

Adolescent Cannabis Use and Psychological Distress from 2013 to 2023: A Population-Based Study in Ontario, Canada



JUST SIX
QUESTIONS
RESEARCH
SUMMARY

“Psychological distress increased markedly among adolescents from 2013 to 2023. Adolescent cannabis use is significantly associated with psychological distress, especially among females, and this association increased in magnitude over the study period, especially for those using most frequently. Policymakers should prioritise cannabis prevention strategies that aim to reduce frequency of use, limit potency and delay age of initiation, particularly among females” (p. 10).

1. WHAT IS THE RESEARCH ABOUT?

This research focuses on the **association of cannabis use with psychological distress** (which includes symptoms of anxiety and depression) among adolescents in Ontario. Psychological distress is one of the leading causes of disability worldwide and has been rising quickly among adolescents in recent years. Understanding what factors may contribute to this rise is important for supporting youth wellbeing and preventing longer-term mental health challenges. Adolescence is a critical period for brain development; while some studies suggest a link between cannabis use and mental health concerns, the evidence has been mixed, making it unclear how cannabis use and psychological distress are related.

This relationship is increasingly important to understand because cannabis has become much more potent, meaning it now contains higher levels of tetrahydrocannabinol (THC), the main chemical component that affects the brain. Many earlier studies were based on older data that may not reflect the current realities youth face. The study examines whether the relationship between cannabis use and psychological distress among adolescents has changed over time, whether it differs by sex, and whether starting cannabis use at a younger age is linked to higher distress.

2. WHERE DID THE RESEARCH TAKE PLACE?

This study used data from the Ontario Student Drug Use and Health Survey (OSDUHS), a high-quality, population-based survey that is representative of secondary school students in Ontario, Canada.

3. WHO IS THIS RESEARCH ABOUT?

This study included a sample of 32,110 Ontario students from grades 7 to 12 enrolled in four publicly-funded school sectors.

4. HOW WAS THE RESEARCH DONE?

The Ontario Student Drug Use and Health Survey data was collected during regular class times and took students about 30 minutes on average to complete. The surveys were anonymous.

This study included **data from surveys** administered in 2013, 2015, 2017, 2019, and 2023. The 2021 survey was excluded because COVID-19 disruptions meant the data were not comparable to other years.

The researchers used **statistical models** to estimate how common psychological distress was among youth with different levels of cannabis use, accounting for specific factors measured by the survey, including:

- Year the survey was completed.
- How often students used cannabis in the past 12 months (options included *never used*; *used 1-2 times*; *used 3-9 times*; *used 10-39 times*; and *used 40 or more times*).
- How often students had felt nervous, hopeless, depressed, or overwhelmed in the past month to determine psychological distress, which was measured using the Kessler 6-item psychological distress scale (K6); higher scores (i.e., a score of 13 or higher) indicate anxiety/depression symptoms.

- Student age, socio-economic status, past-year cigarette use, and past-year alcohol use.
- Student sex assigned at birth (male or female).
- Grade students were in when they first tried cannabis (ranging from Grade 4 or earlier to Grade 12) or if they had never tried it.

The researchers **examined whether patterns changed** over time and by sex assigned at birth, and whether starting cannabis at a younger school grade was linked to higher distress later in life.

5. WHAT ARE THE KEY FINDINGS?

The researchers learned that **psychological distress** among Ontario youth *increased* over time, rising from **10.7%** in 2013 to **27.4%** in 2023. During that same period, **cannabis use decreased**, from **23.1%** in 2013 to **17.6%** in 2023.

However, **youth who used cannabis were more likely to report psychological distress** than those who did not use cannabis.

- Youth who used cannabis *40 or more times* in the past year had a **31%** higher prevalence of psychological distress compared to non-users.
- Among **females**, *all levels* of cannabis use were associated with higher distress.

The association between frequent cannabis use and distress also **strengthened over time**.

- Among Grade 11 and 12 students who had ever used cannabis, **earlier initiation** was linked to *higher* psychological distress.

In 2023, **48.4%** of youth who used cannabis reported using it to **cope** with psychological distress. **Females** were more likely to report using cannabis in this way. In fact, **50.5%** of youth who used cannabis reported an **unmet need for professional mental health care**, with females who used cannabis *40 or more times* in the past year reporting the *highest* unmet needs.

6. WHY DOES THIS RESEARCH MATTER FOR YOUTH WORK?

Over the past decade, the link between cannabis use and psychological distress has grown stronger over time, particularly among youth who use cannabis frequently. The findings suggest that many young people, especially females who use cannabis often, **may be using cannabis to cope with psychological distress, while at the same time experiencing unmet needs for professional mental health care**. This highlights a group of youth who may be struggling with mental health concerns but not accessing formal supports.

The authors emphasize that youth who experience both cannabis use and psychological distress may be *less likely* to seek or access mental health services, due to factors such as stigma, negative past experiences with providers, or systemic barriers. They also note that **earlier initiation of cannabis use is associated with higher psychological distress, which raises concerns given ongoing adolescent brain development and increasing cannabis potency**.

While the study does not establish cause and effect, the authors conclude that, based on a precautionary approach, **prevention efforts should aim to reduce how often cannabis is used, decrease the potency of cannabis products, and delay the age at which young people first use cannabis, particularly among females**.

- Q McDonald, A. J., Doggett, A., Bondy, S. J., Colman, I., Cook, S., Hamilton, H. A., Kurdyak, P., Leatherdale, T. S., Myran, T. D., Rehm, J., Wickens, M. C., MacKillop, J., & Halladay, J. (2026). [Adolescent cannabis use and psychological distress from 2013 to 2023: A population-based study in Ontario, Canada. *Addiction*](#).