Reviewer's report

Title: The fractionalization of physical activity throughout the week is associated with the cardiometabolic health of children and youth

Version: 2 Date: 22 May 2013

Reviewer: Edith van den Hooven

Reviewer's report:

The authors have corresponded satisfactorily to the reviewers’ comments.
I only have two minor comments.

1. A third model is run with BMI as an additional covariate. In the results, it is described that the effect estimates did not considerably change, and that results are not shown. In Table 2, however, extra lines are included for Model 3. It would be interesting to present the results with additional adjustment for BMI here, but if the authors prefer not to, please delete these lines from the table.

2. In the Discussion (lines 315-318), the authors state that non-differential misclassification of the exposure may have occurred. However, the misclassification of physical activity may be differential with respect to health outcomes as well (e.g., less ‘healthy’ subjects may have more days with missing accelerometer data). I suggest to formulate this statement with more caution.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests