Reviewer's report

Title: Preschool children's preferences for sedentary activity relates to parent's restrictive rules around active outdoor play

Version: 2 Date: 25 Apr 2019

Reviewer: Kristen Copeland

Reviewer's report:
The authors have been partially responsive to comments, particularly in the results, discussion and tables. There are still several instances in which child behaviors (or child preferences) are listed without the clarification that they are parent-reported, not objectively measured or child-reported. Attached is a file with pink highlighted areas where the authors would need to add the adjective "parent-reported" before "child behaviors" or "child preferences" in order to make the reporter of these constructs clear.

The abstract is lengthy about future research suggestions, but seems to miss the most pertinent next step, which would be to establish the relationship between parent behaviors/rules/practices and actual, objectively-measured child behaviors (not just parent-reported child behaviors, which one would expect to correlate with parent-reported practices, as there is the same reporter). I suggest revising the abstract to make room for the modifier "parent-reported" in each case the child behavior is mentioned.

The fact that the Vaughn tool has good internal consistency does not mean it accurately or reliably measures children's actual physical activity behaviors, but rather it means that it is a relatively focused instrument for measuring parent report of their child's behavior. Thus the Vaughn instrument isn't a "validated" instrument, it is one that has some reliability. Unless I am missing something, unless there has been a validation study that demonstrates construct validity of this instrument for measuring child behavior, the limitations should not describe the parent questionnaire as a "validated instrument" that accurately measures child behavior- recommend dropping this phrase from the limitations. This is also why the words "parent-reported" are needed before child behaviors, and why the next step is to test this relationship with actual child behaviors.

The authors state in response to reviewers "Table 3 shows one parenting practice was significant for child PA preferences (child reported) (rules around active play outdoors). Table 3 also shows 6 variables were significant for child PA preferences (parent reported PA preferences). On this basis the decision was made to conduct the hierarchical regression on the parent reported child PA preferences (6 variables)." -These findings and decisions should be summarized this in the manuscript. It sounds like this was a post-hoc decision to only do multiple regression on the parent-reported variable. The fact that only one parent practice was related to child-reported preference, while several parent practices related to parent-reported child preferences, makes we wonder to what extent there really is an association between parent practice and child preference (or behavior). In effect, the study seems to be a test of consistency of a the same reporter in
different instruments measuring different, but related constructs (child preference, behavior, and parent rules about child behavior)

The authors say that use of screen time as reward were "second most influential" in the conclusion section. But actually rules around screen time behaviors had a higher beta than rules for outdoor time in the multiregression model, so it actually had a larger effect than rules for outdoor time. However, it also had a higher standard error, and thus the p-value was not as low. I recommend re-wording - can just mention it as the other variable that was significant, without mentioning the order of impact.

**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

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:
1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests' below

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal