Author's response to reviews

Title: Adolescent Outcomes and Opportunities in a Canadian Province: Looking at Siblings and Neighbors

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Author's response to reviews: see over
Response to Reviewers

We have answered essentially all the concerns of the reviewers. This has lengthened the paper somewhat, increased the number of references, and resulted in an additional Appendix. Alternatively, if one or both reviewers are ‘inspired’, a commentary dealing with points we’ve missed or broader implications for theory would be welcome.

Reviewer's report

Title: Comparing well-being and opportunity in late adolescence: siblings and neighborhoods in a Canadian province

Version: 5 Date: 22 March 2014

Reviewer: Daniel D. Schnitzlein

Reviewer's report:

The paper makes use of an innovative database that consists of merged register data to analyze the impact of family background and the neighborhood on education outcomes, health outcomes, teenage pregnancy, and a measure of labor market success of adolescents in a Canadian province. Although I think the presented results are relevant and contribute to the existing literature on the influence of family background on children’s success, I think the presentation and discussion of the results should be improved before publication. My main suggestion for revision is that the authors specify more clearly the motivation of the paper and exactly point out their actual research question.

Major compulsory revisions: Title:

1. In my view the title of the paper is misleading: the term “well-being” lets the reader expect an analysis of a measure of well-being. Instead, you analyze education outcomes,
health outcomes, a measure for teenage pregnancy, and a measure of labor market success (income assistance). These are all important determinants of individual (or subjective) well-being but you have no concrete measure of well-being (an example of which would be a life satisfaction question in a survey).

Title has been changed

Background:

2. At the moment, the paper is mainly motivated from a technical, data driven point of view. I would suggest a complete revision of this part of the paper. You should give a clear motivation of what your exact research question is. In the recent version of the paper it is not clear if you are interested in estimating the influence of the family; the neighborhood; or both or if you are interested in estimating the effect of the family along your stratified samples. In either case you should give a motivation with respect to content and not with respect to data availability. Of course improved data availability is an important point and a valid asset of the paper and should also be discussed here, but should not be the primary motivation of the paper.

We have made major revisions here

3. It would also be good to have a motivation of the choice of your outcomes based on a theoretical discussion why you expect these to be influenced by the family or the neighborhood. You should also give a few references after your point a) “importance in the literature” in the text.

References to “importance in the literature” have been noted. Each of the outcomes has been discussed separately.

Methods:

4. Your definition of the LA achievement index incorporates also missing values. You mention that you ran a regression that excludes observations with missing education information. But you do not state if the results are robust to this exclusion. You should include these results in the paper.

It seemed appropriate to maintain the flow of the paper rather than making the Tables (even more) complicated. Appendix 1 presents these results.
5. Discuss more in detail the family background variables you use to adjust your neighbor correlations. These should only vary on the family level. Discuss the implications for your results if you carry on using individual level variables (for example birth order or mother’s marital status at birth).

Background variables and the justification for the decision to use the older siblings data are discussed in the text.

Results:

6. Give an interpretation of the estimated sibling and neighborhood correlations: for example “a sibling correlation can be interpreted as the percentage share of the variance (inequality) in educational achievement that can be attributed to factors shared by siblings.” Discuss these results more in detail.

We thought the flow of the paper was fine without this change; this preference may reflect disciplinary emphases and can be changed.

7. Place your results in existing (economic and sociological) literature on sibling correlations. Discuss potential channels of family and neighborhood influence.

See Conclusions

8. Motivate stratifications.

This comment was a little unclear. The variables used in the analysis are/discussed earlier and can be further referenced.

Conclusions:

9. Rewrite conclusions section to explicit answer the research question that you choose in the introduction. Also discuss policy relevance of your results.

The questions raised early in the paper are treated in the Conclusion.
Policy relevance of results is discussed in Conclusion

Minor essential revisions:

Methods:

10. For readers not familiar with Canada it would be good to add a sentence about where in Canada the Manitoba province is located.

Done

11. It would be good to clarify the part describing the attrition rate in your sample. You end up with 75% of all children from the full birth cohort. You should give an overview on the basic characteristics of the children you loose from the original cohort.

Done

12. Add an explaining footnote / comment to figure 1 and 2.

Done

13. It would be good to run a sensitivity analysis using all siblings from a family and place a comment if the results remain robust to that, like you have it in the text for your neighborhood definition.

Done

Results:

14. Table 7: Discuss in more detail which sibling determines the number of moves of one family.

Done

Miscellaneous:
15. Page 12 bottom line: PROC MIXED instead of PROX MIXED

Done

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.
Reviewer's report

Title: Comparing well-being and opportunity in late adolescence: siblings and neighborhoods in a Canadian province

Version: 5  Date: 31 March 2014

Reviewer: Sandy Tubeuf

Reviewer's report:

The paper is an interesting piece of work. However I have a number of comments to make and I am not totally convinced the BMC Public Health is the appropriate outlet for the research work. To me the main innovative part of the work is not the interpretation of the results in terms of public health but the use of linked datasets and so I wondered if the authors had already considered submitting the paper in outlets where large data linkages are of peculiar interest. For example, the paragraph at the end of page 1 summarising the results does not mention the conclusions about the analyses themselves but the methodological aspects of the work.

Introductory material has been changed.

Major comments:

The authors use the concept of Inequality of opportunity. However they ignore that there are a number of recent work that have focused on inequality of opportunity in health in the past year in relation with the concept of social justice and it is essential for the authors to position their work in relation with this research stream. In addition these recent references have carried out empirical work too. Here are a number of references that they might want to consider including John Roemer seminal work (Equality of opportunity 1998 - Cambridge Univ Press); Rosa-Dias Health Economics 2009; Trannoy et al., Health Economics 2010; Rosa-Dias Health Economics 2007; Jusot et al. 2013. In addition, it is important to clarify when using opportunity in a non plural form (see Background section) which opportunity the authors are talking about. To me it seems that the authors make a confusion between opportunity and possibilities, however there are a number of research work which have defined the differences about this and it is important to refer to this work too (see Alan Williams)

Have talked about possibilities.

It is important to bear in mind that even if administrative data and linkages are facilitating research and data analyses; a number of unobserved characteristics still persist particularly with regards to health and this includes genetics, moral hazard and also taboo about health and lifestyles.

Last sentence.

It could be useful to include a paragraph in the paper on the implications of the
various measures of health status and health care costs for the present paper after citing Roos and Wald page 11. Material is in the text.

Minor comments
- what do the authors mean when writing "means/proportion and sibling correlations" in the opening 2nd paragraph?
  Rewritten

- Please include a reference to the following statement "Low educational achievement and high sibling correlations among the poor emphasize socioeconomic mobility issues" in Background
  Rewritten

- Please replace the general passage of time by time passing or over time or something clearer.
  Rewritten

- Be more explicit when writing " a creative application of linear programming", it is not clear to the reader what it is
  This has been clarified (p. 2).

- please clarify what the "the high twin/twin correlation' is
  Changed to: 'across a number of measures, the correlations between twins are higher than those between siblings' (p. 7)

- please do not use the "left-over" terminology and replace by non paired up or non matched within a postcode area.
  'non-matched' is used (p. 8)

- Please clarify whether consumption units were used for the mean household income and if not, why this was not done. Please clarify how the income is available (globally reported or reconstructed from various income reports such as both partners, including benefits, etc.) (p. 10). Statistics Canada did not take into account the number of individuals in each household.

- Please provide percentages and not frequency in the last paragraph page 8
  Percentages have been provided.
- Please clarify what is the "low probability category" at the top of page 9
  Rewritten

- please replace "the highest scorers were given an index score of 2.96" page 9 by 'the highest scorers reached an index score of 2.96"
  (p. 11) – done.

- please clarify what is the mode page 13, is it the median value?
  Should be “model” not “mode”

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

nothing to declare