Reviewer’s report

Title: Descriptive analysis of preschool physical activity and sedentary behaviors - a cross sectional study of 3-year-olds nested in the SKOT cohort

Version: 0 Date: 09 Mar 2017

Reviewer: Leigh Vanderloo

Reviewer's report:

General Comments:

This was an interesting article to read and I appreciate the opportunity to review. While the findings of this work are timely (and have some notable contributions to make to the literature), there are some issues that consider revision to help strengthen the overall saliency and delivery of the work.

Please ensure what is presented in-text matches what is presented in the abstract. See specific comments below.

Please clarify whether you are using the terms TPA, overall PA, and non-SB interchangeably throughout your paper. I would encourage you to be consistent (i.e., chose one term and stick with it).

Your study rationale could be stronger. Specifically, you may want to speak more to the influence of settings on preschoolers' PA and SB levels. What is your rationale for looking at daycare?

I would encourage you to review the 2016 paper by Montoye et al. ("Reporting accelerometer methods in physical activity intervention studies: a systematic review and recommendations for authors"), to ensure you are reporting all the necessary methods data re: accelerometry.

The results section is long and dense. It would be idea if this section could be tidied up a bit so that the main findings stick out. I think some additional organization in this section would be helpful.

How were naps handled in your analyses? Were they considered non-wear time?

Given that one of the objectives of your study was to compare Danish preschoolers' PA levels to Canadian guidelines, would it make sense to compare your findings to additional Canadian studies?
Be consistent with your use of SB and "sedentary" throughout. Is the acronym meant to replace every time you sue the word "sedentary"?

Be consistent with your presentation of STATA vs. Stata.

Be consistent with your use (or non-use) of the oxford comma.

Review BMC guidelines for references - there should be no bolding. Please revise accordingly.

I would also encourage a careful and thorough review of the overall quality of English in this paper. There were a number of typos, incorrect verb tenses, and awkward phrasing. This would greatly improve the paper.

Specific Comments:
- Abstract (line 26, page 2) - hyphenate moderate-to-vigorous
- Abstract (line 30, page 2) - by mean overall PA, do you mean total physical activity (or TPA)?
- Abstract (line 37, page 2) - remove e.g.
- Background (lines 79-84) - should you state that these are Canadian guidelines (and that the UK and Australia have the same recommendations)?
- Background (line 85, page 4) - I would argue that more than "relatively little" is known about preschoolers' PA (particular given the large number of publications in the past 5+ years). Either soften the language used here or clearly articulate what specifically is missing from literature.
- Background (line 90, page 5) - why mention toddlers if the focus is on preschoolers?
- Background (line 94, page 5) - I wonder if "high income country" should be added to your abstract?
- Background (line 95, page 5) - here you say TPA, but in abstract you say overall PA. Be consistent.
- Background (line 96, page 5) - applying suggested Canadian recommendations?
- Background (line 97, page 5) - there are no MVPA recommendations for children under 5 years (only that by the time they reach 5 years they should be accumulating 60 mins of MVPA/day). Please clarify.
- **Background** (line 97, page 5) - in the abstract you mention that you will be looking at SB, but not in your purpose statement. These sections need to match. Please revise accordingly.

- **Methods** (line 103-104, page 5) - …in the greater Copenhagen area…

- **Methods** (line 104, page 5) - replace 8 ½ with 8.5

- **Methods** (line 109, page 5) - is "manifestation" the right word?

- **Methods** (line 117, page 6) - replace "was" with "were"

- **Methods** (line 124-125, page 6) - "socioeconomic" vs. "socio economic"

- **Methods** (line 141, page 7) - replace "in" with "on"

- **Methods** (line 142, page 7) - replace "during" with "for"

- **Methods** (line 150, page 7) - to clarify, STATA was used to run your analyses?

- **Methods** (line 151, page 7) - replace "was" with "were"

- **Methods** (line 155, page 7) - please explain how you scaled the cut-points (at 15s epoch) to use with the re-integrated PA data (at 10s epoch).

- **Methods** (line 209, page 10) - this sentence could be clearer. Consider re-phrasing.

- **Methods** (line 215, page 10) - "Quartiles based on mean total PA (CPM) were generate post-hoc, and MVPA…"

- **Results** (line 222, page 10) - replace "shown" with "presented"

- **Results** (line 222, page 10) - hyphenate two-hundred-and-sixty-four" (make these changes throughout)

- **Results** (line 228, page 10) - for international audiences, in which category would high school/secondary school fall under?

- **Results** (line 244, page 11) - insert a comma after 43 minutes

- **Results** (line 252, page 11) - insert a comma after DC-days

- **Results** (line 270, page 12) - "…was spent in non-sedentary time among boys and girls."

- **Results** (line 277, page 12) - insert a comma between "daycare" and "the"

- **Results** (line 278, page 12) - begin sentence with "opposite"

- **Results** (line 278, page 12) - insert "being" after "spent"
- Results (line 278, page 13) - replace "in" with "to daycare"

- Results (line 316, page 14) - remove e.g.

- Discussion (line 373, page 16) - "For some participants, we were…"

- Discussion (line 394-395, page 17) - "…more active during daycare house illustrates the importance of discussing where and how…”

- Discussion (line 396, page 17) - why mention toddlers if they were not your focus?

- Discussion (line 416, page 18) - begin sentence with "considering"

- Discussion (line 417, page 18) - insert a comma after "children's PA [32]"

- Discussion (line 419-420, page 18) - place "e.g., the Children's Activity Rating Scale, CARS" in parentheses

- Discussion (line 423, page 18) - it is very interesting that participants accumulated most of their time in MVPA while in daycare, as there is much research to suggest the sedentary nature of this particular environment (where LPA is more likely to be noted). Please comment further as to why you think you found something different (this would be important for international comparisons).

- Discussion (line 426, page 19) - insert a comma after "attendance"

- Discussion (line 434-436, page 19) - "Most studies find that boys are more active than girls [35]; however, sex-based differences were not observed among the most active children."

- Discussion (line 438, page 19) - "lifestyle-related"

- Discussion (line 452, page 20) - insert 'the" before 'detailed"

- Discussion (line 478, page 21) - define SES

- Conclusion (line 484, page 21) - what do you mean by "day-type"

- Conclusion (line 496, page 21) - I'm not sure I would agree with the statement that the daycare setting is where children accumulate the majority of their activity

- Conclusion (line 497, page 22) - is "lifting" the right word? Perhaps improving? Increasing?

- Abbreviations: SD (standard deviation), SES (socioeconomic status)

- Table 1 (note) - "unless otherwise explained"

- Tables 3, 4, and 5 (note) - please define the p-values for * and **
Respectfully submitted.

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.

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:

Needs some language corrections before being published

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