospital, Anxiety and Depression Scale (HADS)

Authors: Tanya Covic, Steven Cumming, Julie F Pallant, Nick Manolios, Paul Emery, Philip G Conaghan and Alan Tennant

Journal: BMC Psychiatry Research article

Thank you for asking me to review this paper. My review is based on the assessing guidelines provided by the journal.

1) Is the question posed by the authors new and well defined?
   Yes

2) Are the methods appropriate and well described?
   Yes very clear plus further details can be found through cited references

3) Are the data sound?
   Yes, although it is not clear to me what the precise number is for the Australian sample, so I did wonder if what appears to be a small Australian sample is worth commenting on. For example to what extent does country of origin influence results? is this useful to know? and is it possible to assess for this? (given the apparent differences in sample sizes between the two countries).

4) Does the manuscript adhere to the relevant standards for reporting and data deposition?
   Yes

5) Are the discussion and conclusion well balanced and adequately supported by the data?
   Yes there is a useful discussion which will help the reader understand the practical implications of the analysis.

6) Are limitations of the work clearly stated?
A limitations section has been included and clearly states the main limitations.

I am curious to know if the apparently small Australian sample is problematic in any way (see also comment above).

I did also wonder if mention of the work not covering sensitivity to change analysis should also be mentioned here? Having read the whole paper I can appreciate it was not an intended aim and so not within the scope of work undertaken for this manuscript, hence the authors mention this point only in the conclusion. The paper might, however, benefit from flagging this point earlier, either here in the limitations section or at the outset of the paper so that readers do not wonder whether this analysis has been forgotten or purposely omitted (as I did when reading the earlier sections of the manuscript).

7) Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes there is clear mention and reference to existing published work in this area.

8) Do the title and abstract clearly convey what has been found?
Yes

9) Is the writing acceptable?
Yes the authors convey some complex background theory and analytical processes very well. There are only a few minor typos and some minor points where clarity of expression could be enhanced.

Summary

As someone who is not an expert in Rasch analysis but has an introductory understanding of the technique I found this paper interesting and well presented. I was able to follow the rationale for the work and how the analysis met the aims of the project. There is one small caveat to this, in that there may be some readers of this journal who are less familiar with psychometrics or measurement development and so may find this manuscript to be of only indirect interest.

However, I was pleased to see included in the discussion some pointers towards the practical implications of the work for both researchers and clinicians, as well as what future directions are still required to refine measures for these conditions. It is also very encouraging to see a paper that focuses on a complex long term condition and on measuring the impact of psychological factors, since RA has often be regarded as a predominantly biomedical condition. I wish the authors well in their future research endeavours.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Background, last line of first section. Please replace the term ‘compliance’ with ‘adherence’ as the former term is somewhat outdated with connotations of the medical model; ‘adherence’ is a more suitable term for complex long term condition management whereby the person with RA can agree (or not) with taking the prescribed treatment.

Reference:

Discretionary Revisions (which the author can choose to ignore)

Consider addressing the comments I have made in points 3 and 6 above.

Clarifications.
Background, paragraph 5, last sentence. Please consider re-wording to make explicit which are the three constructs being discussed e.g. ‘...the DASS are reported to be consistent with the two Clark and Watson’s constructs of.......although the correspondence to a third construct of stress to their affect construct is unclear.’ Please note this change also includes the omission of ‘negative’ as I found it a bit confusing that the first time the affect construct was mentioned the term ‘low positive affect’ was used. So my suggestions are for the sentence to be made simpler but more explicit, thank you.

Background, paragraph 6, last sentence. Would it help to name the ‘single underlying construct’? e.g. ‘psychological distress’

Methods, patient and setting, second sentence. Please consider adding a short comment about how or who determined RA diagnosis (e.g. to clarify if it was patient self report or from medical assessment).

Typographical errors
1) Background, paragraph 7. Put (DSM) abbreviation after the full term.
2) Background, paragraph 7. Does ICD need to be written out in full?
3) Results, Rasch analysis, paragraph 4, first sentence. Full stop missing.
4) Results, Rasch analysis, paragraph 5, first sentence. Should ‘cut point’ be plural?
5) Discussion, paragraph 3, after reference 48. Full stop missing.

Additional guidance:
Reviewers are asked to note whether they think duplication or plagiarism has occurred.
None noted

Reviewers should also let the journal know if they believe that research has been falsified or manipulated, or if there are issues with the authorship or contributions towards the manuscript, such as the unacknowledged involvement of a medical writer.

No issues identified

**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