Reviewer's report

Title: Family origin and mortality: prospective Finnish cohort study

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Reviewer: Juha Veijola

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This paper ‘Family origin and mortality: prospective Finnish cohort study’ describes death rates in middle aged male Finns by parental birth area and by mother language. The authors found that Finnish speakers born in eastern Finland had an increased death risk as compared to persons born in western Finland. In Finnish speakers, the effects of own birth area and area of residence disappeared when parental birth area was accounted for. Persons with at least one parent born in eastern Finland had an increased death risk as compared with people whose both parents were born in western Finland. Additionally the authors found that the relative risk for Swedish speakers was only 0.6 as compared to Finnish speakers.

This is a very interesting study. Main comments:

1. The authors conclude that as parental birth area seems to be the driving force behind the regional mortality difference in Finland, it gives support for the role of genetic factors as the explanation. I think there are many non-genetic factors which may contribute to the results. In this respect the discussion part of the paper is very limited.

2. The authors claim that in the ages studied, diseases that have been found hereditary dominate mortality. There is no reference to support this. Also this is in contrast to information in table 1, where in the ages of 30-49 years alcohol related deaths, accidents and suicides dominate. I would not call these hereditary diseases.

3. The problem in the paper is that it is lacking of causes of deaths in the sample. Could the authors not have the causes?

4. The introduction begins with speculations of GWA. I found this paragraph irrelevant in the context of the paper. I would just delete the paragraph.

5. In the methods there is no information how family type at age 10-14 was gathered.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published
**Statistical review:** No, the manuscript does not need to be seen by a statistician.