Reviewer’s report

Title: Marijuana legalization and historical trends in marijuana use among US residents aged 12-25: Results from the 1979-2016 National Survey on Drug Use and Health

Version: 0 Date: 20 Nov 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

No - there are minor issues

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?

Yes - experiments and analyses were performed appropriately

STATISTICS - Is the use of statistics in the manuscript appropriate?

Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

Yes - the author's interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?

Probably - with minor revisions
GENERAL COMMENTS: This is an interesting study. Some revisions are needed. See my comments below.

REQUESTED REVISIONS:

Introduction

The sentence "a participant aged 25 in 1979 contains information on the risk of marijuana use 25 years ago in 1954" is a little bizarre. Please (a) re-word, and (b) provide a fuller description of the HAPC procedure that will be informative to readers who are not yet familiar with it.

Methods

Please make clear that participant recruitment was by the survey, not by the authors of this paper

Please clarify: "We excluded participants aged 26 and older because the public data did not provide information on single or two-year age that was needed for HAPC modeling." Or perhaps add "see below".

Analysis: I'm not clear whether the legal events were coded for each participant in relation to their domicile.

Results

The past tense should be used when describing what was done, but the present tense is appropriate when describing what's in the paper. (… results are - not were - shown in figure x)

I'm surprised that marijuana use is shown as 0 for age 12-13.

Please state the period covered by the analysis of the correlation with RML. If 2012-2016, there are only three data points, which decreases the value of this comparison and restricts the inferences that can be drawn from it.

Is there any confound between the two sets of laws. That is, did RML states already have MML laws and would this impact on the correlations?

Discussion

I note the RML data are not mentioned - see previous comments.

The limitations section should draw attention to the fact that the discussion of the legal context at different times is discursive and lacks methodological rigour.

An impressive study using an appropriate and sophisticated analysis method on a very large sample
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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