Reviewer’s report

Title: Objectively assessed recess physical activity in girls and boys from high and low socioeconomic backgrounds

Version: 1 Date: 1 December 2013

Reviewer: Erica Hinckson

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The authors objectively measured school recess physical activity in children from high and low socioeconomic backgrounds.

Major Revisions

Introduction
While the authors summarised the literature around SES and children’s physical activity well, I am curious to know the reasons behind this study and the comparisons between high and low SES during recess. Is it simply that we don’t have enough data examining the differences between high and low SES during recess. Why would SES play a role while at school? Usually schools sit in low or high SES neighbourhoods and the availability of equipment or opportunity for physical activity may differ from school to school. I am struggling with the rationale. Perhaps the introduction needs another paragraph or two justifying this comparison at recess during school. I also can’t see how this information will inform interventions.

Methods
Line 123: why was sed established at 1.79 METs, that is higher to the recent definition of sedentary behaviour at less than 1.5 METs. Also more detail is needed in terms of data reduction and cleaning? What criterion was used for a valid day? What was a valid day? Were a number of consecutive zeros deleted? Were the children asked to complete a log with missing times?

Discussion
I was hoping the discussion would address my above concern somehow. There was not an assessment of the school environment and that is also a limitation. What would be the reasons of the differences observed during recess? The fact that the accelerometers were not worn during the whole day further limits this study. While the sample size is large, the concept and design of the study is limited and therefore I would recommend that this is presented as a short report.

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

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.