Reviewer’s report

Title: Trends and correlates of driving under the influence of alcohol among different types of adult substance users in the United States: A national survey study

Version: 0 Date: 31 Jul 2018

Reviewer: Dennis McCarty

Reviewer’s report:

A secondary analysis of seven years of data from the National Survey on Drug Use and Health (2008 - 2014) examined change over time in self-reported rates of driving under the influence of alcohol (DUIA) and examined associations with use of drugs classified in six categories: prescription opioids, marijuana, other single drug, prescription opioids and marijuana, multiple prescription drugs, and other illicit drugs. The analytic sample was restricted to individuals 18 years of age and older who reported use of drugs. A descriptive analysis suggested a decline in the rate of DUIA over time and differences within the six groups of drug users: other multiple drugs = 48%; prescription opioids & marijuana = 39%; multiple prescription drugs = 35%; marijuana only = 29%, other single drug = 28%; prescription opioids = 22%. Logistic regression analyses controlled for covariates and suggested variation in the likelihood of DUIA within the six drug categories. Compared to marijuana only users, prescription opioid users had decreased odds of DUIA (OR = 0.80) while odds were increased for prescription opioids and marijuana users (OR = 1.25), multiple prescription drugs (OR = 1.30), and other multiple drugs (OR = 1.65). The Discussion speculates that the introduction of Prescription Drug Monitoring Programs and the substitution of marijuana for opioids may have contributed to the declines in DUIA. Attention to 3 issues may strengthen the manuscript.

1. The primary limitation of the analysis is that it is restricted to individuals who reported drug use. DUIA is a more widespread problem and the analysis appears to have excluded individuals who only reported alcohol use from the analysis. The paper would be of broader interest if it included all of the adults who reported alcohol or drug use and included an "alcohol only" category in the analysis.

2. A second limitation is that the Discussion is much too speculative stating that "Prescription drug monitoring programs (PDMPs) might be attributable to the largest decline in DUIA among multiple prescription drug users." The analysis does not include data on the presence of PDMPs or the influence of PDMPs on prescription drug use. PDMPs were being implemented during the years of analysis and their influence on prescription drug use has been slow to materialize. Only recently have states begun to report declines in opioid prescribing. The discussion goes on to discuss the substitution of marijuana for opioids and alcohol and to assert that these influences may contribute to the decline in DUIA. The studies that suggest reductions in opioid use in states with legal cannabis use are controversial and may be attributable to ecological fallacy. A paper published in the January 2018 issue of the American Journal of Psychiatry found increased opioid use and opioid use disorder among individuals using marijuana (Olfson, Wall, Liu & Blanco, 2018).
3. Although minor issues there are some consistent problems with word choice.

A. PO is not a standard abbreviation. The text will be easier to read if the term "prescription opioids" is spelled out each time it is used.

B. The second sentence of the Methods section claims that SAMHSA has hosted the NSDUH since it began in 1971. It is true that SAMHSA supports the survey currently. The initial survey in 1971 was conducted under NIMH's supervision. SAMHSA was not created until the 1990s. Simply delete the last portion of the sentence "since 1971."

C. The title of Table 3 "Adjusted logistic regression model predicting factors associated with driving under the influence of alcohol" is a factor analysis and does not analyze factor scores. The word "variables" is a better choice and should be inserted in the place of "factors" whenever used in the manuscript.

D. The last sentence of the lead paragraph on page 11 is garbled. "... drug users are needed to be..." I think the correction is "... drug users could be..."

E. In the last sentence of paragraph 2.2.3 (P. 7) delete the word "having" in the sentence "... and having not meeting..."

4. Finally, the manuscript is silent on review and approval from an Institutional Review Board. The data are a public use and deidentified data set but an IRB should rule that they meet criteria for exemption.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

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