Reviewer's report

Title: Predictors of the late onset of cannabis and other drug use in male young adults

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Reviewer: Monique Delforterie

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This paper is clearly written, and gives us insights into the different risk factors for cannabis and illicit drug use initiation in male young adults. The statistical analyses are decent, and are clearly described. There are, however, some major and minor essential revisions needed before a decision on publication can be made. I believe a more explicit theoretical foundation, including theory-based hypotheses, is needed to make clear how this research question adds information to existing knowledge.

Major Compulsory Revisions

1. The major limitation is that the study lacks an explicit theoretical foundation and explicit theory-based hypotheses. The way it is described now, it looks like a dataset of male young adults available to the researchers was used, including different variables which by chance could be grouped into various categories. Below are some suggestions for improvements:

2. From the introduction, it is not clear why it is important that we not only look at young initiating substance users, but also at young adult initiators. Do they have the same outcome in later life, for example in terms of mental health or education? Does it interfere with work, or with social relations?

3. As said, the study lacks an explicit theoretical foundation. The gateway hypothesis explains the use from licit to illicit drugs, but is less suitable to explain the relation with demographic variables, parenting, personality. The common liability to addiction model seems to be more useful to explain the research question, however, a stronger background on this model is needed.

4. The description of the variables that were used, should be given more attention in the introduction. Why were these specific variables included, how do you expect them to affect cannabis and illicit drug use, and what was found by previous articles (5, 11, 13)?

5. Provide a clear rationale for the selected categories and the selected variables in those categories. Some variables in the category Personality do not seem to fit the description of personality. I would suggest to exclude peer pressure from this category, and include this into the category Social context. Adult attention deficit syndrome and anti-social personality disorder would be more suitable for the Health category. Include a rationale for including these into the personality category, or switch them to the appropriate categories.
Minor Essential Revisions

Introduction

1. It is not clear why you would expect different risk factors for young adults than for (young) adolescents.

Method

2. The construct parental monitoring implies that parents are actively involved to receive knowledge on their children’s whereabouts. However, in the present study, parental monitoring is measured as parental knowledge. This should be described accordingly (see Stattin and Kerr, 2000 and Kerr and Stattin, 2000).

3. The description of the substance use variables should be made clearer. From the table, it looks like a variable with multiple groups was used (e.g., (1) no use, (2) low nicotine dependence, (3) moderate-high nicotine dependence), but this is not clear from the description. Clearly specify in which groups participants could be divided.

4. Parental regulation and parental monitoring were both assessed at age 15. Why was that age used, and how could it have affected results?

Results

5. The result section lacks statistical information. I would suggest to include the R2 of the total model, at the very least.

Discussion

6. A more critical examination of the study is needed. How reliable is self-report in this population? What could be the downside of the low number of written consent (57%)? What about generalizability, also to a female population?

7. The attendance of military training seems to get too much attention in the discussion, as this was merely a control variable to be clear on the generalizability of this sample.

8. The sentence “Previous research also revealed that cannabis use is a common behaviour among young adults who are experiencing unfavourable employment conditions or socioeconomic disadvantages [33])” is unrelated to the rest of the discussion, and to the results in the present study. I would suggest to exclude this sentence, or expand on its applicability in this study.

9. The inclusion of both cannabis and other illicit drug use in the present study is interesting and important, however, the combination of risk factors found for both cannabis and illicit substance use should be discussed in more detail.

10. The common liability model proposes that using both licit and illicit drugs may be because of the influence of a common liability. What would the researchers conclude from their study, which common liabilities can explain both cannabis and illicit drug use in young adulthood? Additionally, a genetic vulnerability is missing in the present study, which should be included in the limitations.

Discretionary Revisions

1. For a better comprehension of the direction of the relations, it should be made
clearer throughout the different sections of the article that this is a longitudinal study.

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

**Quality of written English:** Acceptable

**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.