Author's response to reviews

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

Authors:

Mette Rasmussen (mera@niph.dk)
Bjørn E Holstein (bho@niph.dk)
Ole Melkevik (ole.melkevik@fhi.no)
Mogens T Damsgaard (trab@niph.dk)

Version: 3 Date: 9 April 2013

Author's response to reviews:

Dear Reviewers,

We hereby send a revised version of our manuscript ‘Validity of self-reported height and weight among adolescents: The importance of reporting capability’ (manus id: 5712745357483249). We are very glad to have this opportunity for a second opportunity to re-submit our manuscript.

First we will like to acknowledge the constructive and valuable comments received by the reviewers. We have now revised the manuscript accordingly. Below please find a specific description of the revisions conducted.

Reviewer 1

Reviewer's report

Title: Validity of self-reported height and weight among adolescents: The importance of reporting capability
Version: 2 Date: 18 January 2013
Reviewer: Anna Brettschneider

Reviewer's report:

The authors have made substantial changes which has improved the overall quality of the manuscript. They have addressed my comments in this revision. However, I have some comments to add.

Minor Essential Revisions

Methods -Why do you choose in the revised version another classification for migration status? Is not the definition you have used before common for the HBSC Study?

FOR THE PREVIOUS SUBMISSION NEW DATA WERE INCLUDED AND COMPLETELY NEW ANALYSES WERE RUN. IN THIS PROCESS WE DECIDED TO CHANGE THE CATEGORIES FOR THE VARIABLE ‘MIGRATION STATUS’ FROM ‘DANISH VS OTHERS’ TO ‘DANISH, IMMIGRANTS AND
We did to keep more information in the variable. However, we now realize that this was not made clear in the response to reviewers accompanying the previous submission.

Measurements - Spelling mistake: 6th paragraph (p. 7): ‘...a consultation at where direct weight and height were...’ The 'at' is too much.

THANK YOU FOR POINTING THIS OUT. WE HAVE REVISED THE TEXT.

Results - Your description of the multivariate analyses in the methods section is not clear. Just a small change would make it clearer. My suggestion is stated below. ‘Multivariate analyses of variance was applied to study the association between recall ability for weight/height, weighing/height measure history, response capability for weight/height and BMI response capability with the difference between self-reported and direct measures of weight, height and BMI z-score, respectively.’

WE ACKNOWLEDGE THAT THIS IS A FORMULATION DIFFICULT TO FOLLOW. WE HAVE REVISED THE FULL SENTENCE.

Table 1: - Spelling mistake: The variable ‘Response capability for height’ has the value ‘Not measured recently + low high recall ability’. I guess you mean ‘...low recall ability’. - Spelling mistake: ‘Response capability for combined for height and weight’- I guess you mean ‘Response capability combined for height and weight’

Table 3: - Spelling mistake: Difference for height SD for girls 6th row. There is a slash behind a number (3.12/).

Table 5:
-Spelling mistake: ‘Difference in BMI z-score based on self-reported and direct measures of weight and height’. I guess you mean ‘...based on self-reported...’

THANK YOU FOR POINTING OUT THESE SPELLING MISTAKES IN THE TABLES. WE HAVE REVISED THE TEXT.

Table 5: Why do you show values for the standard deviation in multivariate model? B and p-value gives all the information needed for interpretation of the results of multivariate analyses.

WE AGREE THAT PROVIDING THE STANDARD ERRORS IS NOT AN ABSOLUTE NEED. WE HAVE NOW EXCLUDED STANDARD ERRORS FROM THE TABLE, SOLELY PRESENTING P-VALUES.

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.

Reviewer 2
Reviewer's report
Title: Validity of self-reported height and weight among adolescents: The
importance of reporting capability
Version: 2 Date: 9 January 2013
Reviewer: Manfred Stommel

Reviewer's report:
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
you 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.

THANK YOU FOR THIS VERY IMPORTANT COMMENT FROM WHICH WE
REALIZE THAT WE HAVE NOT BEEN CLEAR IN DISTINGUISHING BETWEEN
THE EFFECT OF RESPONSE CAPABILITY ON RANDOM AS OPPOSED TO
SYSTEMATIC MEASUREMENT ERROR – WHEREBY WE HAVE NOT DRAWN
MAXIMUM CONCLUSIONS FROM OUR ANALYSES. WE HAVE REVISED THE
AIMS, THE RESULTS SECTION AND THE DISCUSSION TO ADDRESS BOTH
RANDOM AND SYSTEMATIC MEASUREMENT ERRORS IN A MORE CLEAR
MANNER.

(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 boys 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.


WE HAVE CHosen TO PRESENT THE ANALYSES IN TWO STEPS; FIRST THE EXISTING ANALYSES ADJUSTED BY AGE, FAMILY OCCUPATIONAL CLASS, FAMILY STRUCTURE AND MIGRATION STATUS ARE PRESENTED; SECOND, ANALYSES ALSO ADJUSTED BY MEASURED SCORES ARE PRESENTED. WE HAVE CHosen THIS STEPWISE ANALYTICAL APPROACH AS IT ALLOWS US SPECIFICALLY TO EXAMINE THE ISSUE RELATED TO POTENTIAL OVERLAP BETWEEN THE CONCEPT OF RESPONSE CAPABILITY AND THE CONCEPT OF SOCIAL DESIRABILITY.

THE METHODS SECTION, RESULTS AND DISCUSSION HAVE BEEN REVISED ACCORDINGLY.

(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?

BY THIS COMMENT THE REVIEWER IS ASKING FOR ELABORATED CONCLUSIONS ON IMPLICATIONS OF THE PRESENTED RESULTS, WHICH WE HIGHLY RECOGNIZE. THE MAXIMUM AND IDEAL OUTCOME OF A STUDY LIKE THIS WOULD BE TO PROVIDE QUANTIFIED AND GENERALIZED ESTIMATES FOR ADJUSTING MEAN DIFFERENCES. HOWEVER, BASED ON NUMEROUS DISCUSSIONS WITHIN THE GROUP OF AUTHORS, WE FIND THAT MAKING CLEAR GUIDELINES ON CORRECTION FACTORS OR EVEN VERY SPECIFIC GUIDELINES ON ANALYTICAL APPROACHES BASED ON THE PRESENT STUDY IS NOT SCIENTIFICALLY SOUND. THE PRESENT STUDY IS THE FIRST OF ITS KIND, MEANING THAT NO DATA ARE AVAILABLE FROM OTHER – AND LESS SELECTED – POPULATIONS. WE ARE THEREFORE VERY CAUTIOUS TO DRAW STRONG AND VERY SPECIFIC RECOMMENDATIONS FROM THE PRESENT STUDY. WE HAVE HOWEVER, ELABORATED THE DISCUSSION ON POTENTIAL ANALYTICAL APPROACHES. FINALLY, WE HIGHLIGHT THE NEED FOR ADDITIONAL STUDIES IN THIS AREA OF RESEARCH. THE TEXT HAS BEEN REVISED ACCORDINGLY.

Minor Essential Revisions:
Finally, a few more English language tips:
p.3., second paragraph, 2nd – 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 [omit e.g.] the regularity of adolescents’ weighing or measuring practises and their opportunities for weighing and measuring themselves has [the subject is ‘relevance’] previously been highlighted [7,14].”
p.11., last paragraph, line 1: “The average underestimation was relatively small…” => “The average underestimate was relatively small…”;
THANK YOU FOR POINTING OUT THESE LANGUAGE ISSUES. THE TEXT HAS BEEN REVISED ACCORDINGLY.
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.

Manfred Stommel, PhD
Michigan State University