Reviewer’s report

Title: Dementia Knowledge Assessment Scale (DKAS): Confirmatory factor analysis and comparative subscale scores among an international cohort.

Version: 0 Date: 30 Jan 2017

Reviewer: Mark Wilberforce

Reviewer's report:

This was an enjoyable and clear paper. I have several observations and suggestions (below). I think an excellent addition would be to look at the strength of a common factor in a bifactor model approach. Removing the depression item to meet the 0.80 correlation threshold felt like a weak-spot to me so could be justified further.

Detailed comments.

Abstract: what are the two alpha values - it's not clear.

Abstract: alpha of 0.65 is low. 0.7 is usual minimum value of alpha seen.

p6: Consider adding a box with a brief overview of the DKAS, intended domains and items in each.

p6: I may have missed this, but were these all true/false questions? Multiple choice?

p6: I thought the critique of existing measures should come before the description of the DKAS development (para beginning line 106). The logical flow is that need for the new measure comes first.

p7: Some repetition under "Measure".

p8: Consider splitting this paragraph into two parts. Is the approach you mention suitable for ordinal data (in stata this is generalised SEM, not sure about AMOS).

p9: Is there any information at all about non-respondents?

p11/12 & p15: Is there anything else you can add about the importance of reducing correlation below 0.80? The removal of item 20 and the loss of construct validity seems a high price to pay for meeting this 0.8 threshold. What are the consequences?

p11/12 & p15: Linked to this, I wonder if a bifactor model would have been more appropriate for these data to see how much variance is accounted for by the common factor? The four factor
model in PCA with ordinal data may have recovered too many factors (see http://dx.doi.org/10.1371/journal.pone.0118900).

p12-14: I wondered if all the p-values were needed, given the n of several thousands... focus more on size of differences rather than whether they are statistically significant.

p12: I got lost at a step. Why was the correlation between factors around 0.80 in some of the results, and 0.40 in later sections? Can you clarify?

p16: I wasn't clear why validity and reliability is assured with all the different groups of respondents mentioned. To make that statement, we would need to see some tests of coefficient stability between sub-groups.

p17-19: That's a long paragraph.

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

Yes

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.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

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