Reviewer's report

Title: Adolescent Digital Perception of Self Questionnaire: Instrument development and testing

Version: 2 Date: 28 January 2015

Reviewer: Ata Ghaderi

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Review comments BMC Public Health

Using modern technique in light of a good theory to develop more adequate and valid instruments to capture adolescents’ perception of their body within the context they live in is a valuable step forward. Measurement is the basis for all sciences that make a difference, and although I highly value work on psychometrics and improving our methods and instruments, I have a significant number of concerns about the design and reporting of the study that would like to share with the author.

Discretionary Revisions
1. Please delete the meaning “The IBM constructs are reviewed within relevant research” on page 5.
2. It might be more helpful to put the value of the instrument in a context of prevention of obesity instead of treatment.
3. I am not sure what the author mean by field testing (aim no. 3) of the instrument, as she does not seem to be mainly concerned with the acceptability or other aspects of field testing. The third aim (filed testing) seems to melt down to investigating test-retest reliability and internal consistency.

Minor Essential Revisions
1. It is unusual to report on the methods of previous study (page 8) as part of a new study. If the details are already provided in the previous report, they should not be repeated here.
2. The author refers to an Integrated behavior model with constructs from the theory of reasoned action and theory of planned behavior, in which the intention has a central position as a determinant of behavior. The author should critically review this model, as there are also studies questioning the role of intention as the most important determinant of behavior.
3. Are the distinct sections of the questionnaire meant to provide a factor such as attitude, Norms, and personal agency?

Major Compulsory Revisions
1. Although one’s body is the first main domain of knowing self, labels such as “Perception of Self” contains much more than body. The name chosen for the
instrument in somewhat misleading. It makes the reader think of a measure of self-esteem or something broader than issues related to body and weight.

2. The final conclusions (page 20), which are also reflected in abstract (Results) are not supported by data. The author asserts that the ADPoSQ possesses adequate content validity, internal consistency, and adequate stability. Although the conclusion, at least in terms of stability is more accurately stated in the Conclusion, referring to the attitudes items and the avatars, this paper is about the entire instrument. The author should be more cautious about the outcome and conclusions as the sample size is small and highly selected, the content validity should be re-investigated after the revision of the instrument, the internal consistency is low for some parts of the ADPoSQ, and the stability of the instrument is questionable.

3. If one of the aims is content validity, why the results on that have been reported under Methods (page 10)? Results should be removed to Results section.

4. The rationale for why “attitude, perceived norm and personal agency” have been operationalized the way they have been in this paper is lacking. It’s not possible to make a decision about the content validity in the absence of rationale for the operationalizations made.

5. It’s unclear from Table 2 what the response format is for “Like my…” and “Important for me to change…”.

6. Likewise it is not clear if the responses to norms-questions are fixed or not. What does the numbers in parenthesis in Table 3 indicate? A table should be understandable without going to the text. Please clarify the numbers in Table 5 as well.

7. Re. Figure 2-4: please make sure that the reader knows already by looking at the figures and reading the subheading how the difference scores have been obtained. First, after reading the text, it becomes clear that the differences are obtained by subtracting Preferred Avatars from Current Avatars in Figure 2, and not the other way around.

8. The study has far more limitations than those mentioned by the author toward the end of the Discussion. Please be clear about all the limitations. Assertions about the potential use of the instrument should be more cautiously expressed given the limitations.

9. Tha ADPoSQ does not provide adolescent boys’ perception of themselves. It is limited to their perception of their bodies, body parts and weight. As mentioned earlier, it is not a broad instrument capturing self-image, self-esteem or similar concepts, as it is focusing on body, and issues related to it, which is certainly important for the self-image, but just part of it. It is an important aspect, but it should be framed as it is, and not as a broader instrument.

10. Please drop the expression “boy-tested”. It is not a psychometric quality. It’s
good enough to let the reader know that adolescent boys have been engaged in developing it.

11. There is no evidence to assert that it is a developmentally appropriate instrument either, as there are no data or analyses showing that.

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests!