Reviewer's report

Title: Parental academic involvement in adolescence predicts mental health trajectories over the life course: A prospective population-based cohort study

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Reviewer: Anu Molarius

Reviewer's report:

This is a very interesting study about parental academic involvement in adolescence and mental health trajectories over the life course using modern analysis methods (latent class trajectory analysis).

Major Compulsory Revisions

It is not clear from the background exactly how this study differs from the previous study of (partly) the same authors where parental academic involvement in relation to allostatic load was studied. A more specific description should be provided to justify the present study. Also in the discussion the difference between the results of these two studies should be clearly stated.

There are several open questions about the measure of parental academic interest. Parental academic interest was teacher rated here. This does not appear everywhere in the text and, more importantly, not at all in the title or in the abstract of the paper which is misleading. The measure also appears rather weak and subjective, even the wording is “probably very small” or “probably very large”. In addition, it was measured two years after the pupils left the school (at least so it is said on p. 6) and teachers may have been affected by the social background of the pupil as well as their grades. The latter seems probable since there is a high correlation between the two variables and it can also be seen in that most of the results change into non-significant when adjusted for grades. These problems have been shortly mentioned in the discussion but the authors seem to more or less ignore them in their conclusions. In addition, teachers' ratings can have been affected by the mental health of the pupil at the time of leaving school so reverse causality cannot be ruled out. In a prospective study those who had mental health problems at the baseline would have been excluded from the study, but this is not the case when using trajectories.

The conclusion that parental involvement may buffer against poor mental health in adolescence and adulthood and the title are not completely supported by the results, since this was only found among those with grades above the national mean, between a few of the studied categories and that there may be alternative explanations to these findings (see above). “Predicts” is also a too strong statement in this case since a prospective analysis excluding those with mental health problems at baseline was not performed.

The finding that teacher-rated parental academic interest was found statistically
significantly associated with mental health problems between some of the
trajectories only among those with degrees above the mean national level has
not been sufficiently explained by the authors. For example, can it be due the fact
that adjusting for grades does not affect anymore the results when the variable is
already dichotomised into two categories by stratification?

The result that was somewhat more robust was the finding that help with
homework was associated with higher probability of entering the lowest category
of internalised mental health symptoms. This should be given more focus in the
article.

There may also be other possible confounding factors than parents social class
that were not taken into account in the analyses (for example, unemployment in
the family or mental health of the parents).

Minor Essential Revisions

The description of the latent class trajectory analysis includes one whole page of
text and two appendices. This seems unnecessary extensive and it should be
possible to provide the main message of the appendices in the text.

Page 4, increase in mental health problems among girls is mentioned but the
reference covers only Sweden. Is the prevalence increasing in other countries as
well? In that case, a relevant reference should be provided.

Page 4, how is academic achievement associated with mental health? Positively
or negatively? For discussion, it might be good to comment the finding (p. 10)
that for girls academic achievement seems to be detrimental for mental health
since they have better grades but more mental health symptoms than boys.

Page 5-6, it is not altogether clear why the analysis was stratified by academic
grading? A better justification is needed.

Page 8, line 204, “the best model” for ?

In the analyses (table 3) parental interest and help with homework were treated
as linear variables. Were the assoaciations really linear?

Page 14, the differences in results between men and women are discussed.
These were however not statistically significant after adjusting for grade.

Page 14, the authors seem to think that it was an advantage that the parental
interest was rated by the teacher. As mentioned above this can also be the
opposite. Are there any information available of parents’ or pupils’ ratings that
could be used to compare these ratings?

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.