Author's response to reviews

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

Authors:

Ian Janssen (ian.janssen@queensu.ca)
Suzy L Wong (ian.janssen@queensu.ca)
Rachel Colley (ian.janssen@queensu.ca)
Mark S Tremblay (ian.janssen@queensu.ca)

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Remaining Comments from Referee #2:

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

Comment 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.

Response: As the results for the physical activity variables in the model that contained BMI were incredibly similar to those presented for the model without BMI (model 2 in Table 2), we have chosen not to present the findings for this additional model in the table. We have deleted these extra lines (rows) from the Table that would have included the results for a third model.

Comment 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.

Response: Good point. We have re-worded this sentence to indicate that it is unclear if this misclassification was differential or non-differential, and subsequently whether the observed associations were over or underestimated. Refer to lines 317-319 in the newly revised manuscript.