Review Report for BMC 337686552815398
Smith et al, "Reproducibility of Physical Activity Recall over Fifteen Years: Longitudinal Evidence from the CARDIA Study"

Introduction
The present paper by Smith et al expands on previous research into different aspects of physical activity (PA) recall. Specifically, the authors examined the 15-year ["Historical"] reproducibility of PA recall, analysing its correlations with the subjects' self-reported PA at baseline (15 years ago), in a large cohort of 3605 White and African-American young and middle-aged adults from the Coronary Artery Risk Development in Young Adults (CARDIA) study. The associations between subjects' current PA and historical PA were also tested. The authors showed that quantitative historical PA recall is poorly reproducible after 15 years. They also found that subjects were better able to recall categorical PA, while vigorous-intensity activities could be more accurately reproduced compared to moderate-intensity activities.

Major comments
The paper is well written, the methodology is acceptable and the main limitations of this study, such as the generalisation of the findings and the lack of an objective device for recording past and current PA, are stated by the authors in the limitation section of their discussion. The authors’ results, although something you would expect and not so astonishing, are well presented in the manuscript and are in accordance with previous epidemiological work. My overall recommendation is that the authors’ work should be accepted for publication after they have addressed the issues below.

Discretionary Revisions
1. There should be more discussion of the question of a possible preference for examining the association of historical PA recall with periods that can be easily recalled, rather than the association of historical PA recall with baseline data.

Major Compulsory Revisions
The discussion section should be strengthened by a more thorough explanation of the results with respect to the following issues:
1. Over-reporting and under-reporting of PA data (fourth paragraph of the discussion section, page 10).

2. Investigation of the repeatability of the historical PA recall through categorical questions or/and through PA questionnaires that classify PA (implications for future studies, last paragraph of the discussion section).

Minor Essential Revisions
1. A correlation of 0.50 is not “reasonably high” as stated in the manuscript (the term is confusing), but moderate (3rd and 4th row of the 3rd paragraph of the discussion section).

2. The outcomes of the multiple regression analysis stated at the 6th paragraph of the “Results” section are not presented in any tables or appendixes. Therefore, the authors should present them in their manuscript.

3. The phrase “did not account for much” as stated by the authors in the penultimate row of the “Results” section in order to explain the very low values of R2 is again confusing and must be rephrased.

Dr. Papathanasiou George
Associate Professor
Head of Physical Therapy Dpt
Technological Educational Institute of Athens

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

**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.