Reviewer’s report

Title: Mood and Cognition in Healthy Older European Adults: The Zenith Study

Version: 2 Date: 13 January 2014

Reviewer: Julia Rao

Reviewer’s report:

MAJOR COMPULSORY REVISIONS:

1. Overall, the introduction has a generally good flow, but requires a more detailed review of the literature:

A. Paragraph 2: “Changes in mood have been reported to influence cognitive performance in different age groups.” More information is needed here.

B. Paragraph 4: Need more specific information on what cognitive domains are affected by mood. Also, the last sentence in that paragraph should include the specific anatomical changes that are observed in normal aging and how that may influence both mood and cognition.

C. Paragraph 5: “A number of theories have been put forward to explain the potential mechanisms underlying this relationship” What relationship? I’m assuming mood and cognition, though the prior paragraph mentions the relationship between structural changes and mood and cognition. The following paragraphs are more theoretical and should be tied into neuroanatomy if possible to make a more convincing argument for the underlying mechanism connecting mood and cognition.

D. Paragraphs 5 and 6: Are these citations to proposed theories, or are these empirical studies? More specific evidence needed here.

E. Paragraph 7: It is mentioned that there have been a few studies of older adults—what are those findings?

F. Paragraph 8: This paragraph brings up the need to develop a better understanding of the relationship between sociodemographic variables and mood and cognition. However, there is no literature mentioned in the introduction regarding this relationship. Therefore the analyses on SES and mood and cognition later on seem to come out of nowhere.

2. In the Results section it was written, “the groups were comparable with regards to occupational categories with the exception of the older group who had a slightly lower percentage of professional occupations.” Was this difference statistically significant?

3. Also in the Results section, include chi-square result that there was no statistically significant difference in the number of males/females in each group.

4. Finally, in the Results section, there are data examining mood variability.
There is nothing mentioned in the introduction about mood variability and how that would affect cognition. Therefore, these results are difficult to interpret while reading.

MINOR COMPULSORY REVISIONS

5. In the Methods section under Cognitive Measures: Each task is listed with the associated neural networks that are activated during them. This is good, but if you’re going to include this, a review of the networks and which ones are also implicated in mood should be mentioned in the intro (as noted above under paragraphs 4 and 5).

6. In the Procedure: Include a sentence that the procedure was the same for all sites. If this is not true, then explain.

7. In the Results section under Socio-demographic information: Include the final N within the text. Also, include educational information (years of ed.), if available.

8. In the Results section, 5th paragraph: “sex*age nor age* social class” should state: sex*age*social class?

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

Quality of written English: Acceptable

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.