Reviewer's report

Title: Five-Factor Model personality profiles of drug users

Version: 1 Date: 21 November 2007

Reviewer: Morten Hesse

Reviewer's report:

General

This is a large cross-sectional survey of adult and middle-aged Americans. The analyses addresses the associations between substance use and personality traits as measured by the NEO-PI-R. The findings are in line with existing research, but adds to existing research in two ways: first, by linking use of marijuana and cocaine/heroin with personality traits in a general population sample, and secondly by studying a large sample of adult and middle-aged subjects, rather than youth or young adults. The findings are also important in linking conscientiousness to illicit substance use.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

None

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

It took me a while to figure out why the numbers for figure 1 did not add up to 1,011. This should be explained briefly, when figure 1 is first mentioned in the text (e.g., "The full profile of current smokers is plotted in Figure 1 using estimated marginal means after partialling out the demographic covariates" add: "(former users excluded)".)

Although it appears to be included as an afterthought, the section about styles of impulse control would work better, if the concept was described in the introduction. Also, the definitions of the various styles should be described in the methods section. For instance, an under-controlled style means high Neuroticism, low Conscientiousness. How defined? Are there cutoffs for the scales for this analysis, or are the typologies extracted through a statistical analysis, such as cluster analysis? Also, in this section, chi-square statistics are reported, but the origin of these chi-square statistics is not clear. Are they from a regression analysis, or from simple tables? For this section of the articles, I would also like to see some numbers, either in a table or in the text. Numbers are provided for heroin/cocaine users, but not smokers or marijuana users. Even if
there is no statistically significant association between style of impulse control and cannabis/tobacco smoking, the actual numbers or percentages should be included, as well as effect sizes.

Discretionary Revisions (which the author can choose to ignore)

One possibility that could further strengthen the manuscript is to repeat the analyses using psychiatric diagnoses as covariates. Does substance use patterns add significant variance to FFM factors or facets after controlling for psychiatric diagnoses? In particular, I would be interested to see whether conscientiousness remains related to substance use after controlling for antisocial personality disorder, but also whether neuroticism remains related to substance use patterns after controlling for anxiety or depression.

Further, I would like to see some more discussion of the relationships between particular substances of use and personality features. There is some mention of possible cultural biases for smoking, but a few comments on cannabis and heroin/cocaine would also be welcome. Why were the patterns as they were? What does it suggest that there was a strong association between styles of impulse control and heroin/cocaine use, but none between styles of impulse control and cannabis use?

Finally, the effect sizes might be discussed. Most of the effect sizes are small to medium. This means that although there are systematic differences between users and non-users, there is obviously large heterogeneity both among substance users and non-users.

**What next?:** Accept after minor essential revisions

**Level of interest:** An article of outstanding merit and interest in its field

**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.