Reviewer's report

Title: Socio-economic status and self-rated mental health in adolescents in an affluent community

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Reviewer: Bjørn E. Holstein

Reviewer's report:

Assessment of Ms. 'Socio-economic status and self-rated mental health in adolescents in an affluent community' by Katrin Hutton, Maria Nyholm, Jens M Nygren and Petra Svedberg

This paper examines the association between SES and self-rated mental health among Swedish adolescents between 11-16 years old, using a range of indicators of socio-economic background. This topic is clearly understudied in modern public health research why I welcome this new contribution. I suggest that the authors consider a number of minor essential revisions before the manuscript is ready for publication.

1. The introduction provides a satisfactory justification for the study objectives. There is a bit of conceptual mismatch in the introduction. The title uses the concept "mental health". The very first line in the introduction focuses on mental illness (which later on is labelled "mental health disorders") while most of the text in the introduction focuses on mental health. A more coherent use of concepts would strengthen the text.

2. The authors used a school survey from Halmstad in Sweden and performed univariate logistic regression analysis to examine their data. The study appears to be appropriate for the planned analyses with a sufficient n (830 adolescents) and appropriate measurements of mental health and socio-economic background. In a school survey, the participants are expected to be more similar than would have been the case in a sample of individuals. It is common nowadays to adjust for the cluster sampling, e.g. by using multilevel modelling. I do not request the authors to run the analyses again in multilevel models as it is very likely that the estimates would appear almost unchanged. Nevertheless, I suggest that the authors mention this issue in the discussion section.

3. The study does not provide a final answer as the association varies across age group, sex, and the applied socio-economic background variable. One of the reasons for the unclear picture may relate to the applied measures. The MMQL measure includes a range of dimensions (physical functioning, cognitive functioning, psychological functioning, body image, social functioning, intimate relations and outlook on life (divided into 45 items). All subscales are finally combined into a summary score which the authors dichotomize. This summary score may hide more than it reveals. It is very likely that there are social
inequalities in some of these dimensions but not in others. A combined summary score would then dilute the social inequality. I suggest that the authors run analyses for each dimension of the MMQL and report in the text whether some of the dimensions were related to the measures of social background. Further, I suggest that the author’s deals with this method issue in the discussion section.

4. The authors report that there was a lack of association between the total FAS score and girls’ self-rated mental health, however, at item level (having an own bedroom and number of Holidays) there was an association. This is a good example of the risks of using an index in the analyses: Parts of the index may be associated with other measures while the summary score does not. Please include considerations regarding the dangers of using indexes in the discussion section.

5. The heading of table 2 is "Family affluence associated with below and above mean of self-rated mental health." It is clearer to say "OR (95% CI) for self-rated mental health below the mean by family affluence". I suggest a similar editorial change of the heading of table 3.

6. The authors write that "This study shows a complex pattern of associations between socio-economic factors and self rated mental health. The results diverged between age and gender groups. The main conclusion is that the total FAS score was only associated with boys self-rated mental health below mean in both age groups, whereas parents’ migratory status influenced only the girls’ self-rated mental health. Since the association for girls’ and boys’ self-rated mental health and SES differed, other factors than SES must be considered when investigating and exploring the mental health of adolescents in affluent communities." Please develop this part, e.g. by mentioning the risks associated with use of indexes.

7. A minor point: The methods section includes the following sentence: "In total, all eligible classes with students 11-3 and 14-16 in seven schools were invited." Please correct 11-3 to 11-13.

The editors have asked me to assess the work by considering the following points:

1. Is the question posed by the authors well defined?
   Yes, although there is a bit conceptual confusion in the introduction.

2. Are the methods appropriate and well described?
   Yes, although I suspect that the use of indexes may hide important findings. I would like the authors to deal with this issue in a new version of the manuscript.

3. Are the data sound?
Yes

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

5. Are the discussion and conclusions well balanced and adequately supported by the data?
See the issues mentioned under point 2 above, otherwise fine.

6. Are limitations of the work clearly stated?
Again, see the issues mentioned under point 2 above, otherwise fine.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes

8. Do the title and abstract accurately convey what has been found?
The abstract is fine. There is however a mismatch between the title and the content. The title uses the term "socio-economic status" but the paper is broader and applies three indicators of socio-economic background: family affluence, parental divorce, and migration status. Further, the second part of the title "In an affluent community" suggests that this issue may be an important topic in the analyses or in the discussion, which is not the case. It may be more appropriate to use a title like "Self-rated mental health and socioeconomic background: Study of adolescents in Sweden"

9. Is the writing acceptable?
Yes

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.