Reviewer's report

Title: BMI and Mental Ill-Health in 68,000 Swedish Adults. Controlling for an age-gender combination.

Version: 2 Date: 19 November 2012

Reviewer: Virginia Aparicio

Reviewer's report:

The authors investigated how age and gender in combination affect the association between BMI and mental ill-health to further explore the BMI and mental ill-health association by taking age and gender into account. The manuscript is interesting due to the fact that knowledge about this important topic still inconclusive. The authors concluded that there were not mental ill-health differences between normal weight and overweight subjects. The authors also found obesity I category as a possible point of departure in a search for important cut-off points in the BMI/mental ill-health association. However I have some concerns to the manuscript that I present below:

MAJOR COMPULSORY REVISIONS

1. There is a decompensation between the Introduction and the Discussion section. Introduction is too extensive and excessively informative and sometimes looks like a Discussion. Examples are expressions like: “A possible explanation was” In contrast, Discussion is too concise and less informative. I would suggest to move/use some information from the Introduction section into the Discussion.

2. I miss a clear “Conclusion” section. Instead of it, the study finish with huge speculations and personal appreciations without scientific support or references: “In the search for mechanisms behind increased mental health for individuals of all weights, we would find it valuable to investigate the role of relationships in which people are defined and evaluated through the eyes of the other. All such relations affect people’s selfperception and, thereby, their mental health. Not only do such relations have the ability to stigmatize or dignify the individual in his/her self-perception; they are also affected by factors like age and gender. Perhaps these relationships contain some answers to why being a man and growing older have such strong positive impact on the association between mental ill-health and BMI”.

MINOR ESSENTIAL REVISIONS

3. I miss some numerical data in the Results section from the abstract, or at least the P values.

4. Why did you employ the General Health Questionnaire-12 (GHQ-12) to assess mental health instead of SF36 or other more specific questionnaires? Try to justify the use of such questionnaire in the methods.

5. Describe the mental ill-health questionnaire employed by each study. It would
be interesting to compare your GHQ results to other questionnaires.

6. The methods section is not described enough (Statistical software employed, significance level chosen, Normality of the sample and statistical test performed, questionnaire description and references…)

7. The Discussion section should start with the main results of the study and the findings the authors would like to highlight. However it simply starts with the aims of the study.

8. A section in the Discussion with some hypothesis, well justified by references, explaining the authors’ results would improve the quality of the manuscript.

9. Be careful with the abbreviations, sometimes they are not newly defined in the main document after the abstract (for instance the GHQ).

10. Some paragraphs need to be rewritten for a better understanding. Here some examples: “Unforeseen, and in line with Knoesen et al. (2012), was the fact that this lack of difference included the obesity I category. We would consider our result as contributing to the important issue of cut-off points in the association between BMI and mental ill-health.” Or “A possible limitation was the sample of men the obesity II category”

11. The tables and figures format does not seem to be very appropriate for the potentially future publication. Please, change comes by points in the figures. Do you think to include color-figures is really needed?

12. One of the strengths of this study is the big sample size that employs. The authors should highlight it after the Limitations section.

DISCRETIONARY REVISIONS

13. I would suggest change the title by one more informative giving the answer to the main question.

Level of interest: An article of importance in its field

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

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests