

APRIL 2024

Perceptions and Opinions Relating to Cannabis in Minnesota

What data tell us about people's thoughts on cannabis prior to legalization

Colin Planalp, MPA, *Cannabis Research Center and State Health Access Data Assistance Center*
Robert Hest, MPP, and Andrea Stewart, MA, *State Health Access Data Assistance Center*

Summary

Using data from the National Survey on Drug Use and Health (NSDUH), this brief examines data on people's perceptions and opinions related to cannabis prior to its 2023 legalization in Minnesota: How easy or hard it would be to obtain cannabis, the level of risk associated with smoking cannabis, and whether people disapprove of cannabis use by adults and youth. It also provides background and context on U.S. and Minnesota cannabis policy.

Companion Brief

To read our associated cannabis brief using other NSDUH data, visit the [SHADAC](#) or [CRC](#) websites.

In the past decade, the United States' cannabis policy landscape has changed dramatically, and those changes have coincided with evolving public opinion and perceptions on cannabis. For instance, the polling firm Gallup has noted a sizable increase in the percentage of people in the U.S. who support legalization of marijuana, another commonly used name for cannabis, rising from almost 50% of people in 2012, when the first states voted to legalize cannabis, to 70% in 2023.¹

Since cannabis was prohibited in the U.S. under the Controlled Substances Act in the 1970s, it has been the subject of various waves of reform. These reforms have included decriminalization efforts to reduce or remove certain legal penalties and development of state medical cannabis programs allowing cannabis to be used similarly to a prescription medication. Most recently, the U.S. has seen a wave of states legalizing non-medical cannabis for use by adults, starting with Colorado and Washington in 2012. Currently, a majority of the U.S. population lives in a state that has legalized adult-use cannabis, with 24 states having legalized adult-use cannabis by the end of 2023.²

But the legal status of cannabis is not the only factor that may affect people's behavior. People's opinions and perceptions about cannabis are also important to understand, as they can offer hints about the possible results of legalization.

This brief provides data on Minnesotans' opinions and perceptions relating to cannabis *prior* to legalization, as well as context and interpretation. This information may be useful for Minnesota policymakers as they set and refine the state's regulatory framework surrounding cannabis, as well as for the people of Minnesota as they navigate a changing landscape and new choices that come with the lifting of decades of cannabis prohibition.

To produce this report, we used data from the National Survey on Drug Use and Health (NSDUH), a survey sponsored by the U.S. Substance Abuse and Mental Health Services Administration (SAMHSA). It presents data for both Minnesota and the U.S. as a whole. In a related report, also using the NSDUH, we published data on prevalence of cannabis use in Minnesota — including by adults and youth — cannabis use disorder (i.e., addiction), and driving under the influence of cannabis.³

Background

While Minnesota and almost half of the 50 states have legalized adult use of non-medical cannabis, the legal status of cannabis in the U.S. remains complex.⁴ The federal government still classifies "marijuana" (i.e., psychoactive cannabis) — particularly its main psychoactive chemical, delta-9-tetrahydrocannabinol (THC) — as a Schedule I controlled substance, making it among the most legally restricted drugs in the eyes of the U.S. government.⁵ An exception to federal cannabis prohibition was introduced by Congress with the 2018 Farm Bill, which removed hemp from the schedule of Controlled Substances, defining legal hemp as having 0.3% delta-9 THC or less. That policy change opened the door to national sales of legal hemp-derived products, including some with intoxicating levels of THC.⁶

These details are important in the context of Minnesota. Prior to the state’s 2023 legalization of cannabis more broadly, the legislature in 2022 formalized the legal status under state law of the sale and production of hemp-derived THC products, specifically edibles and non-alcoholic beverages.⁷ That state legislation from 2022 included little regulatory structure. However, the state’s 2023 cannabis legalization legislation will bring those hemp-derived THC products, as well as forthcoming cannabis product sales, under the purview of a new Office of Cannabis Management agency, with increased regulations and controls.

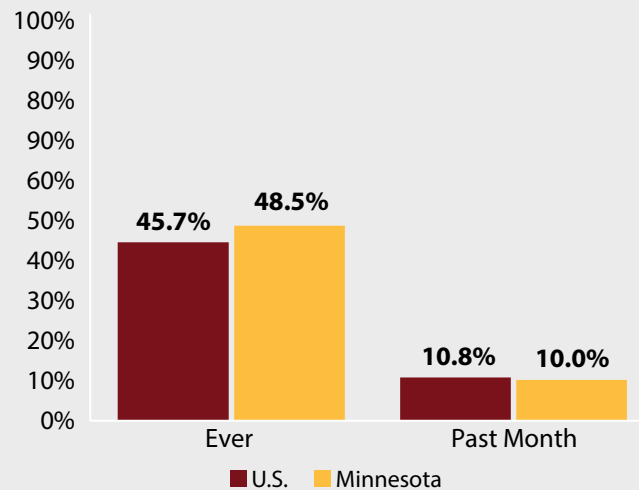
To understand the pre-legalization landscape of cannabis in Minnesota, it is necessary to use data collected *before* cannabis and hemp-derived THC policy began to change in the state. Thus, for this report we use data from the 2018-2019 NSDUH. Though Minnesota began a medical cannabis program in 2015, prior to these data, the program’s enrollment is relatively small and not a focus of this report. In interpreting the data, it is worth considering that some data may underestimate true population rates, as survey respondents are frequently reluctant to report behaviors that are illegal or may be perceived as objectionable (e.g., purchasing and using cannabis). We also present comparisons between Minnesota and the U.S. as a whole.⁸

Past-month cannabis use

Many of the concerns about cannabis legalization hinge on the assumption that consumption will increase if it is no longer prohibited — and that increased consumption will result in greater public health harms. For that reason, it is helpful to understand how prevalent cannabis use was in Minnesota before legalization. Those data also are useful because they provide context to help interpret data on people’s perceptions and opinions about cannabis.

According to the 2018–2019 NSDUH, nearly half of people ages 12 and older in both Minnesota and the U.S. (48.5% and 45.7%, respectively) reported having used cannabis at some point in their lives. However, use of cannabis in the past 30 days was much less common. For Minnesota’s overall youth and adult population (age 12 and older), only 10.0% reported using cannabis in the past 30 days, which was not significantly different from the U.S. rate of 10.8% (significance not shown in chart).⁹

Table 1: U.S. and Minnesota Rates of Cannabis Use for Ages 12 and Older, 2018-2019



Source: SHADAC/CRC analysis of NSDUH restricted-use data

Perceptions and opinions relating to cannabis use

Knowing that almost half of Minnesota’s population reports having used cannabis some point in their lives but only one-tenth report using it in the past 30 days, it seems plausible that legalization could induce some people to try cannabis for the first time or enable some people to use it more frequently. Interest in cannabis is not uncommon, but relatively few people appear to have used it regularly before legalization. Some studies of other states have found that cannabis use has grown after legalization, and rates of cannabis use were already increasing in Minnesota prior to its 2023 legalization.^{10,11} Still, any effects of legalization in Minnesota remain to be seen.

The reasons that individuals might limit their use of cannabis or abstain from it entirely are numerous and may include concerns about legal consequences, pressure from social disapproval, worries about health risks, and limited access to cannabis. Some of those factors may be affected by Minnesota’s legalization of adult-use cannabis, but precisely how these factors might change remains unclear, as the position of cannabis in American society is complex and dynamic. For instance, while Minnesota law no longer prohibits use of cannabis by adults, people can still face a range of penalties under *federal* law for using possessing or using it. And though years of public polling have shown a large and growing share of Americans support legalization of cannabis, many people still disapprove of cannabis use.

To help understand people’s perceptions and opinions related to cannabis use, we analyzed pre-legalization data on three topics:

- Ease or difficulty of obtaining cannabis under a policy of prohibition
- Perceived risk of smoking cannabis on a weekly basis
- Disapproval, or lack of disapproval, of cannabis use by adults (age 18 and older) and youth (age 12-17)

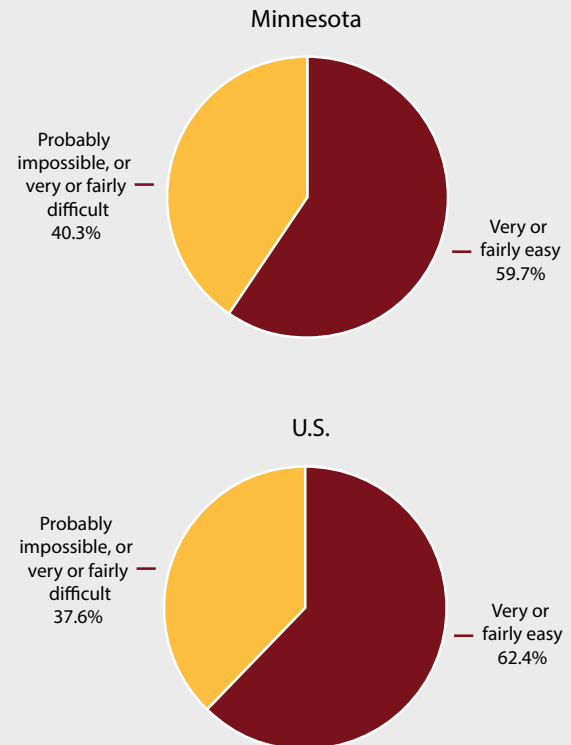
Ease of obtaining cannabis

Minnesota’s legalization legislation created multiple pathways for people to legally obtain cannabis. Starting in 2023, the state began to allow people to grow limited amounts of cannabis for personal use. Also beginning in 2023, people could legally give away limited amounts of cannabis for free. Although state law authorized eventual legal retail sales of cannabis, those sales will not begin until the newly established Office of Cannabis Management creates a regulatory and licensing framework for the state’s cannabis industry.

At some yet undetermined point in the future, when the regulatory and licensing framework has been created and implemented, retail cannabis shops are expected to open in Minnesota, where adults will be able to purchase cannabis for personal use, similar in concept to liquor stores where alcohol is sold. If the proliferation of cannabis shops, commonly called dispensaries, results in cannabis becoming much easier to obtain than before legalization, that presumably could lead to an increase in consumption. Alternatively, if the beginning of retail sales only makes cannabis a bit easier to obtain than before legalization, then consumption may increase by a smaller amount, or perhaps not at all. Research on this question will be needed after legal sales begin in Minnesota.

To anticipate how cannabis use may change once retail sales begin, it is important to understand how easy or difficult it was for people to obtain cannabis before legalization. Our analysis of survey data from 2018-2019 found that most people ages 12 and older in both Minnesota and the U.S. said it would be very or fairly easy for them to obtain cannabis.¹² In Minnesota, 59.7% reported that cannabis would be very or fairly easy to obtain, compared to 62.4% for the U.S., a difference that was not statistically significant (significance not shown in chart).

Table 2: U.S. and Minnesota Perceptions of Ease or Difficulty in Obtaining Cannabis, 2018-2019



Source: SHADAC/CRC analysis of NSDUH restricted-use data

Perceived risks of cannabis use

Scientific research and evidence on the health risks of cannabis use is limited, largely a consequence of the federal government’s prohibition of cannabis as a Schedule I controlled substance and the resulting tight restrictions on conducting research. However, some of the existing research shows that cannabis use — whether recreational or medicinal — has been linked to some health and other risks.¹³ For instance, studies suggest that cannabis users have an almost 10% chance of developing cannabis use disorder, the medical term for a cannabis addiction diagnosis, and the risk increases for people who start using cannabis as youth.^{14,15} While there is some evidence regarding medical benefits of cannabis use, little is known about any potential health benefits for non-medical use of cannabis.¹⁶

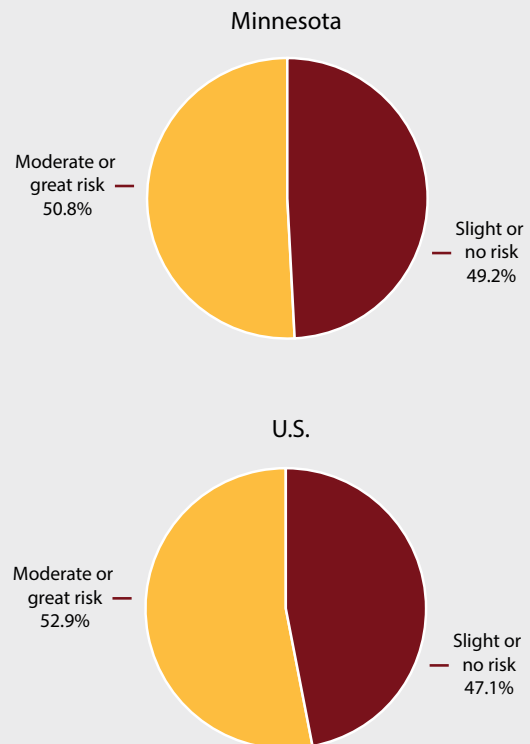
Similar to perceptions about the ease of obtaining cannabis, perceptions of risk regarding cannabis use may give us insight into how use might change once legal sales begin. If most people believe cannabis use to be highly risky, those inhibitions could limit the influence of legalization on consumption.¹⁷ Alternatively, if most people believe cannabis use carries little risk, legalization could facilitate increased consumption.

It is also important to acknowledge that the act of legalizing cannabis could itself influence people’s perceptions of risk. For instance, some people might interpret legalization and regulation of cannabis to be tacit endorsement by the State of Minnesota of its safety. And if people suddenly see friends and family using cannabis without immediate or obvious harmful consequences, they might question how risky they believe cannabis use to be.

Our analysis uses people’s responses to the NSDUH’s question, “How much do people risk harming themselves physically and in other ways when they smoke marijuana once or twice a week?” The particular wording of this question should be considered when interpreting data on people’s responses. One limitation is that the question does not specifically define kinds of risk, leaving uncertainty as to what survey respondents were considering as ‘risk’ when answering the question. Another limitation is that the question specifies risks of *smoking* marijuana, which only represents one way that people use cannabis — excluding, for instance, edible forms.

We found that roughly half of the people ages 12 and older in Minnesota and the U.S. said they thought there was only slight or no risk to smoking cannabis once or twice a week. In Minnesota, 49.2% reported only slight or no risk to smoking cannabis once or twice a week, compared to 47.1% for the U.S., a difference that was not statistically significant (significance not shown in chart).

Table 3: U.S. and Minnesota Perceptions of Risk in Smoking Cannabis Once or Twice a Week, 2018-2019



Source: SHADAC/CRC analysis of NSDUH restricted-use data

While scientific research has yet to definitively answer questions about precise level of risk associated with using cannabis in different forms and in different quantities or frequencies, it is likely not without any risk. For example, regarding smoking cannabis, there are particular risks associated with inhaling the fine particulate matter that accompanies the combustion of practically any material, which can contribute to a range of health conditions, including lung and heart disease.^{18,19}

Disapproval of cannabis use

Another factor that can influence people’s substance use, including use of cannabis, is whether it has social acceptability or disapproval. For instance, research has found that disapproval by parents and peers can reduce youth use of cannabis.²⁰ For this report, we analyzed data from survey questions asking whether people disapprove of youth (age 12-17) and adults (age 18 and older) trying cannabis once or twice.

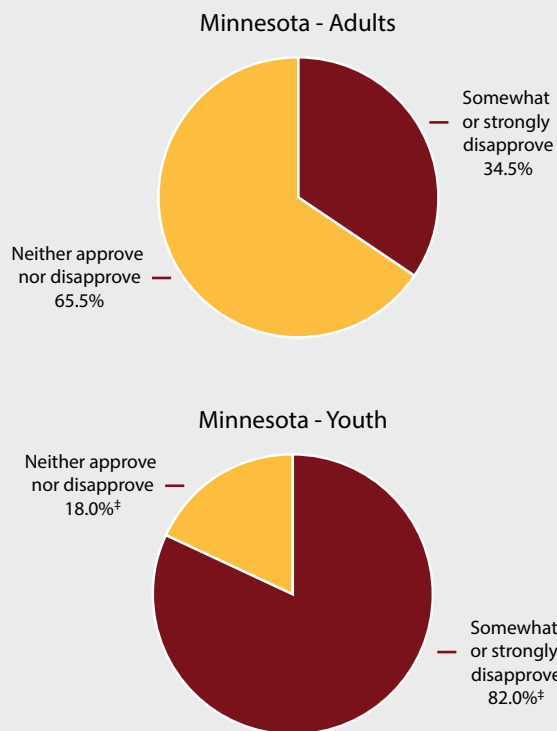
The NSDUH survey asked youth respondents (age 12-17) how they felt about someone “your age” using cannabis once or twice, while it asked adult respondents (age 18 and older) how they felt about “adults” using cannabis once or twice.²¹

The distinction between adults and youth is relevant to Minnesota because the state’s cannabis legalization law ended state prohibitions on cannabis for possession and use by adults (age 21 and older), but it kept cannabis prohibitions for people age 20 and younger. While the survey ages don’t correspond exactly to Minnesota’s cannabis legalization age limit, the survey data can still offer a glimpse of how people view cannabis use by youth and adults — and whether opinions differ for those groups. For reference, in an earlier paper, we reported that Minnesota youth (age 12-20) and adults (age 21 and older) reported using cannabis at similar rates prior to legalization (12.7% and 9.6%, respectively, which was not a statistically significant difference).²²

Our analysis found that Minnesota youth (age 12-17) were much more likely to disapprove of their peers using cannabis than Minnesota adults (age 18 and older) were of adults using cannabis. Only 34.5% of Minnesota adults said they somewhat or strongly disapproved of cannabis use by adults, while 82.0% of Minnesota youth said they somewhat or strongly disapproved of use by youth, a statistically significant difference.²³

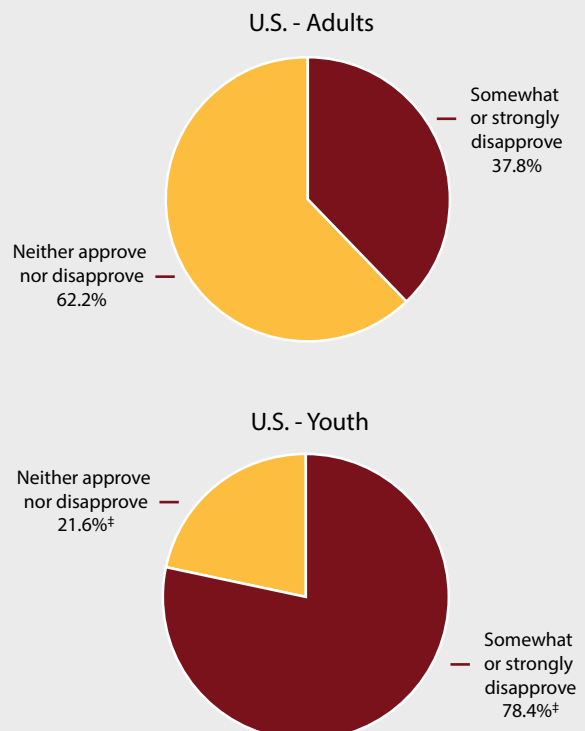
The pattern was similar for the U.S., with 37.8% of adults reporting they disapproved of adults using cannabis, and 78.4% of youth reporting they disapproved of youth using cannabis, which was a statistically significant difference. There were no statistically significant differences between Minnesota and U.S. rates of disapproval of cannabis use by adults or youth (testing not shown in charts).

Table 4: Minnesota Disapproval of Cannabis Use by Adults and Youth, 2018-2019



Source: SHADAC/CRC analysis of NSDUH restricted-use data
[‡] Youth rate significantly different from adult rate at 95% level

Table 5: U.S. Disapproval of Cannabis Use by Adults and Youth, 2018-2019



Source: SHADAC/CRC analysis of NSDUH restricted-use data
[‡] Youth rate significantly different from adult rate at 95% level

Conclusions and discussion

Minnesota's legalization of cannabis marked a landmark change in drug policy for the state, as well as one with potential public health implications. Many of the concerns about potential negative effects of legalization depend on the assumption that cannabis use will increase when it is no longer prohibited. However, it is not yet clear whether cannabis use will increase.

Additionally, there are other factors that might influence the public health implications of cannabis use. For instance, because the health risks of many substances — from alcohol and tobacco to Tylenol — tend to increase with dose and duration of use, an increase in people using cannabis frequently or in large amounts may have greater health impacts than an increase in people using cannabis occasionally or in small amounts. And an increase in cannabis use by youth may have different implications than an increase by adults, since research suggests that cannabis may have a variety of negative effects on developing brains.²⁴

This report is aimed at offering data to help policymakers and the people of Minnesota to anticipate how cannabis use might change under legalization, and how changes might affect public health. The survey data we present show that most Minnesotans already found cannabis easy to obtain prior to legalization, which raises various questions. For instance, if most people already found cannabis easy to obtain prior to legalization, will legal commercial sales have much impact on consumption? The answer may depend, in part, on whether the changing legal status of cannabis also changes social norms and people's perceptions about cannabis, such as reducing social stigma associated with cannabis use.

Also, given that roughly half of Minnesotans reported thinking that smoking cannabis entails no risk or only slight risks, will people who didn't previously use cannabis regularly begin to use it more frequently? And for youth, will disapproval of underage cannabis use — paired with legal age limits — mitigate the possibility of increased underage cannabis use?

While there are many questions that can only be answered with time and further study, the data in this report can help us begin to anticipate potential effects of cannabis legalization while simultaneously highlighting specific areas that will require more research as Minnesota's cannabis policy develops and legal sales begin.

About the Cannabis Research Center

In 2023, the Minnesota State Legislature passed H.F. 100, legalizing cannabis in Minnesota for non-medical use for individuals age 21 and older. This followed legislation establishing the state's medical cannabis program a decade earlier. As part of the 2023 law, the legislature designated funding to the University of Minnesota School of Public Health to establish a Cannabis Research Center (CRC).

The CRC strives to understand the public health implications of cannabis legalization. To accomplish its mission, the center will:

- Provide, interpret, and disseminate research to guide policy and practice related to cannabis.
- Conduct timely, cutting-edge research on the positive and negative public health effects of legalization.
- Study issues pertaining to equity in cannabis production, sales, marketing, and use.
- Address research questions asked by community members and leaders, policymakers, and other Minnesota partners.
- Train and support future practitioners and scholars to study cannabis policy and its effects on health and health equity.

To learn more about the Cannabis Research Center, visit <https://www.sph.umn.edu/research/centers/cannabis>.



Cannabis
Research Center

UNIVERSITY OF MINNESOTA

References

- ¹ Saad, L. (2023, November 8). Grassroots Support for Legalizing Marijuana Hits Record 70%. *Gallup*. <https://news.gallup.com/poll/514007/grassroots-support-legalizing-marijuana-hits-record.aspx>
- ² Cannabis Finance and Policy Bill, Laws of Minnesota 2023, Chapter 63, HF100; <https://www.revisor.mn.gov/laws/2023/0/Session+Law/Chapter/63/>
- ³ Planalp, C, Hest, R, Stewart, A. (2024). Public Health Implications of Cannabis Policy in Minnesota. Cannabis Research Center and State Health Access Data Assistance Center (SHADAC). <https://www.shadac.org/sites/default/files/publications/PH%20Implications%20of%20Cannabis%20in%20MN.pdf>
- ⁴ Even more states — most states, in fact — allow some form of medical-use cannabis.
- ⁵ Because the federal government’s classification scheme for controlled substances is often misunderstood, it is useful to explain how drugs are categorized in the “schedules.” If and whether a drug is scheduled as a controlled substance is not determined by its level of “danger” in terms of risk of overdose death or other short-term injury. Instead, the scheduling framework entails two distinct and unrelated components: 1) potential for abuse and dependence (i.e., addiction), and 2) federally recognized accepted medical use.
- Substances that the federal government deems to have the highest potential for abuse and dependence are listed as Schedule I or Schedule II controlled substances, while those in Schedules III, IV, and V are deemed to have decreasing potential for abuse and dependence. Drugs without a sufficient recognized potential for abuse and dependence (e.g., Tylenol, ibuprofen) are not categorized on the schedule of controlled substance. Notably, alcohol is not subject to the scheduling regime under the Controlled Substances Act.
- While substances in Schedule I and Schedule II are considered to have the highest potential for abuse and dependence, the factor that differentiates them is whether a given substance has federally accepted medical uses. Regardless of the fact that most states allow for medical use of marijuana for treatment of a variety of health conditions, the federal government does not recognize any approved medical uses of the drug, leading it to list the substance as Schedule I—thus prohibiting it outright. As another example, the drug cocaine also is considered to have among the highest potential for abuse and dependence, but because the federal government recognizes legitimate medical use of the drug (e.g., as a local anesthetic), cocaine is listed as a Schedule II controlled substance, meaning that it is highly restricted and prohibited for non-medical use, but it can be used for approved health care purposes.
- ⁶ The distinction between psychoactive cannabis (“marijuana” in the language of the federal government) and hemp is nuanced. For decades, cannabis of any form was prohibited as a Schedule I substance by the U.S. under the Controlled Substances Act. But the 2018 Farm Bill removed prohibitions on hemp, which the new federal legislation defined as cannabis with concentrations of delta-9 THC at no more than 0.3%. Cannabis with higher concentrations of delta-9 THC remains prohibited by federal government. Notably, hemp and psychoactive cannabis (i.e., marijuana) are both forms of the same cannabis plant, with the critical distinction being the level of THC it contains. Both hemp and psychoactive cannabis also contain a number of other compounds, such as cannabidiol (CBD) and other forms of THC that are similar to, but distinct from, delta-9 THC.
- ⁷ Sale of Certain Cannabinoid Products, Laws of Minnesota 2023, Chapter 151, Section 151.72. <https://www.revisor.mn.gov/statutes/cite/151.72>
- ⁸ There can be various approaches to selecting comparison groups in public health and policy research. For this report, we chose to compare Minnesota rates to the overall U.S. rate as a benchmarking approach that is accessible to a broader audience. In using that approach, it is important to acknowledge that since 2014, the U.S. estimates include both states that had legalized cannabis and states where cannabis remained prohibited. Where we compare estimates for distinct groups (e.g., Minnesota youth versus Minnesota adults), we employ an independent samples t-test to determine whether differences are statistically significant; where we compare Minnesota estimates to U.S. estimates, we employ a dependent samples t-test to account for the fact that Minnesota is part of the U.S.
- ⁹ As noted in charts, this report employed statistical testing using t-tests conducted at the 95% confidence level. The word “significant” is only used where we conducted statistical testing and the results were statistically significant.
- ¹⁰ Zellers, S, Ross, M, Saunders, G, Ellingson, J, Anderson, J, Corley, R, Iacono, W, Hewitt, J, Hopfer, C, McGue, M, Vrieze, S. (2022). Impacts of recreational cannabis legalization on cannabis use: a longitudinal discordant twin study. *Addiction*, 118(1), 110-118. <https://doi.org/10.1111/add.16016>
- ¹¹ Planalp, C, Hest, R, Stewart, A. (2024). Public Health Implications of Cannabis Policy in Minnesota. Cannabis Research Center and State Health Access Data Assistance Center (SHADAC). <https://www.shadac.org/sites/default/files/publications/PH%20Implications%20of%20Cannabis%20in%20MN.pdf>
- ¹² Question: “How difficult or easy would it be for you to get some marijuana, if you wanted some?” With response options of: Probably impossible/ Very Difficult/ Fairly Difficult/ Fairly easy/ Very easy
- ¹³ National Academies of Sciences, Engineering, and Medicine. (2017). The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research. *The National Academies Press*. <https://doi.org/10.17226/24625>
- ¹⁴ Lopez-Quintero, C, Pérez de los Cobos, J, Hasin, D, Okuda, M, Wang, S, Grant, B, Blanco, C. (2011). Probability and predictors of transition from first use to dependence on nicotine, alcohol, cannabis, and cocaine: Results of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). *Drug and Alcohol Dependence*, 115(1-2), 120-130. <https://doi.org/10.1016/j.drugalcdep.2010.11.004>
- ¹⁵ Winters, K, Lee, CY. (2008). Likelihood of developing an alcohol and cannabis use disorder during youth: Association with recent use and age. *Drug and Alcohol Dependence*, 92(1-3), 239-247. <https://doi.org/10.1016/j.drugalcdep.2007.08.005>
- ¹⁶ Levine, R, United States Assistant Secretary for Health. Department of Health and Human Services (HHS). (2023). Basis for the Recommendation to Reschedule Marijuana Into Schedule III of the Controlled Substances Act. <https://www.dropbox.com/scl/fo/pw3rfs9gm6lg80ij9tja6/2023-01171-Supplemental-Release-1.pdf?rlkey=v5atj0tcnhxhszyzcwcdcvvt&e=1&dl=0>

- ¹⁷ Yang, E, Oh, SK, Kim, S, Chung, IJ. (2022). The influence of parent and peer disapproval on youth marijuana use mediated by youth risk perception: Focusing on the state comparison. *Drug and Alcohol Dependence*, 240. <https://doi.org/10.1016/j.drugalcdep.2022.109641>
- ¹⁸ Nguyen, P, Hammond, S. (2022). Fine Particulate Matter Exposure From Secondhand Cannabis Bong Smoking. *JAMA Network Open*, 5(3). <https://doi.org/10.1001/jamanetworkopen.2022.4744>
- ¹⁹ Environmental Protection Agency. (2023). Health and Environmental Effects of Particulate Matter (PM). <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>
- ²⁰ Yang, E, Oh, SK, Kim, S, Chung, IJ. (2022). The influence of parent and peer disapproval on youth marijuana use mediated by youth risk perception: Focusing on the state comparison. *Drug and Alcohol Dependence*, 240. <https://doi.org/10.1016/j.drugalcdep.2022.109641>
- ²¹ Adult question (respondents age 18 and older): "How do you feel about adults trying marijuana or hashish once or twice?" With responses options of: Neither approve nor disapprove/ Somewhat disapprove/ Strongly disapprove
- Youth question (respondents age 12-17): "How do you feel about someone your age trying marijuana or hashish once or twice?" With responses options of: Neither approve nor disapprove/ Somewhat disapprove/ Strongly disapprove
- ²² Planalp, C, Hest., R, Stewart, A. (2024). Public Health Implications of Cannabis Policy in Minnesota. Cannabis Research Center and State Health Access Data Assistance Center (SHADAC). <https://www.shadac.org/sites/default/files/publications/PH%20Implications%20of%20Cannabis%20in%20MN.pdf>
- ²³ The NSDUH only offered survey respondents three options for reporting their opinion of cannabis use: strongly disapprove, somewhat disapprove, and neither disapprove nor approve. Respondents could not respond that they approved of cannabis use.
- ²⁴ National Academies of Sciences, Engineering, and Medicine. (2017). The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research. *The National Academies Press*. <https://doi.org/10.17226/24625>