Reviewer's report

Title: The association between delusional-like experiences, and tobacco, alcohol or cannabis use: a nationwide population-based survey.

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Reviewer: Dana March

Reviewer's report:

Using survey data from the 2007 Australian National Survey of Mental Health and Wellbeing (ANSMHW), this paper presents cross-sectional analyses of the associations between lifetime tobacco use, cannabis disorders, and alcohol disorders and delusion-like experiences (DLE). The authors find associations with tobacco use (age of first use and frequency of use); cannabis disorders; and a more inconsistent pattern with alcohol use and dependence. The authors conclude that the tobacco findings, in particular, indicate the need to examine these associations in prospective longitudinal studies. I think that the examination of these disorders in concert is potentially a helpful contribution to the literature. However, the authors can address several points—minor essential revisions—that would more strongly support their conclusion, and would help to understand the inconsistent patterning of results with DLEs.

This set of analyses has several strengths. First, the authors use survey data, which are weighted back to the general population. Second, the psychiatric diagnoses are collected with the CIDI, the state of the art assessment. Third, the authors screened out schizophrenia, leaving true DLE for analyses.

There are also several important limitations. First, and most importantly, the ANSMHW is a cross-sectional assessment, and no solid conclusions can be drawn about causality because temporality cannot be established. Second, lifetime disorders were assessed, and there is a literature indicating that lifetime diagnoses are more problematic than 12-month diagnoses. Why limit to lifetime diagnoses? If 12-month diagnoses are available, it might be worth presenting those data. If not, address this issue in the limitations section.

Second, there are some concerns about the potential for excessive statistical control. Table 1 should present descriptive demographic characteristics of the sample—who comprises the sample? This would actually be helpful in determining whether the wide range of correlated confounders for which the authors controlled in Model 2 of Tables 2-4 might actually induce bias via excessive statistical control. For example, migrant status, education, and income would be, presumably, quite related. It is possible that controlling for all 3 may be unnecessary. This becomes more of an issue with the inconsistent results in the alcohol section. You would not necessarily expect tobacco, alcohol, and cannabis use to vary so greatly in migrants, depending on the countries of origin. This issue merits more consideration, and the authors should address
thoughtfully these points.

Third, the discussion section needs work. In Discussion> The association between DLE and tobacco use on pp.13-14, this section requires attention. The first sentence needs rewriting, and the two alternatives regarding the observed pattern should be framed as two potential explanations and developed further. Moreover, the inconsistent pattern of findings with respect to alcohol use and use disorders merits more than one sentence in the discussion section. Why were they inconsistent? This is unbalanced, given the information provided on tobacco and cannabis use. The authors need to place these findings in context.

Fourth, the limitations section also needs work. The sentence on p. 15, “While the analyses related to cessation of use in the previous use may help reduce the influence…” does not make sense. Please resolve and revise this part of the limitations section.

**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:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.