Reviewer’s report

Title: The mediating role of the home environment in relation to parental educational level and preschool children's screen time: A cross-sectional study

Version: 0 Date: 15 Jun 2017

Reviewer: Maite Verloigne

Reviewer's report:

I really enjoyed reading this well structured and clear manuscript. The topic is of interest and contributes to the literature. I have some minor (although essential) issues that could be addressed by the authors.

Abstract - Method. Instead of writing the following sentence 'A total of eight measures of social and physical environment factors in home setting acted as potential mediators in this study.', the authors could sum up the 8 factors at the end of the following sentence 'Parental questionnaire (N=808) assessed the educational level and social and physical environment factors at home (i.e. …)'

Introduction 'In addition to the harmful health impacts of screen time, concurrent evidence exists that children from low socioeconomic status (SES) backgrounds have more screen time in early childhood than children from higher SES backgrounds [6].' Can the authors specify the difference in time spent in front of a screen between the two groups by giving mean values?

Introduction. '… and this environment affects children's choices and behavior.' I agree for older children, but do preschoolers already really have the choice to engage in specific behaviours?

Introduction. I acknowledge that there are not many studies in preschoolers, so I would specifically add the age (range) of the population in the studies that the authors refer to. (e.g. line 68-71; line 82-85;…)

Introduction. 'Mothers with high education also restrained from watching television in the presence of their children' Did they restrain more than lower educated mothers? Or did the lower educated mothers not restrain at all?

Introduction. The authors may already add in the introduction why the results of mediation analyses could be relevant? (This could for example be added after the sentence on line 78-80)

Methods. 'A total of 86 preschools in 8 municipalities agreed to participate in the study'. How were the municipalities selected?
Methods. 'We modified the original version so that we asked separately television watching and DVD/video watching... Why is it necessary to separate this?

Results. '...93% of those who returned diaries; 49% girls; mean age 4.7 years' What was the SD for age?

Results. 'Children's screen time was correlated with all of the other variables'. There is always a correlation coefficient, so the authors probably mean significantly correlated?

Results. 'Parental education level was correlated with descriptive norm for children's screen time, parental use of screens in front of children, parental importance for limiting children's screen use and parental attitude towards societal pressures for children's screen use.' The correlation coefficients could be placed between brackets after every mediator.

Results. The authors often talk about 'among children with higher parental education'. This is not 100% correctly worded, it should be children from parents with a higher education level.

Discussion. 'Our results propose that parents with high education value the importance of limiting screen time more and can offer alternative options at home. These alternative options might be, for example, hobbies outside home or playing with PA equipment, which have been found as significant mediators…' It could also be that the alternative options are also sedentary activities, for example, quiet play?

Discussion. I would suggest to be more cautious about some statements in the discussion. For example, 'they believe that learning to use screens at an early age is beneficial for the children's future possibilities in work life and school, especially if the parents feel less capable of using screens and consider that children's sports and the related costs are too expensive.'

Discussion. 'Other indicators of SES such as relative income could bring more additional knowledge of relevant mediators in the associations between parental SES and children's screen time.' The authors might elaborate somewhat more on this issue, as it might be that other indicators of SES are differently associated with children's screen time (see review Mielke et al.). In addition, it might be that the association between SES and specific screen-based behaviours is different as well.

The discussion is well-structured and to the point, however, I miss some implications. Which actions, strategies or interventions could be developed to decrease screen time behaviour in children from lower educated parents?

Discussion. There are almost no studies investigating the mediating role of parental factors in the association between parental education level and preschoolers' screen time. However, there are
studies that investigate this topic related to preschoolers' beverage consumption (see reference Pinket et al.). Are there consistencies between studies?

There are some typos and inconsistencies in the manuscript (e.g. screen-time vs. screen time), please correct.

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.

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