Author's response to reviews

Title: Cannabis use and other predictors of the onset of daily cigarette use in young men: what matters most? Results from a longitudinal study

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Author's response to reviews: see over
Rebuttal letter

Cannabis use and other predictors of the onset of daily tobacco use in young men: what matters most? Results from a longitudinal study

Dear Editor,

we thank the editor for the possibility to revise the above mentioned manuscript. We have addressed all issues raised by reviewer 1 one by one and modified the paper accordingly. We feel that we have thoroughly and carefully addressed all issues.

As recommended by the reviewer 2, we described in the methods section more precisely the survey instruments used and their psychometric properties, and re-named the category ‘demographic variables’ into ‘socio-demographics’. However, we were more than surprised by the deprecatory review by reviewer 2 that did not rise any further points that could help to improve the quality of the manuscript. Moreover, we assume as of his comments that he misinterpreted our appropriate regression procedures to avoid multicollinearity and thinks that we entered all variables of a category together in one regression analysis. The latter is definitively not the case as described in the first sentence of the methods section: Starting with separate logistic regression analyses, we evaluated the potential of each baseline variable to predict the onset of daily cigarette use.

Please find attached the rebuttal letter to reviewer 1 detailing the changes made to the manuscript. We forwent to write a rebuttal letter to reviewer 2 and hope that the editor can understand this decision.

We hope that our manuscript is now suitable for publication in the journal BMC Public Health. We look forward to your response.

Yours sincerely,

On behalf of all authors,

Michael P. Schaub

Answers to reviewer 1, Tahir Khan

Minor Essential Revisions

Comment 1: Abstract, Methods, Line 10:

Please mention in the abstract from where this population belonged. Since Cannabis use is not a common phenomenon in all countries. Point being, can cannabis use be generalized as a predictor for daily smoking initiation in all populations?

Answer 1 to reviewer 1: We added ‘Swiss’ at the corresponding place in the abstract.
Comment 2: Abstract, Methods, Line 10:

Would be better if age range is given

Answer 2 to reviewer 1: We added the mean age (19.4 years) and standard deviation (1.2) at the corresponding place in the abstract. We did not include the range (17-31) because we considered a statistical value describing the distribution (which was quite close around the mean, i.e. 97.6% of the sample were between 18 and 22 years old) to be more informative.

Comment 3: Background, Para 1, Lines 1-9:

The title deals with ‘Onset of daily cigarette use, however, in these lines Tobacco use is mentioned? Please make it uniform.

Answer 3 to reviewer 1: In the title, we use the term cigarette use because the outcome of our study actually was cigarette use. However, we began our manuscript with a broader introduction, describing findings on tobacco use in general as some of the studies presented in the background section were not limited to cigarette use but examined tobacco use in general. We think it is important to use the terms as precisely as possible and differentiate between tobacco use in general and cigarette use, especially because in our study cannabis use was an important predictor of cigarette use, and smoking a cigarette and smoking cannabis have many commonalities.

Comment 4: Methods, 2nd para, line 1:

Please describe briefly in parenthesis what a Swiss canton means

Answer 4 to reviewer 1: We added a corresponding brief explanation in the methods section, 2nd paragraph, line 1.

Comment 5: Methods, religion and religiosity, para 1, line 23-27:

As I understand, the question “What is your religion (even if you do not practice or believe in God)?” points towards in which religion were you born and raised?! In that case who were labeled as having ‘no religion’?

Answer 5 to reviewer 1: You are right, this question formulation seems quite imprecise, but it meets quite good the unclear definition of someone’s religion in Switzerland in the considered age population. In assumingly most of the cases this questions will assess ‘in which religion were you born’ because in Switzerland children automatically ‘inherit’ the religion status as indicated in the Swiss family registry from their parents (or more exactly, they have to decide at their marriage for a religion status if they do not have the same religion status and this status will then be ‘inherited’ by their children). However, this does not mean that someone is also raised by this religion or even practices this religion. From the age of 16 the religion can also be changed in the family registry and Swiss inhabitants are free by law to choose their religion status.

If the parents chose to be or were already atheists and their son does not change this status later on, the category ‘no religion’ will apply. In addition, these participants who themselves changed their religious status at the family registry from any religion to ‘no religion’, i.e. atheist, are included in this category.
Comment 6: Results, sample characteristics, lines 1-5:

5.1% of these were smoking cigarette 5-6 days a week at baseline (who then proceeded to smoking 7 days a week). Do you think this would have contaminated, or, effected in any way, the comparability between dichotomous categories of OCCATIONAL SMOKERS and DAILY SMOKERS? That is progression to daily smoking?

Comment 7: Table 1: Category ‘Substance use’ No use of cigarettes (previous 12 months) (Ref) vs Occasional (non-daily) cigarette use: Comparing 18.6% with 81.4%, a huge difference of onset of daily use between those who never smoked (past12 months) and those who occasionally smoked,

Do you think this difference can be the result of inclusion of people who smoked 5-6 days a week? To me they are almost ‘regular smokers’ who just changed categories from ‘No Onset’ to ‘Onset’

Answer to comments 6 to 7 of reviewer 1: These comments all deal with the issue of dichotomizing the categorical variable “cigarette use frequency” in “daily cigarette smoking” (yes/no) and the role of the group of smokers who were treated as occasional smokers but already smoked on 5-6 days a week at baseline.

When dichotomizing variables a cut-off value has to be defined. A consequence of this is that participants with values only little beyond the cut-off are very similar to those with values only little above the cut-off. As we think this is an important issue, we conducted an additional logistic regressions analysis, excluding the 216 participants who already smoked 5-6 days a week at baseline. The result of the regression analysis is similar to the result presented in Table 1 (which includes this particular group of smokers): Those who were classified as occasional users at baseline had a much higher chance to be daily smokers at the follow-up compared to baseline-non-smokers (OR: 5.94, CI: 4.23-8.33). However, the effect size is smaller compared to the analysis including this particular group (OR: 10.24, CI: 7.47-14.02). We conclude from these results that occasional smokers have a higher chance to start daily smoking, and that the group of those smoking 5-6 days a week among the occasional smokers has an especially high chance.

Comment 8: Table 2: Category ‘Substance use’ No use of cigarettes (previous 12 months) (Ref) vs Occasional (non-daily) cigarette use:

How much of this effect can be explained due to the presence of occasional smokers 5-6 days a week in this category? Please discuss in Discussion section.

Answer to comment 8 of reviewer 1: We’ve now included the issue of the dichotomized outcome variable as limitation in the Discussion section.

Discretionary Revisions:

Comment 1: Background, 5th para, Lines 14-18:

Does this mean Religiosity has a ‘U’ shaped association with substance use?

Answer to Comment 1 (discretionary revisions) of reviewer 1: We think it’s not a U-shaped association in its classical meaning as the study results presented in the background section refer to
two studies which used two different predictor variables: One is religiosity (or more precisely: the amount of religious activities). This was used as predictor variable independently from how the amount of religious activities was in the past and had a negative association with late onset of cannabis use (i.e. the more religious activities the smaller is the chance for a late onset of cannabis use). In contrast, the other predictor variable is change in religiosity over time (towards more or less religiosity), i.e. a process. Both substantial gains and losses of religiosity over time were positively associated with substance use and misuse. These two predictor variables are not directly comparable.

However, when considering only the second predictor (change in religiosity) and defining it as a continuous variable ranging from “loss of religiosity” to “gain of religiosity”, with “stable religiosity” in the middle of the scale (x-axis), the graph describing the association with the probability of substance use/misuse would probably look a bit like a U-shape. However, it probably wouldn’t be a “perfect U” as in the cited study a moderate change (gain or loss) predicted a higher probability of substance use/misuse than a significant change (gain or loss).

Comments 2: Methods, para 1, line 5:
Remove 'are'. Additionally, were the participants were previously informed about the 30 Swiss Francs reward/incentive? How a possible selection selection bias was minimized/controlled?

Answer to Comment 2 (discretionary revisions) of reviewer 1: Unfortunately, we did not find the are which the reviewer suggested to remove.
Yes, the participants were informed previously about the reward. Regarding the selection bias, thirty Swiss Francs are a comparatively low amount in this age group of young male. It is less than one-hundredth of the Swiss minimal income and we know clinical and cognition studies that involve 4-5 hours of assessment that are compensated by 450 Swiss Francs. Thus, we assume that this minimal compensation in our study did not produce a noteworthy selection bias.

Comment 3: Discussion:
Is there any data on how many participants, who used Cannabis at baseline and started daily smoking, actually left cannabis use and switched only to daily smoking? If there are some such individuals, how would you comment on this practice?

Can this transition be seen as a possible risk reduction behavior since they might be switching from an illicit to licit substance use?!

Answer to Comment 3 (discretionary revisions) of reviewer 1. Thank you for this interesting question. There actually is data, indicating that the number of those baseline cannabis users who started daily cigarette smoking and simultaneously quit their cannabis use is quite small:

Of the 269 persons who started daily cigarette smoking between baseline and follow-up, 150 indicated cannabis use in the 12 months preceding the baseline measurement (48 had used cannabis once a month or less and 77 had used it more frequently). Of these 150 baseline cannabis users, 125 were still using cannabis in the 12 months before the follow-up, i.e. 25 (16.7%) had stopped using cannabis. However, among these 25 quitters, the vast majority (20 participants) had used cannabis only once a month or less at baseline, and only 5 of the 77 frequent users at baseline had stopped until the follow-up.