Author's response to reviews

Title: Five-factor model personality traits in opioid dependence

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Author's response to reviews: see over
Dear Editor,

Please find enclosed a revised manuscript (MS: 2342013101406212). The manuscript has been subject to major revisions to meet the reviewers’ requirements:

**Reviewer Morten Hesse**

*Background*

We have removed the second paragraph in the original manuscript about the incentive-sensitisation model. Findings from studies of relationships between the FFM and psychiatric disorders, substance use disorders in general and opioid dependence in particular, are accounted for in the last three paragraphs. We chose to make these revisions in response to the suggestion to focus more on the relationship between the five-factor model (FFM) and opioid dependence, and to give a brief overview of the relationship of the FFM to other psychiatric conditions.

*Methods*

Due to very sparse background information about the normal group we regret that we can not perform multivariate analyses controlling for confounders as proposed. However, we removed cases with a known psychiatric disorder from the population database so that they were not selected as comparisons. We also report cases’ occupational status as far as we know. A majority of the controls were either graduate students or professionals. As opioid dependence is prevalent in less than one percent of the general adult population we are confident that the presence of a case with the diagnosis in the normal group is quite unlikely. Further, we assessed the opioid dependent sample’s heterogeneity as suggested and report the findings in the Results section. Finally, in the restructured Methods sections, there is a subsection describing the opioid dependent sample as requested: eligibility criteria, substance use at intake and various demographic data.

*Discussion*

The section is almost completely rewritten to allow more elaborate discussions about the differences between Norwegian and US findings and about the specific findings. As the other reviewer seemed to find the discussion about stability in personality traits interesting, and to view the findings in a broader context, we chose to keep a paragraph about opioid dependence, personality and directions of causality.

**Reviewer Antonio Terracciano**

1. We agree that the study is not a proper case-control study, and have changed the title to “Five-factor model personality traits in opioid dependence”.
2. The abstract is generally revised in accordance with the manuscript revisions, and the information about treatment duration has been added. Piedmont and colleagues’ paper is cited in the Discussion section (6th paragraph).
3. To avoid sex-related bias in the personality trait comparisons we selected a new comparison group from the national database after excluding cases with known psychiatric disorders. For each participant in the opioid dependent sample we randomly selected an age- and sex-matched comparison (see subsection “Matched comparison group” in the Methods section). The new comparison group did not influence results.
4. We have omitted the discussion about age differences between the Norwegian and the US samples as a possible reason for the different observations with regard to Extraversion. Instead we suggest that low Extraversion in the Norwegian sample may be related to a high prevalence of psychiatric disorders (paragraph 4, Discussion section).
5. We have corrected two references where Robert R. McCrae’s name was spelt wrong.
6. We replaced the conclusion in the abstract with the first paragraph of the Discussion section in the original manuscript and kept the conclusion in the text.
7. References are substituted or added (refs 15 and 18).
8. It has been added to the Methods section that norms were combined (“Analyses” subsection).
9. The sentence is dropped as suggested (paragraph 4, Discussion section).

There is also a minor change in the contact details. The first author has obtained a doctoral degree (Dr. Philos.) since the last manuscript submission. We have gone through the formatting checklist and believe all should be up to standard.

Kind regards,

Hege Kornør