Reviewer's report

Title: School day segmented physical activity patterns of high and low active children

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Reviewer: Elin Kolle

Reviewer's report:

This is an interesting paper that address the important issue of accelerometer assessed physical activity patterns of high and low active children during segmented school week days whilst controlling for important confounders. The manuscript is generally well written.

Major Compulsory Revisions

The time spent in MPA and VPA will depend on how many minutes the monitor was worn each day. Therefore, I think the results regarding MPA and VPA needs to be adjusted for wear time.

Minor Compulsory Revisions

Page 7: How valid is your measure of the school playground areas? Do you know if the children are allowed to play on areas outside the school playground which are not a part of the school property?

Page 8: It is written that recess and lunchtime are mandatory in English schools, but how did you know at what time these recess periods happened so that you could do the accelerometer analyses at the exact time point? Did teachers at the schools have to complete some kind of diary so you could know whether they stayed inside during recess? Did the children report if they were sick or stayed home from school?

Page 13, line 11: The authors imply that high student enrolment in the form of larger class sizes inhibit opportunities for MPA and VPA during classes – do you have data on how many students are enrolled in each class at each school (couldn’t higher student enrolment lead to several parallel classes?)

Page 14, line 14: Do you have information about the subjects travel mode to school?

Page 16, line 19: Do you have any information about which activity the children participate in to strengthen your assumptions?

Table 1: I would like if you included the mean counts/min in the table to show differences between the groups in this variable as well. I also think that the table is large and not so clear – maybe it would be better to divide it into 2 tables?
Table 2: I’m a bit confused by the last part of this table. Since this is descriptive school level variables - don’t all children in the same school have the same amount of minutes in recess, lunchtime etc? I think it also would have been interesting to relate the playground area to number of enrolled students in the schools as that might be of importance.

**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