Reviewer's report

Title: Physical activity patterns in children attending 43 preschools: A cross-sectional study.

Version: 4 Date: 27 June 2014

Reviewer: Maroje Soric

Reviewer's report:

This observational cross sectional study addresses an important and up to date topic on physical activity patterns in preschool children.

I find that this is a carefully designed and excellently written study. Next, the aims are well defined and the methods and data analysis appropriate and well described. In addition, the references cited are up to date, and the conclusions are all supported by the data presented within the manuscript. Finally, the limitations of the study are thoroughly described. Therefore, I suggest that the manuscript should be accepted for publication.

However, I have a few comments and questions which I find could further improve the quality of this manuscript.

Specific questions and comments are listed below:

Minor Essential Revisions

Methods
1. you state that sample size calculations were based on an earlier study. However, you did not present details about what analysis it is based on, what is the aimed level of power etc. It would be informative for the reader to see those details, please present.

2. regarding the outcome measure for PA:
Notwithstanding the pitfalls in using cut-off points to quantify MVPA, it seem odd that the authors describe the prevalence of overweight and movement difficulties but choose to ignore the prevalence of insufficient PA. I would recommend presenting MVPA as a secondary PA outcome. Consequently, the prevalence of insufficient PA could be calculated and a clinical significance in the reduction of PA during the afternoon or during weekends could be presented more clearly.

3. You made extensive comparisons between children with and without PA data but did not compare these two groups regarding MABC2. How come? Please include this comparison

4. You report that there were more obese children among the group without PA data. What is the magnitude of the difference? Similarly, you found that obesity was not associated to PA level in your sample. Could this be attributed to the small number of obese children with PA data (at present, this number is not discernible from your description). Please specify in the revised manuscript
5. You used different monitors to assess PA – you should describe the agreement between these two types of monitors (which btw appears to be excellent in some activities eg. J Sports Sci. Sep 2012; 30(13): 1429–1435, but differ significantly in other - J Sci Med Sport. 2013)

Results
1. 'No difference was found in the weekly mean 274 (SD) PA level between boys and girls (785 [187] versus 818 [190], p=0.11). From figures 2 and 3 it seems that the average PA level is higher in boys - please check.
2. present p values for gender interaction for week and day variability analyses
3. regarding figure 4. Is preschool time defined from 8 AM to 4PM or from recorded arrival and departure times? Please clarify in the text

Discussion
1. when discussing gender differences in PA you omitted the findings of a similar Danish study that contradict the hypothesis on cross-cultural difference in gender specific PA (Brasholt et al.). Please comment on the discrepant findings.

Conclusions
1. one of the conclusions drawn from your data should be that outdoor activities should be encouraged to promote PA in inactive children
2. Explicitly state that the afternoon period is characterised by a reduced amount of PA in the period studied (spring). – this is probably not the case during the other periods of the year

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests'