Reviewer’s report

Title: The Modified Dental Anxiety Scale: UK population norms in 2008

Version: 1 Date: 17 February 2009

Reviewer: Jason Armfield

Reviewer’s report:

This manuscript reports on population norms for the MDAS out of a good size population-based telephone survey of the UK. The availability of population norms is a useful adjunct to the informed use of a psychological scale, so this data is worthy of publication. Overall, the paper needs to be developed more - it is light on some important methodological details, for instance. Some major changes are also required. Specific issues are addressed below.

Major Compulsory Revisions

I’m not quite sure why, but the manuscript seems to be caught between providing population norms and providing some sort of psychometric testing of the MDAS. The exploratory and confirmatory factor analyses, as well as the multivariate modeling, are not supported by the aims of the study stated in the Introduction, nor in the 'Objective' stated in the Abstract. If the authors wish to retain these analyses then they must be supported in the Introduction of the paper and somehow tied into the need for population norms developed there. Given that in your Discussion you state: "Dental anxiety has been reported frequently in previous studies to vary with sex, age and social class" why are these associations again tested in a multivariate model in the current study? What do they add to our knowledge of dental anxiety and fear or the MDAS? In addition, it might be necessary to differentiate this article from the earlier published paper in CDH: "The Modified Dental Anxiety Scale - UK norms and evidence for validity". There are obvious overlap issues here given that you had claimed to present UK norms previously. How do the results of these studies compare? If they are similar, what does this new study add? It is interesting that the majority of the Introduction deals with the MDAS, and the idea for the need for population norms only makes its appearance in the final paragraph. The structure of the argument could be substantially improved.

A serious concern is the need for weighting of the data. If the manuscript was to report only on associations between variables then this would not be so critical, but given the stated aim is to present population norms it is essential that the respondents accurately represent the population of the UK. At the least, there should be weighting by age, sex and residential location. Perhaps also by some form of SES variable if possible. Some confirmation of the representativeness of the sample would then be in order. That you state in the Discussion that the risk of sampling bias with telephone surveys may occur, with differences in response rates by different groups, just highlights exactly why the data should be
There is a fundamental need to better address the implications of the low response rate in this study. From the information provided (because the actual response rate is not specifically mentioned), the response rate appears to be about 15% which is very low indeed. How can you claim to provide population norms when approx. 85% of the population did not participate? What do you know about the non-respondents? It is a serious concern which has not been addressed in your paper and is deserving of considerable attention when addressing the limitations of the study. This information should also be in the Abstract.

Minor Essential Revisions

The second paragraph of the results dealing with respondent characteristics should be moved to the beginning of the Results section.

The text in the Results section dealing with Tables 3 and 4 (if retained) needs to be expanded to explain the results, not just to note their existence.

Again, the results in Table 4, what happened to 'Education' which is provided in Table 1? Why exclude this variable? What are your justifications for the categorisation of the variables which managed to make it into this analysis?

Discretionary Revisions.

Formatting and writing issues/errors: Page numbers would be useful in the manuscript. The writing and spelling of numbers is mixed up continuously throughout the manuscript. Also, percent and % are not used consistently, nor is the spacing between the number and the percent symbol. Spacing between sentences varies from one, to two, to three spaces at times. New paragraphs should not run on from previous paragraphs. A paragraph should represent a self-contained thought/idea. Tenses are also often mixed up, especially in the Discussion where the results should be referred to in the past tense not the present (eg "men scored", not "men score"). This is especially the case given that the generalisability of the results have not been established.

page 3 - "potential to reduce significantly state anxiety" should be "potential to significantly reduce state anxiety"

page 6 - I suggest "Confirmatory factor analysis was also carried out using AMOS 17" or some such. We don't adopt software packages, we use them.

page 8 - some additional goodness-of-fit measures might be provided here.

page 9 - respondents do not have levels.

page 9 - "appears not to be associated with" is poorly phrased.

page 9 - anticipatory events and scale and polish were not "compared" to "receiving the drill" (which could also be phrased better).
page 10 - quite likely other studies have provided some form of normative data in the UK. Just not on the MDAS.

page 10 - Perhaps: "The level of high dental anxiety as defined by a score of...", given that "high dental anxiety" is an entirely relative term.

page 12 - Is the section on over-representation of "white participants" in postal surveys relevant to the UK? It really seems like your stretching here to try and justify the telephone survey (which you don't need to).

page 12 - In your conclusion you swing from declaring the normative data as being useful for "interpreting an individual's expression of their dental anxiety" to "making it possible to accurately identify members of the public that may require additional assistance". There is a conflict here between individual vs population use.

Tables - should not have vertical and horizontal grid lines everywhere. Relevant horizontal lines only. Empty columns should be eliminated. Redundant columns as in Table 3 should be eliminated. The number of decimal points should be consistent within a data column. Headings should not reappear throughout the body of a table. Etc.

References:
Some general issues with capitals in titles, incorrect punctuation etc.
No. 17 - incorrect title. In addition, this is a submitted paper. Author guidelines state: "Only articles and abstracts that have been published or are in press, or are available through public e-print/preprint servers, may be cited; unpublished abstracts, unpublished data and personal communications should not be included in the reference list, but may be included in the text."
No. 24 - This reference is completely incorrect. Please refer to the article for correct reference details.
No. 27 - What is this reference supposed to indicate?

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.