Reviewer's report

**Title:** Measurement invariance of the depressive symptoms scale during adolescence

**Version:** 1  **Date:** 9 August 2013

**Reviewer:** Shuqiao Yao

**Reviewer's report:**

This manuscript mainly examines (1) the construct and predictive validity, (2) the sex and longitudinal invariance of the depressive symptoms scale (DSS) in a sample of adolescents from Montreal, Canada. The fact that this manuscript encourages researchers to pay attention to examination of observed factor structure, predictive validity and measurement invariance in the psychometric studies is a notable strength. All too many psychometric studies blindly assume that observed differences reflect differences in the construct of interests, without giving measurement and construct equivalence serious consideration. Thus, this paper would be of interest to the readership of this journal. In addition, the study includes the longitudinal adolescent sample, and the paper is written very clear and easy to be processed.

I have some suggestions for the authors:

Major Compulsory Revisions

1. At first, Data were drawn from an ongoing prospective cohort study of 1,293 adolescents, while the analytical sample included only 527 participants who provided complete data or had minimal missing data over follow-up. Although no statistically significant differences were observed for baseline depressive symptoms scores between adolescents included and not included in the analyses, participants included in the analyses were younger than participants excluded from the analyses, whether this age difference would have affected the results, the author should discuss it. Also, it is very important for authors to provide additional information, for example, whether there are differences on socioeconomic status geographic locations (urban, suburban, and rural) and languages (French, English) between the original sample and the analytical sample.

2. Some adolescents in this research speak English, while others speak French. I am quite confused that whether adolescents speaking English finished the English version of the scales, and adolescents speaking French finished the French version of the scales. Have the authors examined the equivalence of the two versions of the scales?

3. The factor structure of the DSS was tested at each time point using confirmatory factor analysis (CFA) with maximum likelihood estimation in LISREL. To use confirmatory factor analysis (CFA) with maximum likelihood estimation, the data should be normal distribution, and I am wondering whether
the data in this study was really normal distribution. The authors should report this information. If the data were not normal distribution, maximum likelihood estimation should not be used.

Minor Essential Revisions

4. #CFI and #RMSEA values were not provided in Table 3 and Table 4, which makes it difficult for readers to know the exact differences between the nested models and the baseline model. Please add the #CFI and #RMSEA values in Table 3 and Table 4.

5. Please check the manuscript carefully. Some minor errors exist in this manuscript, for example, on page 4, line 9, “Hospital Anxiety and Depression rating scale [HADS; 20]” should be “Hospital Anxiety and Depression Rating Scale [HADS; 20]”.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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