Author’s response to reviews

Title: Family dissolution and children’s social well-being at school: A historic cohort study

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Author’s response to reviews:

Reviewer reports:
Simon Nusinovici (Reviewer 1): This is a well conducted and well written study based on representative national data base.
Authors reply: Thank you very much for the positive comment.

I only have minor comments:
- what do you mean by ‘robust standard errors were applied to account for interdependence due to siblings...’?
In case of non-independence of the individuals, the standard way to proceed is to use specific methods such as mixed models or GEE models to account for that kind of structures.
Can you please explain how your method account for that?
Authors reply: We acknowledge there could be various ways to count for with-in sibling clustering. In our data, we have a reasonable number of siblings (far more then 30). The analyses are based on individual children and the use of robust standard errors will take account of the similarity of siblings in a family without affecting the parameter estimate. Robust standard errors is a technique to obtain unbiased standard errors of the regression coefficients when the assumption of independent observations is violated and means that the standard errors are computed with the so-called sandwich estimator of variance. We have rephrased the sentence for clarification.

- why don’t you test the difference of the OR obtained for example when you stratify for the age at split-up? There are simple formulas to calculate the corresponding p-values..
I understand that given your sample size, you will easily reach statistically significance, but that might strengthen your message..
Authors reply: We find the suggestion of testing the difference of the OR interesting. However, we find examination of overlap of confidence interval will provide the same as calculated corresponding p values.
- could you please detail how do you ensure that your exposure precede the measure of the outcome, notably for the analysis for age 9-12 when you stratify?
Authors reply: The exposure variable concerns family structure up until 2015 whereas the outcome was measured in 2015. If the child’s family did not split up before 2015, where the well-being questionnaire was administered, the child would belong to a so-called intact family. Our analyses does not take into account if the child’s family would split up after 2015. Please find the information in Methods.

- have you tested interactions between your exposure and the socio economic related variables?
Authors reply: We tested all variable for interaction and only age was statistically significant why we performed stratified analyses by age. In the discussion, we stated stratification by age revealed that children between 9-12 years had higher odds of low social well-being at school compared with children between 13-16 years. The interaction is clarified in the Statistical analysis: “Stratification by age was performed due to statistical interaction”.

- do the school performance are available? It could be interesting to test whether the school performance of the children (probably highly associate with the outcome) at the time of split up modify the relationship with social well being...
Authors reply: We agree school performance could be interesting to examine. The Danish registers could provide access to information of school performance for the oldest children in our study population, but were not available for current paper. However, we would definitely consider investigating this in a separate study.

Laura Di Manno (Reviewer 2): Abstract
Consider rephrasing the term "family split-up" to another more commonly used term such as parental separation, parental divorce, or family dissolution in order to match the current literature.
Authors reply: Thank you for calling the attention to commonly used terms. Throughout the paper, the term “family split-up” has been replaced with “family dissolution” or “dissolved families”.

Please use a capital W when referring to Western countries.
Authors reply: We have replaced the lower capital w.

It could be worthwhile defining social well-being.
Authors reply: We thank the reviewer for calling the attention to this important issue in our paper. A definition of social well-being has been inserted in the abstract: “The definition of social well-being was constructed on the children’s perception of sense of belonging in the school setting, in the class and the school community, as well as perceptions on safety, loneliness and bullying”.

Results section, please refer to the comparison group (i.e. those from intact families) in the following statement: "Among the 31% who lived in split-up families, we found more children with a low level of social well-being at school (adjusted OR 1.41, 95% CI 1.36;1.47)…”
Authors reply: We have added the comparison group in the text.
In your conclusion you have provided a brief summary. A note regarding potential implications would also be useful to include here. This is in line with journal guidelines.
Authors reply: We thank the authors calling our attention to the guidelines of the journal. Please find the potential implication added in the conclusion.

Background

In paragraph 1 you refer to psychological adjustment and social adjustment. Are these constructs distinct from psychosocial well-being, also mentioned in the same sentence?
Authors reply: The constructs are considered similar. In the text, we have removed the words psychological adjustment and social adjustment.

The reference to inter-parental conflict and the sentence, "Conflict levels between parents before, during, and after the parental divorce may explain more about children's adaptation to parental separation than the actual event of divorce." Seems to come out of the blue and does not appear to be written in context with the rest of the paragraph. A separate paragraph could be written about conflict if this is an important point in your intro.
Authors reply: The sentence refers to the one above. This is merely a further explanation. The sentence has been rephrased.

Please provide further support for your hypothesis: "From this perspective, it has been hypothesized that children have a higher level of social well-being if divorce occurs when they are older rather than younger because a considerable part of the socialization process takes place early in the child's life [10]."
Authors reply: The hypothesis additionally supported with references.

Please provide further support for your study's focus on social wellbeing. I agree that this is an important outcome to examine, however the background section of the paper does not highlight its' importance in enough depth. For instance, some of the questions that could be answered in the background include: Does low social wellbeing impact student's academic achievement? Does it make a young person more at risk for developing mental illnesses? Does a young person from a dissolved family cope better with the divorce/separation if they have strong peer relations and aren't being bullied?
Authors reply: We agree we could go into depth of these issues. However, we aimed at presenting the big picture of these issues in order to make the paper simple and clear, but we acknowledge that these are important issues. Therefore, we have added two sentences about the relationship between well-being and academic performance and mental health later in life.

Methods

Please correct grammatical errors in the following sentence: "All children fill in the questionnaire electronically with a personal log-in during a school hours alongside with their classmates and with a teacher present."
Authors reply: The grammatical errors are corrected.
It is apparent that the measure of "family split-up" does not necessarily refer to parental separation or divorce. Therefore, the background section could benefit from some rationale around examining families that have not necessarily gone through a separation or divorce, but where parents are living apart for other reasons.

Authors reply: You definitely have a point here. However, we do not know the different reasons for not living together, so we can only speculate on that. On top of that we assume, that these families only represent a minor part of our population.

You refer to the limitation of other studies "…only include data on families legally split-up by divorce or separation" but do not provide a rationale for including data where families are dissolved for reasons not due to divorce or separation.

Authors reply: This rationale is not about whether the families live apart for other reasons than separation. In Denmark (and possibly most of Northern Europe) people live together without being married. Therefore, when some studies only include those who legally split-up, they miss families simple because they are not married but live together. We have added a sentence to the section in page 4 to explain this.

Social well-being variable: can you include any information in your methods regarding this measure's psychometric properties?

Authors reply: The basic psychometric properties of the questionnaire identified high skewness and/or kurtosis in three of the ten questions: being bullied, liking the breaks and afraid of being made fun of. The information added in the method section. As already mentioned in the Statistical Analysis and Results, we performed a sensitivity analysis leaving out these three questions. The sensitivity analysis did not alter the results.

More detail re the step-parent variable and number of family structure changes variables would be helpful. I.e. what items were asked in the questionnaire? If no direct item, how are these variables derived from other info collected by the questionnaire?

Authors reply: We agree that the source to information regarding step-parents and changes in family structure is unclear. We have clarified the information is register-based.

Discussion
Please provide explanation re the following statement "Stratification by age revealed that children between 9-12 years had significantly but not conceptually higher odds…"

Authors reply: For clarification, the sentence was simplified as follows: “Stratification by age revealed that children between 9-12 years had higher odds for low social well-being at school than children between 13-16 years.”

Review grammar throughout the manuscript e.g. "has already have taken place" "has it origin" "with full set of variables".

Authors reply: Grammar throughout the manuscript has been corrected.

You state, "Teachers and parents might not be suitable to report children's perspective since they only have a partial picture of the child." Please provide a clear argument re what teachers and parents may not be able to report on or how their reports are "partial".
Authors reply: With partial, we mean that teachers only meet the children at school and parents only meet the children at home. For clarification, we have added: “The teachers are unable to evaluate the child’s well-being outside the school setting and the parents are unable to evaluate the child’s well-being in a school setting. Furthermore, teachers may only meet the children during lessons.”

What does, "due to a higher validity of answers…” mean? Does this need to be re-phrased?
Authors reply: For clarification, the sentence was re-phrased as follows: “Only children attending 4th-9th grade in ordinary public schools were included, as the questionnaire is considered more valid from 4th grade.”

In the discussion, you state that the excluded children who lost a parent (to what? Death?) and children placed in care, maintained the focus of the study on the influence of family split-up. Any and all exclusion criteria should be explained in the methods section.
Authors reply: For clarification, we have added lost of a parent is due to death and rephrased children not living with a parent could be children placed in care.

"a considerable number of parents in Denmark separate when the children are 1-2 years old" - please provide the statistics that support this statement.
Authors reply: The wording “considerable number” is replaced with “approximately four percent”

Please explain this statement: "However, since the possible misclassification most likely did not depend on exposure it would be non-differential."
Authors reply: For clarification, we have added that non-differential misclassification would imply bias towards the null hypotheses.

How many participants were excluded from analysis for the following reason? "If another way of avoiding answering was to use the option "I don't want to answer”, this would increase the likelihood of being excluded." Any and all exclusion criteria should be explained in the methods section.
Authors reply: We have added that children who filled in less than half of the 10 questions by using the option “I don’t want to answer” were excluded.

If the data were not collected for research purposes, how did the parents' consent to their children's data being used for this study?
Authors reply: In Denmark, informed consent is not required for registry-based studies. This is clarified in the declaration section.