Author's response to reviews

Title: Prospective association between self-reported life satisfaction and mortality: Results from the MONICA/KORA Augsburg S3 Survey Cohort Study.

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Author's response to reviews: see over
Dear editor and reviewers,

Thank you for your new assessment of our manuscript "Prospective association between self-reported life satisfaction and mortality: Results from the MONICA/KORA Augsburg survey 3 Cohort Study".

A point-by-point reply to each of your comments/critiques is provided below. Reviewer comments are identified in bold. New texts that have been introduced into the manuscript based on your suggestions are identified with "tracked changes". Their location in the manuscript is noted (page, paragraph).

With best regards,

Maria Elena Lacruz, PhD
Issues addressed by Reviewer #1:

1. **Page 16, paragraph 1** ("these findings suggest that regardless of an individual's somatic and psychological health, being satisfied with one's life is protective against mortality"): This sentence infers that LS protect against mortality among all individuals. This is somewhat confusing as the sentence above points to the sex difference.

   Thanks for the remark. Now it reads in page 15, paragraph 1:

   "These findings suggest that for men regardless of their somatic and psychological health, being satisfied with one's life is protective against mortality."

2. **Page 9, paragraph 1**: The sentence gives no meaning, one or more words are missing.

   Thanks for the remark. Changes have been done in page 9, paragraph 1:

   "Age standardisation was carried out, using the direct standardisation method. The standard population to which the age distribution of sub-groups was adjusted was the entire survey population."

3. **Page 11, paragraph 2 and page 16, paragraph 1**: Please consider using "severe" rather than "serious"

   Thanks for the remark. Changes have been done in page 11, paragraph 2: "Severe chronic disease conditions ..." and page 15, paragraph 1: "... severe sustained co-morbidities ..."

4. **Page 17, paragraph 3**: In my opinion, these arguments would logically fit well in on page 16, between the paragraphs.

   We acknowledge that these arguments fit well for the survival benefit of LS as well as for the determinants of LS. Considering this, we prefer to leave those arguments after the second one (determinants of LS), because in this way they could be applied to both.
Issues addressed by Reviewer #2:

1. The authors suggest changing to “A different effect of psychological factors on the relationship between LS and mortality was observed, whereby the strength, significance and in the case of women, the direction of the effect of LS on mortality was changed when psychological factors were accounted for in the model. This effect modification suggests a confounding role of psychological variables in the effect of LS on mortality.”, I would suggest changing to “Controlling for psychological factors affected the relationship between LS and mortality as the strength, significance and, in the case of women, the direction of the effect of LS on mortality was changed when psychological factors were included in the model. This pattern suggests a confounding role of psychological variables in the association between LS and mortality.” [since effect modification is something different].

Changes have been done in page 14, paragraph 1:

"Controlling for psychological factors affected the relationship between LS and mortality as the strength, significance and, in the case of women, the direction of the effect of LS on mortality was changed when psychological factors were included in the model. This pattern suggests a confounding role of psychological variables in the association between LS and mortality."

2. In the next paragraph the following sentence needs language modification as indicated “Indeed, only when either self-rated health or social network index were excluded from the psychological model, was the LS association with mortality is restored (data not shown). The exclusion of none any of the other variables from the "psychological model" (including depressed mood) did not modified the association between LS and mortality."[assuming this is indeed what the authors wanted to express].

Thank you for the important correction. That was indeed what we wanted to express. Changes have been done in page 17, paragraph 1:
"The exclusion of none of the other variables from the "psychological model" (including depressed mood) did not modified the association between LS and mortality."

3. Although the authors now acknowledge that the association between LS and mortality may be due to common underlying causes such as social network integration and self-rated health, the abstract and the concluding sentences of the “conclusion” paragraph apparently continue to imply a direct causal impact of LS on mortality. Adding moderating clauses to the effect that “the observed association between LS and mortality wholly or in part may be attributed to common underlying causes such as social network integration and/or self-rated health” would strengthen this paper.

Changes have been done in abstract (page 2, paragraph 4) and conclusion (page 20, paragraph 1):

"The observed association between LS and mortality, wholly or in part, may be attributed to common underlying causes such as social network integration and/or self-rated health."

4. A few specific suggestions regarding language. First line p. 4: “age span” rather than “life span”. The sentence starting on p. 8 and ending on p. is incomplete (words lacking). Second and third line on p. 14 should be changed to “.... Suggests that neither CVD risk factors nor DVD risk factors are confounders.” Line #9 on p. 16: “one’s”

Changes have been done as suggested:

- Page 3, paragraph 2: "in a population-based sample with a broad age span"
- Page 8 and 9 (see also response to question 2 by reviewer 1): "Age standardisation was carried out, using the direct standardisation method. The standard population to which the age distribution of sub-groups was adjusted was the entire survey population."
- Page 13, paragraph 3: "... suggests that neither CVD risk factors nor health factors ..."
These findings suggest that for men regardless of their somatic and psychological health, being satisfied with one's life is protective against mortality.