

Critique of “Changes in cannabis use modes among Canadian youth across recreational cannabis legalization: Data from the COMPASS prospective cohort study.”

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Zuckermann et al. (2021) examined the evolution of the consumption of cannabis among Canadians as a result of liberalization laws. The objectives of the researchers were to determine how changes in cannabis consumption modes and related aspects due to the federal legalization of recreational cannabis use for Canadian adults impacted health outcomes among Canadian youth. The study focused on cannabis use among underage youth before the legal availability of alternative products. The authors analyzed data from 2,953 longitudinally linked Canadian high school students to conduct their research. These students reported their cannabis use during the 2017/18 and 2018/19 school years. The study investigated whether the students employed a single or multiple mode(s) of use and whether they decreased or increased the number of modes used. Thereafter, Zuckermann et al. (2021) applied generalized estimating equations for association analysis of fundamental characteristics with the trajectory of use mode. The results indicated that more youth expanded their cannabis use modes than maintained single or multiple use mode(s), while less students reduced their cannabis use modes. Furthermore, Zuckermann et al. (2021) found that students maintaining multiple use modes had significantly higher chances for binge drinking, had higher amounts of weekly spending money, use cannabis more regularly, vape, and display one or more symptoms of depression. Zuckermann et al. (2021) concluded that, in their study sample, multi-modal cannabis use increased. They further suggest that screening multi-modal patterns may help identify high-risk substance use.

In their study, Zuckermann et al. (2021) present a clear and well-defined research question seeking to understand a specific issue. The authors purpose to examine the changing use of recreational cannabis consumption methods after federal legalization and identify factors associated with the changes. Additionally, Zuckermann et al. (2021) comprehensively

outline their methodology, utilizing appropriate data collection and analysis methods for addressing the research question. Finally, the researchers clearly answer the research question by addressing each component, including proving a conclusion.

The authors justify their conduction of the study by stating that “Canadian youth are among the most prevalent consumers of recreational cannabis worldwide” (p. 121). The authors seek to determine if the current modes of cannabis consumption will expand, be maintained, or decrease due to legalization. Zuckermann et al. (2021) also conducted the study to determine if the legalization and availability of multiple-use modes lead to more health risks for the youth. The authors' research question clearly addresses these justifications.

In their study, Zuckermann et al. (2021) used observational, cross-sectional data to conduct the research. The use of COMPASS, a study that collects data from Canadian high school students, is a suitable method for sampling a wide range of students across diverse backgrounds to ensure impartiality. Moreover, focusing on as recent years as possible and covering as many as three years allowed the authors to collect precise data to allow for more accurate calculation of risk factor frequencies and for the repetition of data collection over time.

Furthermore, the authors utilized sampling to conduct their study. Linking the students using baseline and follow-up produced a large linked sample of 23,401 students across four territories, making the sampling method highly effective. The researchers used frequency calculations and baseline characteristics to record data. Frequency measured data for the past 12 months and only included students who reported regular monthly use or more. The baseline characteristics incorporated 12 questions covering behavioral, mental health, demographic, and school-related factors, and responses were categorized according to the

Canadian 24-Hour Movement Guidelines. These measurement criteria worked for the study because they carefully examined the target population according to the purpose of the project.

Zuckermann et al. (2021) categorized results based on multiple baseline characteristics and modes of use. The results obtained from the sample adequately answered the research question, satisfying the fitness for use criteria. The results obtained by the authors are of high quality and effectiveness due to the direct nature of the measures and data collection methods. Hence, other researchers can effectively reuse the findings from the study.

The researchers adequately adhered to the research report guidelines. For example, the article can be easily understood by the reader and can be replicated by other researchers. Additionally, the study provides sufficient data for stakeholders to make clinical decisions or include in a systematic review. Moreover, Zuckermann et al. (2021) clearly explain their results in table format and follow the APA structure to present their research, as is required for social and behavioral science studies.

The study by Zuckermann et al. (2021) provides additional evidence into the evolution of cannabis use among the Canadian youth. Researchers can utilize this study to examine the prevalence of use modes according to their increase or decrease. Furthermore, The results can provide insight into the extent of health consequences for the different use modes and help with the development of effective cannabis screening approaches.

In their study, Zuckermann et al. (2021) considered equity, diversity, and inclusion principles. The authors collected samples from a broad group of individuals with varying demographic, behavioral, mental health, and school-related factors. Additionally, the authors collected data from 9 to 12 students, covering all high-school-aged youth groups. Moreover, the study covered different Canadian territories, including Alberta, British Columbia,

Ontario, and Quebec. Therefore, the study design was diverse enough to consider all high school-aged youth.

A significant strength of the study by Zuckermann et al. (2021) is its relevance. This study addresses a critical issue in the field of physical and mental health by examining the relationship between cannabis use modes and its association with other substance use and health impacts. Therefore, the study results can help others in this field better understand how multiple-use modes impact health outcomes. Conversely, a significant limitation of the study is its failure to specifically identify how each cannabis use mode affects the baseline factors. By grouping use modes into single or multiple, it is more difficult to determine how each use mode impacts each baseline, hindering the development of use mode-targeted interventions.

Zuckermann et al. (2021) offers critical insights into the relationship between cannabis use modes and health outcomes among high school-aged Canadian youth. The authors proposed a clear research question with appropriate justification for conducting the study. Additionally, the longitudinal study design and methods used by the researchers appropriately address the research. The authors also suitably interpret the results and adhere to reporting guidelines. The study can potentially help assess the impact of alternative cannabis use modes on youth health and develop better cannabis screening processes. Finally, the study's strength lies in its relevance, while its weakness is in identifying specific use modes and their impact on health and specific substance use. Therefore, given the scarcity of research into this topic, further research is necessary to determine the effect of the multi-modal use of cannabis among high school-aged youth.

Reference

Zuckermann, A. M. E., Gohari, M. R., Romano, I., & Leatherdale, S. T. (2021). Changes in cannabis use modes among Canadian youth across recreational cannabis legalization: Data from the COMPASS prospective cohort study. *Addictive Behaviors, 122*, 107025. <https://doi.org/10.1016/j.addbeh.2021.107025>