Reviewer's report

**Title:** Reliability and validity of the modified Child and Adolescent Physical Activity and Nutrition Survey (CAPANS-C) questionnaire examining potential correlates of physical activity participation among Chinese-Australian youth

**Version:** 1  **Date:** 27 September 2013

**Reviewer:** Ya Jun Huang

**Reviewer's report:**

This study examined the reliability and validity of a self-reported questionnaire assessing psycho-social correlates of physical activity among Chinese-Australian youth. Overall it is an interesting paper addressing an important issue: as suggested in a recent review (Reimers et al 2013) there is a need to develop and examine a cross-culturally adapted questionnaire for diverse populations. There are several major issues needed to be considered and strengthened.

**Major Compulsory Revisions**

1. Background: need to be more clear and precise. Although the ecological model was mentioned as a framework for investigating correlates of PA, the current study more focused on psycho-social aspects. There are quite a few papers reporting PA levels for Chinese youth. It’s worth briefly describing these in the background.

2. It’s unclear why and how the 12 new items were developed. Who designed the questions? Whether or not content validity has been evaluated? Why they were hypothesized to be associated with PA for Chinese children? Any pilot study has been conducted to test the wording, acceptence for the children?

3. The sample size of 105 youth is small for performing PCA. To do this at least 370 participants should be included accordingly to a ten-to-one ratio as a general rule, given there are a total of 37 items in the questionnaire. For the results of PCAs, data to determine good factorability such as inspection of the Kaiser-Meyer-Oklin value and Bartlett’s Test of Sphericity value should be also reported.

4. Page 6, assessing MVPA by using an invalid method is problematic. That may partly contribute to the lack of correlation between factors and the MVPA minutes. But it’s difficult to tell to what extent it may affect the results.

5. Page 7, I don’t understand why the items were separated into two component for PCAs. The authors mentioned it was because they were from different origins. Does it mean the original CAPANS-C questionnaire and the 12 newly developed items, respectively? But it’s not the case as I can see there are the mixed items from the tables.

6. Was the questionnaire conducted in English or Chinese? Need to clarify.
7. What are the descriptive statistics of self-reported MVPA? Are they skewed?

8. Page 11, what would the authors suggest for a factor (i.e. ‘Family/friend support) that is related to MVPA but not reliable? How this variable can be used if they are not a repeatable measure?

9. Page 11, it’s contradictory to say that the successful recruitment is a strength but at the same time low response rate was one of the limitations.

10. Not clear how the score for each factor (in Table 3) was calculated. But it seems to use a sum up score which may be problematic. If there are missing data with some individuals, they will inevitably have lower scores. This problem is avoided if the average of the items is calculated.

Minor Essential Revisions

11. Page 8, there is insufficient information on the generation of the Chinese immigrants. There are differences regarding the cultural influences between those who were born in China and those who born in Australian but having grandparents being born in China.

12. Page 9, I’m confused to see that the authors describe the design as ‘baseline’ and ‘post-testing’, since it was not an intervention or prospective study.

Level of interest: An article of importance in its field

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