Reviewer's report

Title: Cognitive performance and leukocyte telomere length in two narrow age-range cohorts: a population study

Version: 1 Date: 12 May 2010

Reviewer: Sarah Harris

Reviewer's report:

The paper investigates associations between telomere length and both cognitive function and cognitive change in two narrow age-range cohorts. The results provide little evidence for such associations. The study was generally well designed. I like the fact that two methods of telomere measurement were used and that they correlated highly. The paper is well written and easy to follow. The conclusions are appropriate. I hope that at the next wave of testing both telomere length and cognition are measured to allow an association of cognitive change with telomere length change to be investigated. I have only a few minor points.

Minor essential revisions:

1) In the background section of the abstract the authors state: “In this report, the relationships between baseline telomere length and cognitive performance and change are further assessed in two narrow age-range population cohorts.” Whereas in fact telomere length was measured at wave 2, not at baseline. This needs to be corrected.

2) In the statistical analyses section the authors state: “Due to sex differences on most measures, the analyses were also undertaken separately for men and women.” However, when carrying out analyses on the entire cohort they do not control for sex. I would like to see the analyses repeated controlling for sex.

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

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests