Reviewer's report

Title: Challenging the role of social norms regarding body weight as an explanation for weight, height, and BMI misreporting biases: Development and application of a new approach to examining misreporting and misclassification bias in surveys

Version: 1 Date: 12 December 2010

Reviewer: Birgit Marie Nielsen

Reviewer's report:

It is very interesting that the paper address whether self-image, here in respect to weight, may influence how accurate weight and height is self-reported. I am on the other hand not completely convinced that the correct statistical tools have been used. Furthermore, as far as I can understand, the final conclusion made by the authors is not investigated in the analyses.

Major Compulsory Revisions:
Of most importance is your final conclusion. I do not think that you have written it in concordance with the analyses that you have made.

Page 11, line 13-15: I do not understand how you derived your conclusion based upon including BMI-category in model 1?
Page 13, line 20: within any given BMI category – I have not read an analysis of this? (and therefore do not agree in your conclusion)

Minor Essential Revisions
Abstract:
You conclude on the last of your objectives, but not the first one (development off non-linear model)
You write ‘Social norms’, but you measure the subjects own image of body size.

Paper:
References are put in after punctuation, put them in before.

Background:
Avoid sentences such as “to the best of our knowledge” as this is stating the obvious.

Methods:
Page 7, last line: correct the text from Figure 1 to Figure 2.
Page 8, line2-3: This is not how you determine the number and proportion of subjects. The text must be corrected to what you actually are trying to state here.
Page 8, formula: in the text you use ‘b’, but in table 1 you use ‘x’. Instead use the
same letter, so you are consistent.
Page 8, line 17: Ad (Table 2).
Page 8, line 20: Ad (not shown).
Page 9, line 9: Have you considered and evaluated whether level of education is a mediator and not a confounder?
Page 11, line 6-8: should it be the other way around? So: to underestimate BMI was significantly associated with a greater likelihood of describing oneself as too being heavy and actively trying to lose weight.
Page 11, line 9: add a table with these results.
Page 11, line 15: add a table with these results.
Page 11, line 18: add a table with these results.

Table 2: The first column has been made to slim, some of the text is missing. You should list the proportions the other way around. I.e. the proportion of males and females who underestimated BMI should sum to 100%.

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests'