Reviewer's report

Title: Predictors of binge drinking in adolescents: ultimate and distal factors - a representative study

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Reviewer: Reinout Wiers

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This epidemiological German study examined predictors of binge drinking in a large sample of German adolescents, using the theoretical framework of Pertraitis as broad framework, with emphasis on ultimate and distal predictors.

The study produces interesting results, some expected, some less expected and seems generally to have been carried out well. However, there are some issues that limit my enthusiasm.

1. I like the fact that the investigators used a theoretical framework to choose possible predictors. However, they largely discard one third of the predictors, the proximal factors. That is a shame for a number of reasons:
   a. it cannot be tested whether the ultimate and distal factors found, still predict binge drinking after considering the more proximal factors;
   b. it cannot be tested whether the prediction of some of the ultimate and distal factors is mediated by the more proximal factors.

   Note that in the discussion, the authors do interpret some of the findings in this way, so this should clearly be stated as a (major) limitation of the study.

2. What was the age of the students included? I am sure not every reader is familiar with the German grade system.

3. statistical analysis. The authors chose to do a conservative imputation method of missing values, with example that if student did not fill out the separation question, a zero (no separation) was filled out. I do not like this strategy. If a student is ashamed of his or her parents’ separation, (s)he could leave the question blank. I would also like to see a minimum of answers given (e.g. 80%), and a replication of the main analyses on the original non-imputed data. That could be given in an online supplement, for example (with a footnote in the text). Hopefully the conclusions do not change when this is done!

4. Would it be possible to examine interactions, given the large sample size? For example, redo the analyses separately for boys and girls, which could give important additional information, regarding conclusions for prevention.

5. Again, in the discussion the lack of proximal variables is evident. For example, it is concluded that German binge drinking is less related to boredom (p. 22), which could have been tested if motives of expectancies had been included.
Similar for suicidal thoughts: were these effects mediated by coping motives (or expectancies)? Important questions for further research, also regarding implications for prevention.

6. It is very surprising to me that no paragraph of limitations has been included in the discussion (see point 1).

7. In the conclusions some statements are made regarding implications for prevention. I would not put these into the conclusion (since they do not follow directly from this study), but in discussion. And more importantly, there are interventions along the lines suggested here, which should be referred to.

For example, regarding positive teaching, see for example van Lier, P. A., Huizink, A., & Crijnen, A. (2009). Drug and Alcohol Dependence.

And for targeted prevention regarding coping motives (but these should be measured then!), see work of Conrod and colleagues.

8. Table 3. P-values of “.000” are nonsensical: this means that there is a zero chance that this predictor was found by accident, which I am sure, the authors do not agree with. Please change for <.001, which does make sense.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

I declare that I have no competing interests