Reviewer's report

Title: The home environment and childhood obesity in low-income households: Indirect effects via sleep duration and screen time

Version: 2

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Reviewer: Juan Miguel Fernandez-Alvira

Reviewer's report:

This paper represents an important examination of the mechanisms through which a social determinant (low-income) may influence home environment and eventually body weight. In particular the path analysis is a strength of the paper, as is the specific focus on body weight differences within a low-income group, in order to eliminating confounding of risk associations by SES. The paper is well written and easy to understand. I really enjoyed reading it and applaud the authors for the work. I only have minor feedback.

Background: I suggest the authors to move the aim of the study at the end of the section.

Data analyses: Although the authors state that they treated missing values using full-information maximum likelihood, some information about the amount of missing values would be of interest, so the reader can have a rough idea about it.

Results: is there any information about non-participants in terms of BMI or income? if so it could be of interest to know whether non-participants differed from participants in these two basic features.

Discussion: in the limitations section, the authors state that one limitation is the relatively small sample size. I suggest to delete "relatively", as the limitations of the sample size in terms of statistical power and representativeness is present anyway.

Discussion: I suggest the authors to add some information about the selected SES indicator (why did they focus on low income groups, instead of parental education or occupation). As shown by the literature, low-income is a strong predictor of childhood obesity, although parental education has been often linked in a stronger way and might offer different results regarding home environment.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare I have no competing interests