Reviewer’s report

Title: Parental alcohol use and adolescent school adjustment in the general population: results from the HUNT study

Version: 1 Date: 24 May 2011

Reviewer: Anshu Shrestha

Reviewer’s report:

General
This is a population-based study that examines relationship between parental alcohol use (and mental distress) and children’s school adjustment (and mental distress) with data collected from adolescents and parents in a Norwegian county. As the authors point out, the current lack of population-based studies examining such relationship, particularly using multiple sources of data, makes this an important paper.

Overall, the authors were successful in building upon existing work and provide good arguments for the need for this particular study. The statistical approach, both use of multivariate analysis of covariance and generalized estimating equations seem appropriate given the data. However, the paper needs some restructuring and rephrasing so that the ideas presented are more concise, organized and clearer.

Specific comments/suggestions are listed below under each section heading and are referred by paragraph number within each section. Some suggestions are major and the rest are discretionary or minor revisions.

Major revisions:

Background
1. Paragraph#4: In the first sentence ("The elevated risks for psychopathology and ..."), authors make an assertion, but lacks citations to support it. Appropriate citations should be included here.

Methods
Sample:
2. The authors need to clearly indicate the timing of data collected from parents as well or at least establish whether the exposures and outcomes were measured about the same time period or different times (cross –sectional versus longitudinal).

Parental alcohol use:
3. While defining "alcohol abuser" and "at risk drinkers" it is more informative to provide frequency and quantity of alcohol used by each group than using top 10% consumers. Moreover, if the majority of the population are light or moderate
drinkers (often defined as no more than 2 drinks per day among male and no more than 1 drink per day among female), then the top 10% may not represent the typical alcohol abuser.

4. Paragraph#2: The end of this paragraph includes correlation data (moderate correlation) for alcohol use between an older parental survey and the new survey. It is not clear why this information is important. Did the authors include both data for analysis in this study or is it to provide some information on parental alcohol use behavior over a long period of time? If latter, it may be more appropriate to include this information in discussion section.

Social network:

5. How were “social network” and “seen parents drunk” variables z-scaled?

Statistical analyses:

6. Was the analysis conducted with and without imputed data? If so, it should be mentioned and any significantly different outcomes should be reported in the result section.

Paragraph#2:

7. How were confounding and mediating variables selected? Whether they were selected based on existing empirical evidence or using a statistical tool, it should be mentioned here.

8. "All possible interaction terms..the other parent's alcohol use." –This sentence is not clear, were the interaction effects between parental alcohol use and all covariates tested?

9. How was alpha value set at 0.01? Did the authors considered other methods of adjusting for multiple testing (e.g. FDR adjusted p-values, Bonferroni, etc.)?

Results

10. B values are meaningless to most readers. Describe what these values mean in this study, both in text and all the tables where these values are included.

11. Paragraph#4: This paragraph is more appropriate under methods section (see comment under methods section).

12. Need to describe how confounding and mediating effects were differentiated.

13. Paragraph#9: It is not clear which model included the significant interaction terms. Were they included in the model with all predictors or in separate models not reported in the tables?

Discussion

Paragraph#1:

14. “Parental alcohol abuse or at-risk ..and conduct problem.” –not true for all the models, so mention the models where these associations hold.
15. If associations were not observed across all outcomes of interest, mention the specific outcome where the associations were observed.

16. “Different mechanisms may be..both parents’ alcohol use.”—need data to support this assertion.

17. “Despite several tests with high power…”—what were these tests? Need to mention them.

Paragraph#3:
18. How do the effect sizes in this study compare with other studies in terms of numbers?

19. The last three statements need either data or literature to support them.

Paragraph#4:
20. “In any case, the consumption...alcohol use per se.” – Need to include amount and frequency of alcohol use for comparisons.

Paragraph#5:
21. “The heightened risk..by drinking during pregnancy.”—Is there any data in this study to support the last part of the sentence?

22. “..adolescent mental distress may be considered a partial mediator for maternal alcohol use..”—While this is possible, the large B values for adolescent mental distress in both models where it was included, suggest an important independent association with attention and conduct. Were these two variables tested for interaction? This may provide further information on the relationship between these three measures.

Paragraph#6:
23. 1st sentence – Not clear what this sentence is trying to convey.

24. “Different family..parental drunkenness was a stronger predictor..than the parental alcohol report.” – This seems to be an overstatement. In fact, in table 2, the B values for maternal alcohol are slightly higher than for the drunkenness variable.

Methodological considerations
25. Need to clarify what the authors meant by the first sentence –“Whether this study can be..”

Discretionary revisions
Background
1. Paragraph#3: The last sentence (“..it is interesting to know whether poor school ..”) assumes that parental alcohol use results in poor school adjustment. Is that intended? If so, needs citation to support this. Otherwise, it should be revised for clarity.
2. The second sentence in the same paragraph: "..in the children can stem from other parental psychopathology..",
Suggested wording: ..in the children may stem from other parental ..
This is less assertive sentence and more appropriate here since the authors provide inconsistent evidence in the next two sentences.

3. The first part of this paragraph should be part of #6 paragraph since both involve differences in study population between clinical and population-based studies.

4. Paragraph#8: The first part of the last sentence is not clear. It mentions possible mediating effects of the children's experience of being exposed to parental alcohol use. But isn't that the main exposure in this study? The authors need to clarify what they meant here.

Methods
Sample:
5. Paragraph#2: The end of this paragraph includes correlation data (moderate correlation) for alcohol use between an older parental survey and the new survey. It is not clear why this information is important. Did the authors include both data for analysis in this study or is it to provide some information on parental alcohol use behavior over a long period of time? If latter, it may be more appropriate to include this information in discussion section.

Statistical analyses:
6. "Adjustments were made blockwise .." – May want to mention the advantage of using this method over simultaneous adjustment

Results
7. It is a good idea to provide a brief description of the sample by providing information such as mean (SD) values for each school adjustment variable across different categories of parental alcohol use.

8. Suggested change for the first sentence, paragraph#4: As only variables that are associated with both outcome and exposure measures can be either confounder or mediating variables..

Minor revisions
Background
1. The last sentence of paragraph#6 (Some studies have used partially..) seems to be a hanging sentence and should be removed.

Methods
Social network:
2. The adolescents' number ..with a single question and used as an index of
social network. Four response categories ranged from "none" to "four or more".

Suggested change
The adolescents' number ..with a single question (four response categories ranging from none to four or more) and used as an index of social network.

Results
3. **Paragraph#8:** In the first sentence “effects” should be replaced by estimates since statistical analysis can only provide estimates and indicate associations.

Tables 1-3
4. List all the demographic variables included in the models in the footnote.

5. Provide brief description of what B value mean in the footnote.

6. In table 3, term “dissolved” is used whereas the text uses “divorced.” The terms need to be consistent.

**Level of interest:** An article whose findings are important to those with closely related research interests

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

**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.