Reviewer's report

Title: Depressive symptoms and clustering of risk behaviours among adolescents attending senior vocational education: a cross-sectional study

Version: 1 Date: 21 December 2014

Reviewer: Stéphanie Baggio

Reviewer's report:

This study focused on the association of depressive symptoms and risk behaviors among Dutch adolescents. There are several weaknesses that prevent this article for potential publication.

Introduction & aims

1. We do not really understand what is SVE. Please provide more information for foreigner readers who do not know the Dutch educational system.

2. The aim of the study was not clearly explained and did not seem original. First, the focus on depression was not explained. Why is it important to study the relationship between risk behaviors and depression? No reference to the huge literature on depression was given. Second, there are also several studies on relationships between risk behaviors and socio-demographic variables. The manuscript did not mention these references and did not explain the originality of the study’s aim.

Polydrug use and multiple risk behaviors are also well-investigated topic. Please provide information about these topics and indicate what this study added to the current literature.

Methods

3. Information about the study’s design should be given, so that readers do not have to read another article to get the basic information.

4. A total of 30% of the population did not give written consent and were absent at the time of assessment. It appeared as a major bias, since adolescents who were not at school may be those with high levels of risky behaviors. It should at least be mentioned in the limitation section.

There was also a major problem, since n=144 (24.7%) of the participants had information for “problem behaviors” (table 5). No information is given about these non-response issues, except for the 73 participants for which there were no truancy data. More information about non-response is needed.

5. There is confusion between clustering and PCA. Both of them are unsupervised dimension reduction, but clustering consists in creating discrete subgroups and PCA continuous components. The authors counted the number of risky behaviors on each component, and this was not clustering either. Moreover,
we did not understand why the analyses were not performed on the components themselves. The title of the manuscript, its aims and conclusion did not correspond to the analyses actually performed.

6. Linear regression were not adapted to these count outcomes with only four levels and a skewed distribution.

Discussion
7. The fact that substance use should not be considered as “single substance use” but take into account concurrent and simultaneous polydrug use is well known. Multiple risk behaviors is also a well-investigated topic, thus these findings were not novel ones.

Overall
8. The manuscript needs English proofreading.

Abstract
9. The country and age of the population at focus should be given.

**Level of interest:** An article of insufficient interest to warrant publication in a scientific/medical journal

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**
I declare that I have no competing interests.