Reviewer's report

Title: Influence of Sense of Coherence on adolescents' self-perceived dental aesthetics; a cross sectional study

Version: 0 Date: 30 Nov 2016

Reviewer: Peter Robinson

Reviewer's report:

This cross-sectional analytic study aimed to investigate the association between SOC and self-perceived dental aesthetics and whether SOC influences the self-perception of dental aesthetics. The manuscript could benefit from more conceptual clarity, both in terms of the concepts understudy and the relationships between them. It also looks like it's a rewrite of a manuscript about malocclusion.

1. Overall this study could benefit from greater conceptual clarity. Few of the concepts discussed are defined (e.g. self-perceived dental aesthetics, quality of life, self-perception of dental aesthetics, negative self-perception) and in other cases might be expressed better. For example, on line 58 when the authors write of a good perception of their health, do they really mean 'perceive their health to be good'? This means something quite different.

2. Having sorted the definitions the authors will need more careful recourse to theory to hypothesise relationships between the concepts. At the moment there are large leaps of logic in the introduction that are not well documented. At the most fundamental level a more comprehensive background section is needed. For example data are needed to support the assertion in line 64, that self-perception of dental aesthetics is the main factor that drives seeking orthodontic treatment. There is also experimental evidence that SOC influences OHQoL that should be cited. Likewise, the relationship between self-esteem and receipt of orthodontic care needs more thought; there is a long-term cohort study (from Cardiff I think) that showed that better self-esteem predated and predicted receipt of orthodontic treatment and better long term outcomes.
3. In order to put so many diverse concepts together the authors will then need an explicit theoretical model of the sort expounded by Baker and Gibson's Epidemiology2 paper in CDOE (about 2011-12) and exemplified in Baker's studies on SOC.

4. This is an analytic study so the sample size requires a power calculation based on the relationships being tested rather than a precision estimate for the prevalence of malocclusion.

5. The point about conceptual clarity recurs in the methods. OASIS needs more careful introduction. What does it actually measure and how? E.g. Does it measure impact or perception?

6. A theoretical model would be helpful to guide the analytic strategy as it could be used to justify the direction and outcomes in the regression model.

7. The text could present results as if they were about people rather than numbers, as the tables present the data. So the text could be phrased something like 'Children with greater sense of coherence were more likely to perceive their . . .' This would make the results more accessible.

8. The discussion needs substantial revision. The aim of the paper is not discussed until the 10th paragraph. Even then the results are merely repeated rather than their implications discussed. The discussion needs to consider why you have researched this topic and what the results mean.

9. Whilst it is true that there are few studies investigating the relationship between SOC and perceived dental appearance, similar concepts have been studied. Marshman's qualitative
study identified the looking-glass self as a possible predictor of concerns about fluorosis for instance.

10. Towards the end I got the feeling that this was a revamped paper about malocclusion. There was the observation about the precision estimate, the DAI is the first variable described in the methods section and the early part of the discussion relates to these secondary outcomes. The paper needs more careful rewriting.

11. The title and the abstract assume causality, which needs to be revised for a cross-sectional study.

In summary, there are potentially interesting data here. The paper could benefit from greater conceptual clarity and recourse to theory throughout.

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

No

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.

No

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.

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Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

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