Reviewer’s report

Title: Development of a measurement approach to assess time children participate in outdoor active play, organized sport, active travel, and curriculum-based physical activity

Version: 0 Date: 24 Jan 2018

Reviewer: Shigeho Tanaka

Reviewer’s report:

This manuscript proposed a new method to objectively evaluate 4 types of physical activity in children. The strategy is well considered and the proposed method is sufficiently valid. Each type of physical activity has different determinants, so such a trial can bring great progress in this research field.

However, there are some issues to be addressed.

There are other types of physical activity with moderate-to-vigorous intensity besides the four types, for example, active indoor play such as basketball in gymnasium, or active chores (outdoor or indoor). Even if these activities are not examined in the present study, authors should mention these activities in the text.

Results of the validity depend on the sample characteristics. Authors should describe the details of sampling method (including the number of schools) and characteristics of participants (e.g. age, body size, exercise habits).

p.153

If the data of Actical or GPS were utilized for the visual data to adjust start or end time of activity logs, it means that the activity log was less reliable than those objective devices. In that case, it seems slightly strange if the activity log was used as a reference. At least, it would be a limitation of this approach.

What degree was the outdoor time log valid as a reference?

p.270

How were the eight criteria determined (e.g. why 52 or 57% of time, not 50 or 60%)? It is also the case for the curriculum-based physical activity algorithm.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes
Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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