Reviewer's report

Title: Validity of self-reported weight, height and resultant body mass index in Chinese adolescents and factors associated with errors in self-reports

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Reviewer: Frank Elgar

Reviewer's report:

This paper examines a well documented problem with obesity screening using Body Mass Index criteria (i.e., inaccuracy of self-reported height and weight) in an Asian population of adolescents. The methods are appropriate to the research question and the data analyses appear to be appropriately carried out. However there are some minor issues the authors should address.

1. I expected a more thorough evaluation of prior validation studies in the Introduction. Some studies are described in the Discussion, however it is useful to evaluate their methods as well as conclusions before describing the present study. This study is essentially a replication of what has been found in other populations.

2. As well, the public health concern about rising rates of obesity is mentioned in the last paragraph of the Introduction. I suggest to the authors that this is an appropriate start point for this study and should be emphasized in the first paragraph of the Introduction.

3. The “Subjects and design” subsection of the Methods could be enhanced by specifying the sample size and consent rate. Perhaps the first paragraph of the Results could be moved up into the Methods.

4. Page 6: what is the relevance of ownership of telephones, video cassette players, etc? Were these used to measure material wealth? The “wealth index” should be described here in full detail – not just referenced.

5. The statistical methods seem appropriate if they were applied correctly, but their description is sparse and ambiguous. For example “Differences were determined by the paired t-test” (p. 6) Differences in what? What form of t-test? “Measured and reported weight, height and resultant BMI values were ranked and divided into quintiles…” (p. 7) Why quintiles? Wasn’t the aim of the study to test a dichotomized categorization of obese/non-obese adolescents?

With these issues addressed, I think the authors have a compelling set of results here that are an important contribution to the field.

Level of interest: An article of importance in its field

Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.