Author's response to reviews

Title: Personality in women and associations with mortality A 40-year follow-up in the Population Study of Women in Gothenburg

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Author's response to reviews: see over
Thank you for valuable comments, which have resulted in improvements of the paper. We have closely worked through the whole paper and revised it according to the comments from the referees. The paper was proof edited according to your suggestion, which surely improved the readability. A point-by-point response to the concerns of the reviewers follows below. The statement on data access is included in the paper. Added sentences are highlighted in yellow.

With these changes we hope that the revised version is suitable for publication. Is there any further changes to be done, please let us know.

Uppsala 2014-02-12
With our best regards
Yours sincerely
Malin André
GP, PhD.
Authors’ comments on reviewers’ comments:

Reviewer 1:
1. The authors stated that no study of personality and mortality have used a follow up of more than a decade. This is not true. There have been many that have done 20-30 year follow ups and the Friedman studies have followups of more than 70 decades.

   Authors comment:
   Yes, there are several studies on personality with longer follow-up than ours, but no published population-based studies in this field with a time span of more than a decade. The studies by Friedman are based of a sample of very gifted persons.

2. The personality measures used (Murray) are not usual. Hardly anyone uses these scales. This is both a strength and weakness of the study.

   Authors comment:
   This is discussed as a short-coming of the study, seen as an effect of the decision taken at the time of the start of the study. “A limitation of personality studies with long follow up time is that the results are limited to the instruments originally used.”

3. The authors appear to have entered all the personality variables into a single model to predict mortality. This likely oversaturated the model and made very few personality variables come out significant. The Murray variables are likely highly correlated, so it would be better to pick 3-4 theoretically relevant traits and use them as predictors, rather than overload the model with a large number of correlated variables.

   Authors’ comment:
   Every single personality variable was tested for mortality. Moreover, the five factor indices were also tested one by one, so the proposed 3-4 theoretically relevant traits were used as predictors already in our analyses.

4. Finally, the authors conclude personality was not related to mortality but they did find significant associations. Thus, the statement that they did not find any associations is very puzzling.

   Authors’ comment:
   We realized that this can seem puzzling to the reader. We have added a sentence in the beginning of Discussion to make this more clear: “However, differences in mortality risk could be seen between individuals scoring low or high on two single traits, CMPS Succorance and Aggressive non-conformance, but this did not imply significant influence concerning that single trait on mortality.”
Reviewer 2

1. In the Statistical section, the authors wrote, when they examined a linear association between personality and mortality, ‘age at baseline was used as covariate in all models’. I wonder they should use other covariates which include marital status, socioeconomic group, education, alcohol, smoking, chronic disease (if any), which have important roles for adjustments for the relationship between personality and mortality.

Authors comment
We have on reviewer’s suggestion used marital status, socioeconomic group, education, smoking, and chronic disease (Hypertension as the most common chronic disease) as covariates, but this did not change the results. We have added this to the manuscript in Results (concerning Table 3); “Adding marital status, socioeconomic group, education, smoking or hypertension as covariates did not change the results.”

2. I could not understand fully the statistical methods to examine the relationship between personality traits and mortality. I wonder whether the authors created and used dummy variables or not, when they tested the relationship between quartile of personality trait and mortality. They should clearly state this.

Authors comment
We did not use dummy variables. We used estimation of Hazard Ratio in risk time model from Poisson regression with event variable “Dead within 40 years” and risk time variable “Survival days 1968 + 40 years. We’ve added this to statistical methods.

3. In Figure 1 and 2, the authors should show what the vertical axis mean. And then, if the axis mean proportion of survival, the value ‘120’ is impossible.

Authors comment
You’re absolutely right and we apologize for this and have erased the “120” in both figures.

We thank the reviewers for their valuable comments and we now hope the changes in the manuscript in accordance with the comments will make it publishable.

For the authors
Malin André   Cecilia Björkelund