Reviewer's report

Title: Validity of self-reported height and weight among adolescents: The importance of reporting capability

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Reviewer: Manfred Stommel

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Review of “Validity of self-reported height and weight among adolescents: The importance of reporting capability.”

This is a much improved manuscript, but the presented analysis is a bit disappointing.

Major Compulsory Revisions:

(1) The authors focus on mean differences between the self-reported and observed weight, height and BMI scores. But in many ways, this conceals the effects of low response capability. Note that in Tables 2+3 the standard deviations of the difference scores for boys and girls, who were not weighed recently or had low recall ability, are generally larger than for those, who were weighed recently and reported high recall ability. This finding addresses directly your objective #3: “to investigate the extent to which adolescents’ response capability is of importance for the accuracy of self-reported height and weight.” Self-reported height and weight can be highly ‘inaccurate’ at the individual level without there being large mean differences in the difference scores. The authors may also want to use the absolute value of the difference scores to assess ‘accuracy.’ As mentioned in my first review, the authors do not draw a clear distinction between the effects of response capability on random as opposed to systematic measurement error.

(2) In the multivariate analyses, the authors do not control for measured height and weight, even though it is a general finding in the literature that measured scores are, by far, the best predictors of the difference scores between self-reported and measured scores: Heavy boys and girls underreport their weight, skinny boy and girls over-report their weight; likewise, shorter boys and girls overstate their height and taller boys and girls are less likely to misrepresent their height. It would be important to know, if response capability is still predictive of difference scores between self-reported and measured height and weight, after controlling for the measured scores. If not, this would suggest that response capability measures absorb some of the effects of measured scores—a valuable finding for survey researchers, who do not have access to measured scores.

(3) The authors conclude that “by integrating items on response capability in survey instruments, participants with low capability can be identified whereby analyses and conclusions can be evaluated accordingly. “ Yet, this paper does
not provide much information on what to do with self-reported height and weight in the presence of low response capability. Should we throw them out? Adjust values based on the mean differences reported here? Can you elaborate on what a survey researcher, who included response capability measures in his/her survey instrument, should do with this information? For instance, in Table 6 you provide the curious result that the absolute difference in the percentage estimate of overweight boys based on ‘direct’ vs. self-report measures is smaller if boys report low rather than high response capability. Wouldn’t one expect this to be the other way around (as is the case among girls)? Suppose you adjust the self-reported BMI scores based on the systematic biases you report in Table 5, would that improve the classifications based on self-reported height and weight in Table 6?

Minor Essential Revisions:

Finally, a few more English language tips:

p.3., second paragraph, 2rd – 4th lines: “The relevance of considering e.g. the regularity of adolescents weighing or measuring practises and their opportunities for weighing and measuring themselves have previously been highlighted [7,14].”
=> “The relevance of considering the regularity of adolescents’ weighing or measuring practices and their opportunities for weighing and measuring themselves has previously been highlighted [7,14].”

p.11., last paragraph, line 1: “The average underestimation was relatively small...” => “The average underestimate was relatively small...”;

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.

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