Author’s response to reviews

Title: Predicting hazardous drinking in late adolescence/young adulthood from early and excessive adolescent drinking - A longitudinal cross-national study of Norwegian and Australian adolescents

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Version: 1 Date: 21 Dec 2018

Author’s response to reviews:

Response to editor and reviewer comments

We would like to thank the editor and the reviewer for their work evaluating our manuscript. We greatly appreciate the comments made by the reviewer and found them very helpful for improving the paper. Below is a point-by-point response to the editor and reviewer comments. We refer to section, page and line in the new resubmitted manuscript where you will find the amendments made. The new text in the manuscript is further highlighted in red. Moreover, there has been some changes in the names and the addresses of the workplaces for two of the authors since the last submission. These amendments are also highlighted in red.

Response to editor

Response: We agree that the ‘Ethics approval and consent to participate’ section needed to be elaborated and clarified. We have provided more details about the ethics approvals as suggested by the editor (p. 25, lines 559-575).

Response: We have now provided more details about informed consent in both the Norwegian and the Australian study, as suggested by the editor (p. 25, lines 559-575).
Response to reviewer

1. When we have highly prevalent variables, such as EOD and EOE, it is not advisable to estimate logistic regression models because they yield Odds Ratios, which overestimate the associations. Instead, it is recommended to use Poisson regression models with robust variance or log-binomial regression models, which obtain Prevalence Ratios. For more information see:

I highly recommend the authors to reanalyse the data to obtain prevalence ratios.

Response: We would like to thank the reviewer for this valuable suggestion. After reviewing the methodological literature and the references provided by the reviewer, we agree that estimating Prevalence Ratios instead of Odds Ratios will provide estimates that are more easily interpretable, particularly in our case where we investigate highly prevalent phenomena. Therefore, we have reanalyzed data as recommended by the reviewer by using Poisson regression models with robust variance (we also estimated log-binomial models; however, in some analyses, the models did not converge, and we therefore chose the Poisson regression approach). As expected, the prevalence ratios were somewhat lower compared to odds ratios, but the analysis did not change the results in any substantial manner. In the revised manuscript we have described the new analytical strategy and reported prevalence ratios instead of odds ratios (Abstract, p. 2, lines 35-36, Statistical analysis, p. 14, lines 301-315, Results pp. 16-18, lines 347-399, Discussion, p. 19, line 417, Abbreviations p. 24, lines 552-553, Table 2 and 3).

2. The way the authors coded the EOD and EOE variables as mutually exclusive may be driving the results found. A sensitivity analysis is needed, in which the dependent variable of the model includes all adolescents that had ever drunk, instead of EOD and EOE.

Response:
We fully agree with the reviewer that the issue of how early onset of drinking and excessive drinking is handled in our analytical framework—including the coding of EOD and EOE—is of crucial importance. We believe that our way of coding, by treating them as mutually exclusive categories, has the advantage that we can provide estimates of increased risk of both EOD and EOE, relative to no early onset. Moreover, by contrasting EOD with EOE in the analyses as reported on p. 17 (lines 367-369) in the manuscript, we provide additional information to whether the risk for hazardous alcohol use increases significantly for those EOE compared to those with only EOD. In addition, as suggested by the reviewer, we applied an alternative analytical strategy, in which any form for early use (including both drinking moderate amount of alcohol and drinking excessively) was included as a dummy variable, together with all covariates (NOR: PR = 1.65, 95% CI = 1.27-2.14; AUS: PR= 1.72, 95% CI = 1.04-2.82). Moreover, to obtain further information about whether EOE can explain variation in later hazardous drinking over and above any form for early use of alcohol, we entered early use in one stage (including those who used excessively), and then included excessive use in a subsequent stage, adjusting for all covariates. In line with the previous findings, results showed early use to significantly predict hazardous drinking (NOR: PR = 1.63, 95% CI =1.25-2.13, AUS: PR = 1.69, 95% CI=1.03-2.78), whereas EOE did not significantly increase the risk of hazardous drinking over and above any early use (NOR: PR = 1.08, 95% CI = 0.77-1.49; AUS: PR = 1.11 95% CI = 0.92-1.35). In the revised manuscript, we have included results from this alternative analytical strategy (Results, p. 17 lines 369-382).