Reviewer’s report

Title: Weight Perception and its Association with Socio-Demographic and Health-Related Factors among Korean Adolescents

Version: 0 Date: 09 Nov 2015

Reviewer: Klazine Van Der Horst

Reviewer's report:

The study focuses on weight misperception, a concern in adolescents as it has been associated with unhealthy weight control practices and psychological distress such as depression and low self-esteem. The data is drawn from a nationally representative data set, meaning findings are likely to be generalizable to the population. This study has the potential to make a significant contribution to the existing literature but several major revisions throughout the manuscript are needed. Major concerns include: 1) authors need to present more clearly the unique contribution of the current study and how this information extends what information is already known, 2) authors need to better contemplate and present the findings in the discussion to highlight as well what this study adds to the information already know and how this can contribute to prevention.

More specific, these are my comments:

1. Please include page numbers

Background

1. Line 17: a reference is needed after the sentence ending with …entire life.

2. Line 34, end of the first paragraph: it is not clear what the consequences are of weight misperception and how it is connected with obesity prevention and treatment.

3. Line 39: this sentence on the YRBSS reads difficult, please revise

4. Next page: line 13/14: which environmental factors influence weight misperception?

5. The lines on psychosocial impairment, starting line 15 gives explanation on the consequences and link to obesity. This should be better explained and put early on in the introduction for the reader to understand why this is important (see comment 3)

6. The aim and novelty of the study should be better explained, especially because Korean studies on the topic already exist but are not highlighted and explained in the introduction. What does this study add to the literature next to the studies from Hyunjung Lim and Youfa Wang?
Methods

1. Line 16: what is meant with household environment?
2. Line 21: change selected for included.
3. Line 23: include "ethical" for approval
4. Measurements, line 38, who conducted the anthropometric measurements? What was the protocol, with clothes, etc.
5. Line 55, remove "about their own weight status" as it is repetitive
6. Next page, line 50 on health related factors. It is not clear why and for what reason a review was done. What was the purpose and which health behaviors are under discussion and why were some selected and which were not and why?
7. Line 55/57 relationship with weight perception: which variable is this: the self-perception or classification of underestimation/overestimation/correct?
8. Why do the authors describe a significant association here before explaining how the variables were measured? The reasons for the process are not clear.
9. Line 6 to 23 "weight control practice" unclear why the participants were categorized in this way. What is the reason for this, what does it bring?
10. Analyses: again the review of the literature is mentioned but why socio-demographics have to be examined first is not clear.
11. Line 25/26: the authors have a DV with 3 categories: underestimate, overestimate and correct with the last one being the reference group. To my understanding the type of analyses needed for 3 categories in dependent variable is multinomial regression? However the authors chose to use the Health Behaviors as separate outcome variables to do several logistic regressions. Depending on the research question which was not stated in the manuscript the method should be chosen. Please include the research question and hypothesis in the introduction and evaluate if the right method was chosen for the analyses.
12. Line 50: is the p-value correct?

Results

1. Report P-values according to Journal style: max 3 digits?
Discussion

1. Second page, line 11-16: this statement needs to be better explained, similar to the next paragraph line 18-26. Why?

2. Line 28-50: The adolescent self-perception shows that perception of weight is different from clinical categories = objective weight status and this sentence is confusing because it seems that it was the purpose of the paper to see how they were different. Or do the authors mean something different with clinical categories? Having a perception of normal weight while you are overweight could have consequences if the adolescent is therefore not paying attention to health behaviors such as diet and PA and I am not sure if overstating the severity of the results is relevant in this respect. However the misclassification of weight was lower in this study compared to the Korean studies mentioned in the introduction, why, do the authors have a potential explanation?

3. Associations between weight misperception and health-related factors: Why were the health related factors not found to be important where other studies found these to be associated in adolescents? In this paragraph the authors describe twice the potential role of media and cultural messages and images. Please restructure and shorten to make it more concise and less repetitive.

4. Study strengths and limitations: line 37 to 40: please explain which different scales are referred to and what could be the impact of this.

5. What was known about the reliability and validity of measures used in the study?

*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

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Please indicate the quality of language in the manuscript:

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