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Title	Under the influence: a cross-sectional examination of prevalence and correlates of alcohol and marijuana consumption in relation to youth driving and passenger behaviours in Canada from 2014/15 CSTADS
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Reviewer 1	Dr. Kaigang Li PhD
Institution	College of Health and Human Sciences, Colorado State University, Fort Collins, CO
General comments (author response in bold)	This study examined individual- and area-level 4 correlates of risky driving and passenger behaviours among grades 9-12 students in Canada. It is an interesting study and the findings would make a useful addition to the literature. However, I have some concerns for the authors to consider to improve the paper. Generally, this is a cross-sectional study and the results of this study cannot lead to causality however this paper used a lot of causal words such as predictors, factors, which should be reworded and rephrased. **We have gone through the entire manuscript and have removed references to "predictors" or other language that implies causality, and instead have used language such as "characteristics associated with".** Abstract 1. It concluded that "Federal marijuana policy aim to reduce the prevalence of alcohol and other drug-impaired driving." I don't know well about Canadian policy but I wonder why "marijuana" specific policy can reduce "alcohol" and "other drug"-impaired driving. **We have corrected this line to read, "Federal marijuana policy should aim to reduce the prevalence of drug-impaired driving."** 2. The purpose of this study was to examine the "factors" of risky driving and passenger behaviours, but no related conclusion was stated. **Building on the background and results, we have noted in the abstract conclusion that these behaviours vary by individual and area-level characteristics.** Methods 3. This study included variables at individual and area levels but only examine regular one-level logistic regression was used. I think hierarchical generalized linear model (multilevel model) should be used to examine the associations of dichotomous outcome variables with both individual and area-level independent variables. **As per our above comment, we have clarified that we used bootstrap weights for all analyses to account for the survey design effects on variance estimates. We have added the following sentence, in addition to the above statement: Logistic regression analyses were conducted with bootstrap weight adjustment for clustering within schools using PROC SURVEYLOGISTIC in SAS 9.4 (SAS Institute Inc, Cary, North Carolina).** 4. Combination of using alcohol and marijuana may be more risky compared to alcohol- or marijuana- impaired only driving. I would like to see who were those reporting both alcohol- and marijuana- impaired driving, and prevalence of the combined impaired driving. **Thank you for this suggestion. This would have been important to present had we collected good data on co-use. Unfortunately we are unable to examine combined or co-use of alcohol and marijuana because of the structure of the survey items. We asked about both alcohol and marijuana separately, and we do provide counts of the students who reported one or more of the risky driving and passenger behaviours, despite the limitations of the data.** Results 5. Although the participants' grades were reported, I think the related age should be reported as well. **We have reported the age associated with Canadian grades in the methods section (grade (9-12; ages 13-18 in Canada). We have also specified in the Statistical Analysis that grade 11 students are typically 16-17 years of age.** Discussion 6. Although the data don't have the information about driver's license, the eligible age for driving license in Canada should be discussed. Are grade 9 students eligible? If not, they should be excluded or analyzed separately. **This is an excellent point, and we have rerun our analyses for driving outcomes to limit them to grades 11 and 12 students (ages 16-18), to reflect the earliest age at which Canadian adolescents are able to drive on their own. We have also added an Appendix detailing the exact ages at which adolescents can drive on their own in each province.**
Reviewer 2	Dr. Christina Loitz MSc PhD
Institution	Alberta Health Services, Edmonton, Alta.
General comments (author response in bold)	This study is timely, considering the proposed cannabis legalization and regulation in Canada. This paper provides a snapshot of the current rates in which teenagers drive or are a passenger in a vehicle driven by someone who consumes alcohol or uses cannabis. This paper is valuable as a baseline measure of impaired driving prior to the introduction of the regulation and legalization of cannabis. Additionally, this paper may be useful to identify demographics of students or provinces that are at greater risk of impaired driving or being a passenger, and contribute to the knowledge available to inform programs, practices and policies. Overall, the background, rational, methodology, and findings were strong and well written. This paper fulfills the criteria identified in the STROBE checklist for cross-sectional studies. **We thank Dr. Loitz for her encouragement. We have completed and uploaded a STROBE checklist for cross-sectional studies along with our revision.** Issues/concerns with the manuscript: 1. The implications and use need to be expanded on. For example: How does this study contribute to the advancement of knowledge and practice? What are the implications to practice, programing, health promotion, and policy locally, provincially and federally? How can schools, public health, and health care use this information? **We have attempted to add a more detailed discussion on the policy and program implications of our study while remaining within the 2500 word limit. We would also like to note to the editorial board that our colleague Professor Jacob Shelley, a Law Professor at Western University, has written an accompanying commentary, which will address, from a legal perspective, some of these exact questions. Moreover, we feel that this issue is**

important enough (particularly in light of impending marijuana legislation) that both our quantitative article and **Professor Shelley's legal commentary would make valuable contributions to CMAJ Open. Please see the** interpretation section.

2. Are their future directions you would suggest for researchers in this field? If so, you could include them.
We have briefly outlined future research directions in the last paragraph.