Reviewer’s report

Title: Gender and grade differences in objectively measured physical activity and sedentary behavior patterns among Japanese children and adolescents: A cross-sectional study

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Reviewer: Edmar Lacerda

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Gender and grade differences in objectively measured physical activity and sedentary behavior patterns among Japanese children and adolescents: A cross-sectional study

The authors investigated gender and grade differences in objectively measured physical activity and sedentary behavior among Japanese children and adolescents

Abstract

L.27 - Please replace the expression "The level of physical activity" for "The physical activity level"

* More details regarding the methods (i.e. model of accelerometer; number of accelerometer using days; cutoff value used for MVPA and sedentary time) could be included in the abstract rather than a long introduction.

L.32 - Please insert the term "sedentary behavior".

Introduction

* State clearly the hypothesis. The inclusion of 2-3 similar studies involving accelerometer and child could improve the hypothesis-driven nature of the introduction.

Methods

*The epoch length used in accelerometer (2 min) may have biased the results. Several studies have been shown that recording accelerometer data in shorter epochs in young children captures more moderate-to-vigorous physical activity, which is a component of physical activity guidelines for children. In this case the authors should be have used a shorter epoch in order to enable reliable data.

L.126 - Use "nine" instead "9"

L.127 - Please insert reference for physical activity levels and sedentary behavior cut-points used.

* For data cleaning, how did you determine a valid day? Was it defined as a minimum of how many hours of accelerometer wear time? And awake non-wear time, was it defined as a period of how many consecutive minutes of zero counts?

L.132 - You have stated 3 days, but did you including at least one weekend day?

L.136, L162 - 164 - The description of the Chi-square tests needs to be improved or excluded, because I think it makes no sense to examine differences between included vs. excluded participants.

Results

L.152 - "had missing data on physical activitydata" should be "had missing physical activity data"

Table 1 - Please replace "Ligit" for "Light"

Table 2 - Please replace "lower" for "lower"

Discussion

L.226 - Please write "nine" instead "9"

* The discussion should be more critical by mentioning the details of the studies.
Overall, the paper concept is sound. There are needs to have modifications to grammar and statistical analysis section. I believe the epoch length used may have biased the results, because the consensus is that shorter epochs should be used to obtain a more accurate representation of young people's physical activity levels.

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

No

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

No

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

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