Review of article titled “Stress-related eating, obesity and associated behavioural traits in adolescents: a prospective population-based cohort study”

This paper uses a large population birth cohort of Finnish adolescents to examine cross-sectional associations between a range of adiposity and health behaviour measures and stress-related eating at 16 years of age and stratifies results by gender. Prenatal and perinatal factors are also examined in relation to stress-related eating at 16 years. Latent class analysis was used to examine the risk of obesity based on behavioural characteristics. A high proportion of adolescents reporting stress-related eating was found, particularly in girls. The paper is a useful addition to the literature given the lack of studies involving an adolescent sample. It is disappointing that the authors did not include multivariate models when examining associations with stress-related eating and did not include information on or adjust for socio-economic factors.

Discretionary revisions
1. Consider dropping Figure 1? – I don’t think it adds all that much and it is very difficult to interpret.
2. Consider creating a single scale variable out of the 7 food items.

- Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
3. Methods section, study population paragraph – could it be made clearer that the sample used in this study are participants who completed the 16 year follow-up. As is, only dates of 2001-2002 are presented.
4. Results section, paragraph 4 – first sentence needs editing.
5. Table 7 – include a footnote with the labels assigned to the three latent classes.

- Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)
Participant attrition
6. Were there any significant differences between the 6945 participants included in this paper and the original cohort of 9432 (i.e., differences in terms of gender, socio-demographics, SES, prenatal and perinatal factors etc)?
Definition, validity and reliability of items

Methods section

7. Gestational weight gain – Can it be made clearer how this was calculated/collected...was pre-pregnancy weight self-reported via questionnaire at the first antenatal visit and then weight objectively measured at the 20th week of pregnancy? A comment on the validity of this measure should be included in the discussion.

8. Food and drink consumption variables – information relating to the reliability and validity of the FFQ used needs to be included here.

9. Gestational alcohol and smoking variables – include the exact wording of the questions used.

10. Other health behaviour variables – exact wording of the questions used and information relating to the sources/reliability/validity of each of these items needs to be included.

Analyses & Results

11. Given that poor socio-economic circumstances have been shown to predict mental health problems in childhood and adulthood, data on socio-economic factors such as family income, parental employment, parental education, neighbourhood characteristics need to be included in analyses and in the description of the sample.

Results tables

- 12. Table titles should state that the data is from the 16 year follow-up and include the years of data collection.
- 13. Why are 95% CI’s presented for the means and not standard deviations?
- 14. Why aren’t p values provided for continuous variables (i.e., why were independent t tests not performed?)
- 15. Variable names are not consistent
- 16. Given that mostly all independent variables have been coded as categorical or binary rather than as continuous variables, I worry that some important associations with stress-related eating may have been missed. I would suggest the authors use continuous variables where possible and run the results again – this would also save a lot of table space as the results in Tables 2, 3, 4 and 5 should really be presented together in one table.
- 17. After univariate associations with stress-related eating were identified, why weren’t multivariate models constructed and confounding variables (i.e., socio-economic factors) adjusted for? This would have taken the analyses to the next level and would have greatly enhanced the paper.
- 18. Table 7 & 8 – socio-economic factors need to be included.

Discussion section

19. The limitations section needs to be expanded on – i.e., use caution when interpreting results given the (lack of) validity of measures used, most
associations were only cross-sectional, list of factors associated with stress-driven eaters not exhaustive, no adjustment for co-existing mental health problems, no inclusion of socioeconomic factors etc.

20. Paragraph 2 – Unless the authors performed a validity assessment on the stress-related eating measure, it is incorrect to summarise that “the results indicate that a single item used in this study to assess stress-related eating is a valid instrument for use in health examinations at school”.

21. Overall, the discussion is not clearly organised - I suggest the standard topics should be covered ... quick summary of main findings, how these results fit/don't fit with prior literature, limitations, suggestions for future research, implications of the findings for health, policy.

Level of interest: An article whose findings are important to those with closely related research interests

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 that I have no competing interests'