Reviewer's report

Title: Virtual Field Trips as physically active lessons for children: A pilot study

Version: 2 Date: 4 February 2015

Reviewer: Niels Wedderkopp

Reviewer's report:

Review of

Virtual Field Trips as physically active lessons for children: A pilot study

1. Is the question posed by the authors well defined?
Yes the research questions are well defined.

2. Are the methods appropriate and well described?
Yes, the methods are partly appropriate. The only question I have is why do the authors use CPM, when they have used 5 seconds epoch. I believe they should use the data they have, not making it less appropriate by using cpm. Especially because the epochs used by Pulsford et al was 15 seconds. Thus the authors should redo their analyzes with 15 second epochs.

In the multivariate analyzes where activity measures are included as independent variables, these independent variables did they not include the time in virtual trips? E.g. you measured the time from 9 am to 3 pm, thus calculated the time in different intensities and included this in your multivariate models, but the lesson was also in the time between 9 am and 3 pm, making this time part of both the dependent variable and an independent variable, is this correctly understood? If so you need to change your analyzes, you need to take out the time measured in virtual field trips from the “independent variable”. E.g. if the virtual field trip is from 10 to 11 am, you activity measurement for the independent variable should be from 9 to 10 am and 11 am to 3 pm. If you have already done so, you should describe it in the methods section.

3. Are the data sound?
It seems as the data is sound except for the accelerometer data, which could and should be reanalyzed according to the above.

4. Do the figures appear to be genuine, i.e. without evidence of manipulation?
Yes, the only figure is a picture of the Virtual environment.

5. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes.

6. Are the discussion and conclusions well balanced and adequately supported
by the data? Generally yes, but I believe a few problems were evident. The authors state that

Line 302 to 304: No significant differences were found between genders: indicating that VFTs may be an effective way of increasing activity in girls who frequently demonstrate lower PA [37]. No differences were found between ethnicities, suggesting VFT activity may benefit diverse groups.

Now this is a little problematic given the very small effect size. It is not really appropriate to state it is an effective way to increase PA in girls when the increase in activity is so small it is nearly un-measurable. For the ethnicities the discussion are also a bit exaggerating, as only “white” and “Asian” ethnicities are enough to determine if there is an effect or not, the rest of the ethnical groups are so few that it is impossible to state anything regarding them.

7. Are limitations of the work clearly stated?
I miss the limitation of accelerometry, the assumption that what are measured at a given time is true for the individual at any time.
I do not agree with the use of inclinometers, they will not give any information regarding energy spending activity.

8. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Not applicable.

9. Do the title and abstract accurately convey what has been found?
Will probably need to be changed with the changes in the manuscript.

10. Is the writing acceptable? Yes.

Taking the above into consideration, major compulsory revisions are:

1. The use of the accelerometer data, it should be 15 seconds epochs in the analyzes, because that is what is used in the validation paper the authors cite, and they lose information when using 1 min epochs. In addition the inclusion of the intervention time in the total time used for activity measurements should also be changed as it is both dependent and independent variable as it stands now.

2. I suggest the discussion regarding sex and ethnicity should be changed according to the above.

Minor compulsory revisions:
The rest is minor problems that the authors can change as the find appropriate.

**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