Reviewer's report

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

Version: 2
Date: 14 January 2015

Reviewer: Eva Penelo

Reviewer's report:

The manuscript explains the initial development of a new instrument ADPoSQ addressed to young males.

Abstract:
In the last line, the term "construct validity" should be replaced for the correct term following the Standards for the five types of validity evidence.


Introduction:
I found this section too long (almost 5 pages). I think the explanation for the IBM could be shortened.

In the last sentence (and other places of the manuscript), again, replace "test the content validity..." by "provide validity evidence based on content...".

Methods:
Rather than aims 1 to 3, I suggest to talk about steps 1 to 3, because they are steps or stages of test development.

Page 9 (Data Analysis) and Page 10 (Results): As long as aims 1 and 2 are referring to the development of the instrument, I suggest to joint these two section onto one labelled "Data Analysis and Results". However, it is a bit odd to talk about results in a method section. Moreover, information for which index of agreement (perhaps kappa, or ICC?) was used is missing, therefore the reader can not evaluate the magnitude of the values provided by the authors for agreement (absolute or relative?).

Page 10, Sample (Aim 3): Were the 59 adolescents different from the 6 included for aim 1 and the 20 included for aim 2?

Page 12, Response Rate: This section should be moved to the Sample or Recruitment section (Page 10).

Page 10, Instrument: The explanation of the ADPoSQ (for example, that measures concepts of the IBM) is too brief and does not allow the reader to have an idea of the questionnaire until reading Tables 2-5. It is really measuring IBM
or body image satisfaction, concern, and related questions? Therefore, this section should be extended, in order to explain the several parts of the survey and the different format of response for each section or type of questions.

Results:
Are these results only for aim 3?
Page 12, Sample Description: Could the authors add height and weight measures in cm and kg, respectively? Table 1 is unclear and is very difficult to follow.
Page 13: The mean and SD for percentile should be removed because percentiles are not a linear transformation and, therefore, the mean may not be appropriate, but for example the IQA (Percentile 75 minus percentile 25).
Page 13: tables 2-5 are very hard to follow, in part due that in the instrument section the ADPoSQ has not been comprehensively explained. In addition, why were some categories collapsed? It wouldn't be better to present mean and SD values for each item for those responded with a Likert-type scale?
Page 14, Line 25: Perhaps it would be better "Three sets of box plots" instead of "three box plots".
Page 14-15, Differences: If each boy draw his own current and preferred avatars, the differences between them and with respect to the accurate avatar depend on their size. Thus, I would recommend to calculate a measure of discrepancy as a percentage of deviation, rather than a raw difference.
Page 15, Internal Consistency: Which are the continuous variables and how were they derived? Cronbach's alpha does not evaluate dimensionality, but only homogeneity. Was a factor analysis performed previously to support the use of such continuous variables as the sum or mean of some individual items? Otherwise, internal consistency for derived scores (which have not been justified) should be removed.
Page 16, Lines 7-14, Test-retest Reliability for avatar measures: I couldn't find the values in Table 6. Table 6 could be improved, by adding a left-column with the label of each section of the questionnaire (the same applies to Tables 2-5) or adding a row for each of the 40 items and leaving a blank for non-applicable item responses.

Discussion:
Page 19, Paragraph 1: Does the authors say that ADPoSQ is measuring a non-stable construct or trait? If yes, does it make sense to evaluate temporal stability of scores? Or the low values obtained are providing evidence against the reliability of ADPoSQ scores?

I would not recommend publication of this manuscript in its current form – some further revisions are required.

Minor Essential Revisions
Introduction, Aims: I missed a sentence regarding the area or country where the instrument was developed and initially validated.

Page 8, Sample: From which country were the participants?
Page 10, Recruitment: What does PE mean?

**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