Reviewer’s report

Title: Correlates of sedentary behaviour in children. A multilevel modelling approach

Version: 2 Date: 12 May 2014

Reviewer: Erin Hobin

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Major Compulsory Revisions

1. Background Section – Unlike in adults, the majority of studies examining the link between accelerometer-measured total daily sedentary behaviour and health risk among children and youth do not indicate a significant association. Instead, previous research seems to suggest that only specific types of sedentary behaviours (e.g., screen time) are linked to health risks. This body of evidence should at least be acknowledged in this paper.

2. Methods Section – Previous research suggests that MVPA attenuates the association between sedentary behaviours and health risks. Although you include indirect measures of PA such as participation in sports or PA clubs and active transport to school, why did you not include daily minutes of MVPA as a covariate? If you still decide not to include MVPA in your model, I think not including MVPA as a covariate should at least be included as a limitation to your study.

3. Discussion Section – Although systematic reviews indicate the negative association between excessive screen time and health risks among children and youth, the amount of sedentary time considered to be a health risk is unclear. Given that you use direct measures of total sedentary time, much of the time accumulated as “sedentary” represents normal aspects of day-to-day (e.g., homework). It would be useful if you were to acknowledge the value of future studies distinguishing between different types of sedentary behaviours (e.g., screen time, riding in a car), examined different patterns in which sedentary time is accumulated (e.g., prolonged bouts of 20, 30, 40 minutes), or used an inclinometer in addition to an accelerometer to measure postural changes. These measures may be more accurate in capturing sedentary behaviours or patterns of behaviour that are associated with health risks.

Minor Essential Revisions

4. Sample - What happened to children who were deemed ineligible to participate in ISCOLE? How were children randomly selected? Was a power calculation conducted to determine adequate sample size for schools and students?

5. Family Data – awkward wording, please revise. “This categorization follows closely the Portuguese National Classification of Occupations [29].”
6. Results Section– The author states that “The reduction in the variance component at school level, from 148476.30 in M0 to 28140.56 in M2 allowed the estimation of the proportion of school’s characteristics that explain the variance in SB. Thus, approximately 81% of the original 7.5% of the between-school variance was attributed to schools offering sports or PA clubs and school promotion of active transportation.” Is this statement accurate given that the M2 model also included student-level factors? Should you not consider the differences between M1 and M2 to identify the b/w school variance attributed to school-level factors?

7. Discussion Section– grammatical correction in sentence “Taking these results into account, and the fact that 68.5% of our sample reported to have a TV”.

8. Discussion Section– Could the fact that in this study, children from schools with a higher percentage of students engaged in sports or PA clubs had higher levels of SB be due to the intensity of activity related to sports or PA clubs? If yes, perhaps more research examining both sedentary behaviour and physical activity in one study would be of value?

9. Discussion Section – You suggest that “attention should be paid on weight status when implementing strategies to decrease sedentariness in children.” Can you provide an example of how to do this without stigmatizing students based on weight status?

Discretionary Revisions

10. Sedentary Behaviour and Sleep Time – How was computer use during school time measured? Interested in learning more about how the author estimated average time spent in computer use during schools days.

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.