Reviewer's report

Title: Cross-cultural adaptation and psychometric properties of the Brazilian-Portuguese version of the VSP-A (Vecu et Sante Percue de l'Adolescent), a health-related quality of life (HRQoL) instrument for adolescents

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Reviewer: Eduardo Chachamovich

Reviewer's report:

The manuscript addresses a relevant issue for both clinical and research purposes. The need of psychometrically sound instruments to assess HRQoL is crucial to the correct collection and interpretation of research data. Overall, the manuscript is well-written, and presents the methodology and results in a clear way. The method is sound and adequate.

Nevertheless, some issues should be further commented/discussed by authors. These points follow:

1) According to authors, the original instrument aims to assess both healthy and ill adolescents' HRQOL. In the present study, only adolescents attending school were recruited. In addition, the recruitment had a higher chance to include the most healthy subjects (as acknowledged by authors). It would be interesting to recruit ill adolescents (maybe in an outpatient clinic for adolescents) to test whether the instrument is also suitable for this subpopulation. Why did authors decide not to recruit these subjects? It should be also commented in the discussion section.

2) Overall score: Authors informed that the instrument generates 10 scores (one for each subscale) and an overall score. Even though the overall score might show a good psychometric performance, the clinical meaning of a single score that summarizes 10 distinct domains is debatable. Authors could discuss this issue too, in order to provide readers with a theoretical position.

3) Results showed a high rate of missing values for sexuality/sentimental in the Brazilian sample. What were the missing values in France? Are they comparable? If so, is this item sufficiently able to assess sexuality? Which alterations could be done to improve the performance of this item?

4) How to explain that 88.8% of the sample had at least one psychosomatic symptom per week (in a community sample, theoretically more healthy than the general population)?

5) Authors used Rasch analysis to assess individual item fit. In fact, Rasch Analysis is a very powerful tool to assess individual fit, as well as unidimensionality and DIF. What reasons based authors' decision to use Zumbo’s ordinal logistic regression analysis, and not Rasch analysis? What
advantages the former has when compared to the latter?

6) The results showed that item 28 had extensive problems. Also, 11% of the items showed DIF problems. Specifically, the items with DIF may impair the comparability of the assessments by the original and the brazilian versions of the instrument, since subjects with the same trait have different probabilities of endorsing these items. What suggestions authors have to deal with this limitation?

I believe that the manuscript would benefit from the discussion on these topics.

**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.

**Declaration of competing interests:**

I declare that I have no competing interests