Author's response to reviews

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

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Author's response to reviews: see over
BMC Public Health
Prof. Natalie Pafitis, Exec. Editor

Prof. Natalie Pafitis,

We thank you for the new comments and would like to express our thanks to the reviewers. We have addressed the points raised by the reviewers in the attached response and hope that the paper is now acceptable for publication.

Please note that we have replaced the appendix, since we discovered that only Appendix B had been included, not Appendix A as referred to in the MS. The appendices are not different from the ones originally submitted.

Yours faithfully, on behalf of all the authors,

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Response to reviewers

Reviewer 1: Anu Molarius
Reviewer's report:
The authors have sufficiently replied to almost all of the comments raised in the review and revised the manuscript accordingly. I have two further comments that do not necessarily require changes in the manuscript.

Response 1:1. Thank you for this.

The authors reply that there was no test of linearity available to test whether the use of parental interest and help with homework as linear variables in table 3 was appropriate. I would, however, rerun some of the main analysis in table 3 with using these variables as categorical variables just to check that there are no other types of relationships behind the observed results e.g. U- och J-shaped associations (for instance, that very high and very low parental interest has negative association with mental health trajectories but medium interest has a positive association).

Response 1:2. We have now rerun the main analyses with parental interest and help with homework as categorical variables. Due to the large number of combinations of these categories and the various trajectories, the results become very unstable. The impression, however, is of a monotonous relationship, i.e. more linear than U- or J-shaped. Regarding help with homework assignments in relation to the Very low stable trajectory among those with higher than national mean grades, there were in fact significant differences between the exposure categories showing just such a monotonous relationship.

The other one is just a general comment. There are 120 odds ratios (OR) in table 3 which the main results of the study are based on. At 95% confidence level about 6 of them may, by chance, produce false results. There are no ORs that seem rather odd, so maybe this is not a problem in this study, but it is always good to be aware of the risk when doing multiple comparisons.

Response 1:3. We agree that this is a potential problem. However, since there are 3 nested models of each studied relationship, these 120 are not unrelated, and could to some extent be said to be “only” 40 (still a large number). In Model 2 (since Model 3 may be overadjusted) there were 7 out of 40 results that were significant, compared to 2 which would be expected by chance. Thus, even though we agree that this is an important point, we take up the suggestion made by the reviewer that changes in the manuscript are not necessarily required, given also that the readers of BMC Public Health should be aware themselves of the ever-present risk of mass significance.

Reviewer 2
Reviewer: Ingibjörg Thorisdottir
Reviewer's report:
The authors revisions are satisfactory. I have both their response to reviewers and the manuscript itself

Response 2:1. Thank you for this assessment.