

REVIEW

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Did We Really Get the Full Picture? A Mini Scoping Review of Cannabis Use and Anxiety in Canadian Youth in the Context of COVID-19

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Abstract

Introduction: Rates of recreational cannabis use among Canadian adolescents have increased following national legalization, coinciding with a rise in youth mental health challenges, particularly anxiety symptoms. This mini scoping review aims to explore the relationship between regular recreational cannabis use and anxiety symptoms in adolescents aged 13 to 18 in Canada. The purpose is to synthesize the existing evidence, identify research gaps, and inform public health strategies and future studies.

Methods: A scoping review methodology was used to identify and synthesize relevant literature on cannabis use and anxiety symptoms among Canadian adolescents. Both cross-sectional and longitudinal peer-reviewed studies were included. Data extraction focused on patterns of cannabis use, reported anxiety outcomes, and potential moderating variables such as gender, ethnicity, and socioeconomic status. Thematic analysis was used to organize findings into key domains.

Results: The review found a mixed but suggestive relationship between regular recreational cannabis use and increased anxiety symptoms in adolescents. Cross-sectional studies frequently reported positive associations, while longitudinal studies showed more variable outcomes, with some indicating persistent anxiety symptoms following sustained cannabis use. Available data suggest that gender, ethnicity, and socioeconomic status may moderate these associations, though a lack of demographic stratification in many studies limits findings.

Discussion: The findings point to a potential link between regular recreational cannabis use and anxiety symptoms in Canadian adolescents, although causality remains uncertain due to the limitations of the existing literature. Moderating factors, such as gender and socioeconomic status, appear to be important but are underexplored. The variability in study design, measurement tools, and population samples contributes to mixed results, indicating a need for more rigorous and targeted research.

Conclusion: This review highlights the complexity of the relationship between adolescent cannabis use and anxiety symptoms. There is a clear need for longitudinal, demographically nuanced research to better understand causality and mechanisms. These insights are critical for developing effective public health interventions and informing policy aimed at minimizing mental health risks associated with adolescent cannabis use. However, the limited number of studies ($n = 5$) constrains the generalizability of these findings.

Keywords: cannabis; anxiety; adolescents; Canada; recreational use; mental health; COVID-19

Introduction

Adolescence is a critical developmental stage characterized by heightened emotional sensitivity and social pressures [1, 2]. Given that substance use often begins during adolescence, this developmental stage is marked by increased vulnerability to psychological stress [3]. The impact of cannabis on the developing adolescent brain is a significant concern in both clinical and public health contexts. The endocannabinoid system, which plays a crucial role in regulating neuronal development, undergoes heightened activity during puberty, a period marked by the maturation of executive functioning, emotional regulation, and cognitive capacity [3]. This

increased activity suggests that adolescence may be a "critical period" during which the brain is particularly vulnerable to the effects of exogenous cannabinoids [1]. Regular cannabis use during this time has been associated with various adverse outcomes, including increased risk of anxiety, depression, and social dysfunction [4–6]. Some studies suggest that early and frequent cannabis use may alter medial temporal and midbrain functioning, leading to slowed learning and memory deficits [7]. These findings underscore the relevance of focusing on adolescent cannabis use not only as a substance use issue, but as a potential contributor to youth mental health conditions such as anxiety.

Anxiety trends in Canadian youth have been further complicated by the COVID-19 pandemic, which significantly affected their mental health through increased isolation, disrupted routines, and uncertainty [8]. Changes in substance use patterns have also been noted during this period, with some adolescents turning to cannabis as a coping mechanism [9]. In recent years, cannabis use among Canadian youth has risen significantly, partially driven by shifts in policy, social norms, and increased accessibility post-legalization in 2018 [10]. There are varied changes in use by age, gender, ethnicity, and socioeconomic status [9, 11]. According to Statistics Canada, since the start of the pandemic, 25% of people 25 years and older reported using more cannabis, compared to 46% of 16 to 19-year-olds and 40% of 20 to 24-year-olds [12]. There are higher amounts of cannabis users among the LGBTQIA community [12]. Those who have a high school diploma or less are more likely to use cannabis, an indicator of socio-economic status, which is consistent with data collected in 2020 [12]. Thus, understanding the relationship between cannabis use and anxiety symptoms in Canadian adolescents requires a renewed focus on literature emerging after the onset of the pandemic, including how gender, LGBTQIA identities, and socio-economic status may have impacted this relationship.

This review aims to synthesize the current literature on recreational cannabis use and its association with anxiety symptoms in adolescents aged 13–18, with a specific focus on the Canadian context and on studies that collected data during or after the onset of the COVID-19 pandemic (from late 2019 onward). It also explores the impact of various moderating factors such as gender, socioeconomic status, and ethnicity. The goal is to identify how research in this area has changed since the pandemic and to highlight emerging gaps in knowledge to inform public health policy and future investigations.

How has research on the relationship between recreational cannabis use and anxiety symptoms in Canadian adolescents evolved since the onset of the COVID-19 pandemic, and what are the current gaps in the literature?

Methods

This review was conducted using the methodological framework outlined by Peters et al. [13], and MacDonald et al. [14] and reported in accordance with the PRISMA-ScR guidelines [15].

Search Strategy

Searches were conducted using PubMed, PsycINFO and Google Scholar using key terms: "cannabis OR marijuana OR THC" AND "anxiety OR anxiety symptoms OR neuroticism OR stress" AND "adolescents OR youth OR minors" AND "Canada." Synonyms and variations were used based on terms identified in preliminary literature.

Inclusion and Exclusion Criteria

Studies were included if they involved adolescents aged 13–18; one article that exceeded this age range was included because participants were 18 or under when first recruited. Research had to be conducted in Canada or with data from Canadian populations. Only studies examining recreational (non-medical) cannabis use and measuring anxiety symptoms quantitatively or qualitatively were included. Furthermore, studies needed to have collected data from late 2019 onward, after the onset of COVID-19.

Studies were excluded if they focused on medical cannabis use, were not peer-reviewed, or were published in languages other than English.

Screening and Data Extraction

Title and abstracts were screened using Covidence systematic review software (Veritas Health Innovation, Melbourne, Australia). Full texts were assessed for eligibility based on inclusion/exclusion criteria. Data extracted included: population characteristics, cannabis use patterns, measurement of anxiety, study design (cross-sectional vs. longitudinal), data collection period, and moderating variables.

Data Charting and Analysis

A data charting form was developed in Excel to extract key themes, patterns, and methodological approaches. Thematic analysis was employed to identify recurring findings and gaps. Data gathered from each article included: Data Collection Period, Location, Sample Size (N), Age Range, Gender Breakdown, Ethnicity Reported, LGBTQIA Inclusion, Socioeconomic Status (SES), Cannabis Use definition, Type of Use, Anxiety Measure, Cannabis-Anxiety Link, Moderators Examined, and Limitations Noted by Authors. Not all categories, such as LGBTQIA Inclusion, were kept in the final table because none of the articles mentioned this.

Table 1. Paper Titles and Authors

Study ID	Authors (Year)	Paper Title	Data Collection Period
1	Afifi TO, Fortier J, Salmon S, Taillieu T, Osorio A, Roos L, et al. (2024)	Youth COVID-19 stressors and associations with self-perceived health, depression, anxiety, and at-risk alcohol and cannabis use	November 2021 – January 2022
2	Craig SG, Ames ME, Bondi BC, Pepler DJ (2023)	Canadian Adolescents' Mental Health and Substance Use During the COVID-19 Pandemic: Associations With COVID-19 Stressors	June 17 – July 31, 2020

Study ID	Authors (Year)	Paper Title	Data Collection Period
3	Dumas TM, Ellis W, Litt DM (2020)	What Does Adolescent Substance Use Look Like During the COVID-19 Pandemic Examining Changes in Frequency, Social Contexts, and Pandemic-Related Predictors	April 4 –13, 2020
4	Riazi NA, Battista K, Duncan MJ, Wade TJ, Pickett W, Ferro MA, et al (2023)	Stronger together: Coping behaviours and mental health changes of Canadian adolescents in early phases of the COVID-19 pandemic	May 1 – July 20, 2018-2020
5	Williams GC, Patte KA, Ferro MA, Leatherdale ST (2021)	Associations between Longitudinal Patterns of Substance Use and Anxiety and Depression Symptoms among a Sample of Canadian Secondary School Students	May 1 – July 20, 2017-2020

Table 2. Study Characteristics (Part 1)

Study ID	Authors (Year)	Sample (N)	Age Range	Design	Data Collection	Location
1	Afifi TO, Fortier J, Salmon S, Taillieu T, Osorio A, Roos L, et al. (2024)	587	17-22 Wave 1 Mean (SD): 15.3 (0.5)	Cross-sectional	Community sample (first wave in person, next 3 done through online surveys)	Manitoba
2	Craig SG, Ames ME, Bondi BC, Pepler DJ (2023)	809	12-18	Cross-sectional	Online survey	Data from all provinces and territories but Nunavut
3	Dumas TM, Ellis W, Litt DM (2020)	1054	14-18	Cross-sectional (retrospective)	Online survey	Ontario
4	Riazi NA, Battista K, Duncan MJ, Wade TJ, Pickett W, Ferro MA, et al (2023)	3577	13-18 (grades 9-12)	Longitudinal (prospective)	Online survey	Alberta, British-Columbia, Ontario, Quebec
5	Williams GC, Patte KA, Ferro MA, Leatherdale ST (2021)	738	13-18 (grades 9-12)	Longitudinal (prospective)	Online survey	Alberta, British-Columbia, Ontario, Quebec

Table 3. Study Characteristics (Part 2)

Study ID	Cannabis Use Definition & Frequency	Anxiety Measure	Main Cannabis-Anxiety Finding	Moderators	Limitations
1	Past 6- month cannabis use, measured using the CUDIT (Cannabis Use Disorder Identification Test) <i>Frequency not listed</i>	7-item Generalized Anxiety Disorder scale (GAD-7)	Anxiety associated with increased cannabis use • Reports of feeling lonely or isolated since the onset of the pandemic • Reports of job loss or financial burden in the past month	• Age • Sex • Race/ethnicity • Self-perceived mental health	• Cross-sectional design: inferences of causation cannot be made • Community sample may not be representative • Possible that attrition affected the sociodemographic characteristics of the sample (data collection started in person, was then moved online)

Study ID	Cannabis Use Definition & Frequency	Anxiety Measure	Main Cannabis-Anxiety Finding	Moderators	Limitations
2	Cannabis use measured using DHQ (Drug History Questionnaire) split into three groups of frequency: None: 79.3% Less than once a month – once a month: 10.3% Once a week or more: 10.4%	COVID-19 Stress Scale (4-point Likert Scale, with dimensions of “family health”, “population’s health”, and “other”)	Anxiety associated with increased cannabis used - Negatively associated with COVID-19 stressor “Population’s health” - Also negatively associated with “lives with parents”	- Girls - TNBI - Age - Parents (lives with) - Cannabis use in pandemic - Weeks - Therapy	- Cross-sectional design: inferences of causation cannot be made - Clinical cut-offs used are not diagnostic and only indicate that a youth is at high risk of meeting criteria for the disorder - Online self-report data collection (authors mentioned this led to mainly targeting adolescents from minority ethnicities and low income and/or - remote families without internet or data difficult, and also made this a sample of convenience)
3	Number of days they had engaged in marijuana use in the past 3 weeks Frequency not listed	6-item anxiety measure subscales of the Brief Symptom Inventory	Anxiety was associated with decrease in cannabis use before vs after pandemic for total and females (but not males alone)	- Fear of COVID-19 virus - COVID-19-related reputation concerns - Depression and anxiety - Self-reported popularity	- Cross-sectional design: inferences of causation cannot be made - Retrospective design (examining change in substance use in the same survey with retrospective measurement of past behaviour may have led to errors in self-report) - May have not captured adolescents' established routines because study was conducted close to start of pandemic - Larger sample of girls than boys - Data collected from primarily Caucasian, Canadian sample - Online self-report data collection
4	Yes or No Frequency not listed	7-item Generalized Anxiety Disorder scale (GAD-7)	Anxiety negatively correlated with cannabis use Students who reported spending time with family, using cannabis, keep a regular schedule reported a significantly lower mean increase in anxiety compared to those that did not engage in these coping behaviours	- Depressive symptoms - Anxiety symptoms - Psychosocial well-being - Emotion regulation - Coping behaviours (including cannabis use)	- Lack of information on the type of coping strategies students used prior to the pandemic and the frequency and intensity of coping behaviours during the pandemic - Long interval (one year) between data collection - Online self-report data collection

Study ID	Cannabis Use Definition & Frequency	Anxiety Measure	Main Cannabis-Anxiety Finding	Moderators	Limitations
5	Use in the past 12 months (no use, less than monthly use, monthly use, weekly use) Percentages of frequency rates not listed	7-item Generalized Anxiety Disorder scale (GAD-7)	Anxiety not correlated with cannabis use • After for controlling for depression symptoms, consistent poly-substance use was no longer associated with anxiety symptoms • Anxiety symptoms were primarily explained by depression symptoms	• Skipping school (risky behaviour) • Family and friend support • Sex • Grade • Ethnicity • Weekly spending money	• Cannot draw conclusions about simultaneous substance use • Not representative of all Canadian secondary students • Limited number of substances included on questionnaire • Lacking measures of peer or family substance use • Online self-report data collection

Results

A total of 5 studies met the inclusion criteria for this mini scoping review. Most studies used a cross-sectional design ($n = 3$), with the remaining two reporting longitudinal data. Study samples ranged from 587 to over 3,500 participants, with data collection occurring between 2017-2022, coinciding with the onset of the COVID-19 pandemic. Where data collection occurred before 2019, this was used to compare pre- and post-pandemic substance use habits (see [Tables 1](#) and [2](#)).

Cannabis use definitions varied; only two studies asked for frequency of use (i.e., weekly vs monthly). The remaining studies collected cannabis use data in binaries: either if the participant had used in the past 6 months or if the participant used cannabis (answered as “yes” or “no”). Anxiety was most frequently measured using the GAD-7 ($n=3$). The remaining two studies used either a COVID-19 stress scale or the 6-item anxiety measure subscales of the Brief Symptom Inventory (see [Table 3](#)).

Only two out of the five studies indicated a positive association between cannabis use and anxiety symptoms: studies 1 and 2 (see [Table 3](#)). Specifically, in study 1, there was an increased chance of cannabis use associated with participants ranking yes to measures of “Reports of feeling lonely or isolated since the onset of the pandemic” or “Reports of job loss or financial burden in the past month” [16]. For study 2, increased cannabis use was associated with participants ranking low on the anxiety measure of “Population’s health” [17]. The authors reasoned that this result may be because youth who use cannabis more were less concerned with the population’s health (in the context of the COVID-19 pandemic) [17].

In the remaining studies, cannabis use was negatively associated with anxiety (studies 3 and 4) or no correlation was found (study 5). For the two studies that found a negative association, either a decreased use of cannabis

from pre- to post-pandemic was associated with higher rates of anxiety (study 3) [18], or increased anxiety was negatively associated with cannabis use (study 4) [19]. These two studies seem to indicate that cannabis use was a coping mechanism during COVID-19 that lowered rates of anxiety in Canadian youth. Study 5 found that rates of poly-substance use (including cannabis) were associated with higher rates of adverse mental health outcomes, with individuals ranking high on both anxiety and depression scales [20]. However, after controlling for depression symptoms, consistent poly-substance use was no longer associated with anxiety symptoms [20].

Moderators that were examined included (n = number of studies that included each moderator):

- Gender/sex (either “male/female” or “girls/boys”) ($n = 5$)
- TNBI/Prefer not to answer ($n=3$)
- Age ($n=5$)
- Race/ethnicity ($n=4$)
- Parents/guardians ($n=2$)
- Weekly spending (measure of SES) ($n=3$)
- Psychosocial wellbeing/self-perceived mental health ($n=2$)
- LGBTQIA Identity ($n=0$)

Limitations found in this review (number refers to study ID, see [Table 3](#)):

- Lack of TNBI in most studies (1, 4, 5)
- Lack of LGBTQIA identity as a moderator in all studies
- Lack of SES in two studies (2, 3)
- Lack of race reported in one study (4)
- Lack of a representative population due to the nature of online self-report (all)

- Causation cannot be established for cross-sectional designs (1-3)
- Longitudinal studies used time points a year apart (may have lacked sensitivity to pick up on cannabis use or anxiety changes) (4, 5)

Discussion

The synthesis of findings suggests a complex and inconsistent relationship between recreational cannabis use and anxiety symptoms among Canadian adolescents. While two studies identified a positive association, two others reported a negative association, and one found no significant correlation after controlling for depressive symptoms. These findings suggest that cannabis use may serve different psychological roles for different individuals, potentially both as a coping mechanism and as a risk factor for heightened psychological distress.

There is no clear pattern between when data was collected during the pandemic and the links between cannabis use and anxiety symptoms. However, study 1 is the only included study that gathered data over a period longer than one month, and it shows that cannabis use increased anxiety symptoms [16]. This study also collected data from November 2021 to January 2022, after about a year of living through the COVID-19 pandemic, but findings may not be generalizable to the rest of Canada.

Notably, study 3 found that decreased cannabis use during the pandemic was associated with increased anxiety, which may reflect a self-medication hypothesis [18]. Studies 1 and 2 indicated that anxiety-related stressors like loneliness and financial strain may increase the likelihood of cannabis use, supporting bidirectional influence [16, 17]. Study 5's findings suggest that the relationship between cannabis and anxiety may be confounded by co-occurring depression [20].

Measurement variability, inconsistent inclusion of marginalized groups, and differences in cannabis and anxiety measures may explain these inconsistencies.

Limitations

Two of the studies reviewed (studies 4 and 5) used data collected from the same pool of participants, which may have led to an overrepresentation of these results. However, the dataset was examined differently between the two studies (coping behaviours vs rates of depression and anxiety), thus leading to a different selection of participants from the same data pool. Nonetheless, some overlap in participants is likely, which may influence the generalizability of the combined results.

The studies reviewed spanned different phases of the pandemic, which may have influenced cannabis use behaviours and mental health symptoms in varying ways. For example, initial lockdown periods may have led to increased solitary use or disrupted social coping strategies, whereas later phases may have normalized certain behaviours. This temporal variation likely confounded

findings, especially in the absence of fine-grained longitudinal tracking: the studies reviewed either only collected data once or had a year between each collection. It is also important to note that the included studies collected data across different phases of the COVID-19 pandemic, which may have influenced both cannabis use patterns and anxiety symptoms. No consistent trend was observed linking the timing of data collection (pre-, during-, or post-pandemic) with the strength or direction of the cannabis-anxiety relationship.

Only five studies were included in this review due to the lack of research in this area. Many articles combined data on both youth and adult substance use during the pandemic, or did not collect data on anxiety symptomology. This review highlights the need for more research into cannabis use and anxiety rates among Canadian youth in the current post-pandemic context. Given that only five studies met the inclusion criteria, these findings should be interpreted as preliminary. Broader conclusions require validation through a larger body of research.

Despite these limitations, this review highlights the importance of understanding adolescent cannabis use as a multifaceted behaviour, influenced by developmental, psychological, and social factors. The findings underscore the need for targeted, evidence-based interventions that address both substance use and underlying mental health concerns, particularly for youth navigating post-pandemic stressors.

Conclusions

This review underscores the importance of understanding the mental health implications of recreational cannabis use during adolescence. While evidence of a consistent link between cannabis use and anxiety symptoms exists, the relationship is nuanced and moderated by individual and contextual factors. Future research should prioritize standardized measurement, longitudinal designs, and inclusive sampling strategies, particularly focusing on studies conducted in the post-pandemic landscape, to better inform health education and policy.

This mini scoping review reveals that the relationship between recreational cannabis use and anxiety symptoms since the onset of the pandemic in Canadian adolescents is neither uniform nor straightforward. While some evidence supports a positive association, particularly under conditions of social isolation or economic hardship, other findings suggest cannabis may be used to alleviate anxiety symptoms, or that observed associations are not significant, due to co-occurring depression.

Crucially, the evidence base remains limited by inconsistent measures, underrepresentation of marginalized groups, and cross-sectional designs that preclude causal inference. These limitations point to an urgent need for longitudinal studies with standardized assessments of cannabis use (including frequency and potency), consistent mental health measures, and inclusive sampling

frameworks that consider both gender and sexual identity, race/ethnicity, and socioeconomic context.

As cannabis becomes increasingly accessible and normalized among youth, especially in a post- legalization and post-pandemic landscape, there is a pressing need for public health policies and educational efforts that are both scientifically grounded and culturally responsive. Understanding the full spectrum of adolescent cannabis use and its mental health impacts will be essential for promoting well-being during this critical developmental window.

List of Abbreviations

LGBTQIA: lesbian, gay, bisexual, trans, queer, intersex, asexual

THC: tetrahydrocannabinol

SES: socioeconomic status

TNBI: trans/non-binary individuals

Conflicts of Interest

The author declares that they have no conflicts of interest.

Ethics Approval and/or Participant Consent

This review did not require ethics approval as it did not involve the use of human participants.

Authors' Contributions

HCG: study design, literature search, data collection and analysis, interpretation of results, manuscript writing and revision.

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References

- [1] Schneider M. Puberty as a highly vulnerable developmental period for the consequences of cannabis exposure. *Addiction Biology*. 2008 Jun;13(2):253–63. Available from: <http://doi.org/10.1111/j.1369-1600.2008.00110.x>
- [2] Satterthwaite TD, Wolf DH, Erus G, Ruparel K, Elliott MA, Gennatas ED, et al. Functional maturation of the executive system during adolescence. *J Neurosci*. 2013 Oct 9;33(41):16249–16261. Available from: <http://doi.org/10.1523/JNEUROSCI.2345-13.2013>
- [3] MacCallum CA, de Freitas L. Cannabinoids and adolescence. In: Narouze SN, editor. *Cannabinoids and Pain*. Cham: Springer International Publishing; 2021 Jul 2. p. 281–286. Available from: http://doi.org/10.1007/978-3-030-69186-8_34
- [4] Urbanoski KA, Strike CJ, Rush BR. Individuals seeking treatment for cannabis-related problems in Ontario: demographic and treatment profile. *Eur Addict Res*. 2005;11(3):115–123. Available from: <http://doi.org/10.1159/000085546>
- [5] Crean RD, Crane NA, Mason BJ. An evidence based review of acute and long-term effects of cannabis use on executive cognitive functions. *J Addict Med*. 2011 Mar 1;5(1):1–8. Available from: <http://doi.org/10.1097/ADM.0b013e31820c23fa>
- [6] Fergusson DM, Horwood LJ, Swain-Campbell N. Cannabis use and psychosocial adjustment in adolescence and young adulthood. *Addiction*. 2002 Sep;97(9):1123–1135. Available from: <http://doi.org/10.1046/j.1360-0443.2002.00103.x>
- [7] Blest-Hopley G, Giampietro V, Bhattacharyya S. Regular cannabis use is associated with altered activation of central executive and default mode networks even after prolonged abstinence in adolescent users: Results from a complementary meta-analysis. *Neurosci Biobehav Rev*. 2019 Jan 1;96:45–55. Available from: <http://doi.org/10.1016/j.neubiorev.2018.10.026>
- [8] Cost KT, Crosbie J, Anagnostou E, Birken CS, Charach A, Monga S, et al. Mostly worse, occasionally better: impact of COVID-19 pandemic on the mental health of Canadian children and adolescents. *Eur Child Adolesc Psychiatry*. 2022 Apr;31(4):671–684. Available from: <http://doi.org/10.1007/s00787-021-01744-3>
- [9] Newport K, Bishop L, Donnan J, Pal S, Najafizada M. The COVID-19 pandemic and cannabis use in Canada--a scoping review. *J Cannabis Res*. 2023 Jul 31;5(1):31. Available from: <https://doi.org/10.1186/s42238-023-00196-7>
- [10] Hamid MA, Shaikh R, Gunaseelan L, Salim J, Arulchelvan A, Tulloch T. Recreational cannabis legalization in Canada: a pediatrics perspective. *Subst Use Misuse*. 2022 Feb 7;57(3):481–483. Available from: <http://doi.org/10.1080/10826084.2021.2012689>
- [11] Zajacova A, Jehn A, Stackhouse M, Denice P, Ramos H. Changes in health behaviours during early COVID-19 and socio-demographic disparities: a cross-sectional analysis. *Can J Public Health*. 2020 Dec;111(6):953–962. Available from: <https://doi.org/10.17269/s41997-020-00434-y>
- [12] Government of Canada. Canadian Cannabis Survey 2022: Summary [Internet]. Ottawa: Health Canada; 2022. Available from: <http://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/research-data/canadian-cannabis-survey-2022-summary.html>

- [13] Peters MDJ, Marnie C, Tricco AC, Pollock D, Munn Z, Alexander L, McInerney P, Godfrey CM, Khalil H. Updated methodological guidance for the conduct of scoping reviews. *J BI Evid Synth*. 2020 Oct 1;18(10):2119-2126. Available from: <https://doi.org/10.11124/JBIES-20-00167>
- [14] Macdonald M, Misener RM, Weeks L, Helwig M. Covidence vs Excel for the title and abstract review stage of a systematic review. *JBI Evid Implement*. 2016 Dec 1;14(4):200-201. Available from: <http://doi.org/10.1097/01.XEB.0000511346.12446.f2>
- [15] Ricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med*. 2018 Oct 2;169(7):467-473. Available from: <https://doi.org/10.7326/M18-0850>
- [16] Afifi TO, Fortier J, Salmon S, Taillieu T, Osorio A, Roos L, et al. Youth COVID-19 stressors and associations with self-perceived health, depression, anxiety, and at-risk alcohol and cannabis use. *FACETS*. 2024 Nov 13;9:1-10. Available from: <https://doi.org/10.1139/facets-2023-0160>
- [17] Craig SG, Ames ME, Bondi BC, Pepler DJ. Canadian adolescents' mental health and substance use during the COVID-19 pandemic: Associations with COVID-19 stressors. *Can J Behav Sci*. 2023;55(1):46-55. Available from: <http://doi.org/10.1037/cbs0000305>
- [18] Dumas TM, Ellis W, Litt DM. What does adolescent substance use look like during the COVID-19 pandemic? Examining changes in frequency, social contexts, and pandemic-related predictors. *J Adolesc Health*. 2020;67(3):354-361. Available from: <http://doi.org/10.1016/j.jadohealth.2020.06.01>
- [19] Riazi NA, Battista K, Duncan MJ, Wade TJ, Pickett W, Ferro MA, et al. Stronger together: coping behaviours and mental health changes of Canadian adolescents in early phases of the COVID-19 pandemic. *BMC Public Health*. 2023 Feb 13;23(1):319. Available from: <https://doi.org/10.1186/s12889-023-15249-y>
- [20] Williams GC, Patte KA, Ferro MA, Leatherdale ST. Associations between longitudinal patterns of substance use and anxiety and depression symptoms among a sample of Canadian secondary school students. *Int J Environ Res Public Health*. 2021 Oct 5;18(19):10468. Available from: <http://doi.org/10.3390/ijerph181910468>
- [21] Hines LA, Cannings-John R, Hawkins J, Bonell C, Hickman M, Zammit S, Adara L, Townson J, White J. Association between cannabis potency and mental health in adolescence. *Drug Alcohol Depend*. 2024 Aug 1;261:111359. Available from: <http://doi.org/10.1016/j.drugalcdep.2024.111359>
- [22] Rimes KA, Goodship N, Ussher G, Baker D, West E. Non-binary and binary transgender youth: Comparison of mental health, self-harm, suicidality, substance use and victimization experiences. *Int J Transgend*. 2017 Sep 18;20(2-3):230-240. Available from: <http://doi.org/10.1080/15532739.2017.1370627>
- [23] Veale JF, Watson RJ, Peter T, Saewyc EM. Mental health disparities among Canadian transgender youth. *J Adolesc Health*. 2017 Jan;60(1):44-49. Available from: <http://doi.org/10.1016/j.jadohealth.2016.09.014>

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