

The State of Youth Marijuana Use:

Trends in the Prevalence and Harms of Youth Marijuana Use in the United States

2026-2027

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Forge ahead despite your pain and give meaning to your loss.

—Laura Stack

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First Paperback Edition

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Executive Summary

Chapter 1. Marijuana Use and Cannabis Use Disorder

- In 2025, 2.2 million Americans between the ages of 12 and 17, or 8.7% of this age group, used marijuana in the past year, while 1.3 million, or 5.0% of this age group, used marijuana in the past month.[1]
- In 2025, 1.1 million Americans between the ages of 12 and 17, or 4.4% of this age group, had a cannabis use disorder.[2]
- In 2025, 0.9% of 8th graders, 3.1% of 10th graders, and 5.6% of 12th graders used marijuana on a daily basis, defined as use on 20 or more occasions in the past 30 days.[3]

Chapter 2. Risk and Protective Factors Associated with Youth Marijuana Use

- In 2024, youth aged 12–17 who thought that it would be fairly or very easy to obtain marijuana were 10.7 times more likely to have used marijuana in the past month than those who thought otherwise.[4]
- In 2024, youth aged 12–17 who thought there was not a great risk of harm associated with smoking marijuana once or twice a week were 6.5 times as likely to have used marijuana in the past month than those who did.[5]
- The percentage of 12th graders who thought there was a great risk of harm associated with using marijuana regularly increased from 43.3% in 1975 to a high of 78.6% in 1991 before declining to 39.0% in 2025.[6]

Chapter 3. The Correlates of Youth Marijuana Use

- In 2024, 53.6% of 12–17-year-olds who used marijuana in the past year had a substance use disorder (for marijuana, alcohol, or another drug) compared to 2.6% of those who did not use marijuana in the past year. Among 12–17-year-olds who used marijuana on 300 or more days in the past year, 94.2% had a substance use disorder.[7]
- In 2024, 22.7% of 8th and 10th graders who did not use marijuana in the past month said that their average grade in school was an A compared to 9.3% of those who used marijuana in the past month and 3.3% of those who were daily users in the past month. Conversely, 2.9% of those who did not use marijuana in the past month said that their average grade was a D compared to 8.8% of those who used marijuana in the past month and 16.3% of those who were daily users in the past month.[8]
- In 2024, 0.9% of 8th and 10th graders who did not use marijuana in the past month were in 5 or more fights at school or work in the past year compared to 4.3% of those who used marijuana in the past month and 10.8% of those who were daily users in the past month.[9]

Chapter 4. Marijuana-Related Mortality

- Between 1999 and 2024, 21,106 deaths in the United States had an ICD-10 code for marijuana poisoning, a marijuana-related disorder, or both as the underlying or contributing cause of death, of which 3,340 involved individuals aged 24 or younger.[10]

- Between 2015 and 2023, 1,024 individuals aged 0–24 died by suicide in Minnesota; 15.1% (155) of these individuals tested positive for marijuana.[11]
- In Colorado, the percentage of non-natural, non-homicide deaths among residents younger than 25 with toxicology tests that were positive for marijuana increased from 15.0% in 2010 to 37.9% in 2023.[12]

Chapter 5. Marijuana-Related Emergency Department Visits and Inpatient Hospitalizations

- In 2024, there were 1,089,579 marijuana-related emergency department visits, of which 261,499 involved individuals aged 18–25 and 87,166 involved individuals aged 0–17.[13]
- Among past-year marijuana users aged 16–20 in Massachusetts in 2019–2023, 9% said they sought medical treatment in the past year for adverse effects following their marijuana use.[14]
- Between 2016 and 2023, the rate of emergency department visits for marijuana-related poisoning among individuals aged 5–14 in New York State increased from 1.0 per 100,000 people to 14.0 per 100,000 people.[15]

Chapter 6. Additional Outcomes Associated with Youth Marijuana Use

- In 2025, there were 200,960 arrests for the possession of marijuana, of which 56,384 involved individuals aged 20 or younger.[16]
- In 2025, 19.4% of past-year marijuana users aged 16–20 drove under the influence of marijuana in the past year.[17]
- In 2025, 35.8% of 12th graders thought that marijuana use should be entirely legal; 33.2% thought it should be a minor violation but not a crime; 13.1% thought it should be a crime; and 17.9% did not know.[18]

Chapter 7. Interventions

- In FY 2025, there were 543 federally funded Drug-Free Communities (DFC) coalitions, which focus on preventing substance use among minors, across the 50 states, the District of Columbia, Puerto Rico, and Guam.[19]
- In 2023–2024, 68.3% of 12–17-year-olds said they received school-based drug education in the past year.[20]
- Between 2014 and 2024, the number of treatment admissions that recorded marijuana as the primary substance among 12–14-year-olds decreased from 10,472 to 4,708, while the number among 15–17-year-olds decreased from 50,762 to 16,368.[21]

Introduction

The State of Youth Marijuana Use aims to be the most comprehensive overview to date of trends in youth marijuana use and related outcomes. Consistent with Johnny's Ambassadors' long-standing commitment to education and prevention rather than advocacy, the report does not endorse or oppose specific marijuana policies. Instead, the report attempts to present data in a balanced way, allowing readers to come to their own conclusions and use the information however they choose.

Chapter 1 summarizes the latest trends in youth marijuana use, while Chapter 2 examines the risk and protective factors that underlie youth marijuana use. Chapter 3 explores the associations between youth marijuana use and various outcomes, such as mental health, academic performance, antisocial behavior, and the use of additional substances. Chapters 4 and 5 highlight various health-related outcomes, including deaths and emergency department visits. Chapter 6 covers additional topics related to marijuana use, including arrests for the possession of marijuana, individuals driving under the influence of marijuana, and public opinion. Chapter 7 reviews interventions that are focused on preventing the initiation of youth marijuana use and helping current users quit.

The report is primarily focused on youth marijuana use in the United States. However, a few international sources, such as the Canadian Postsecondary Education Alcohol and Drug Use Survey, are referenced for additional context and because they include questions that were not included in American surveys.[1] All of the sources are free and publicly available.

The report builds on several resources about marijuana use, including state-specific reports from various High Intensity Drug Trafficking Areas;[2] the National Organization for the Reform of Marijuana Laws' *Marijuana Research Library*;[3] Smart Approaches to Marijuana's *2026–2027 Impact Report: Lessons Learned from State Marijuana Legalization;*[4] the Opioid Response Network's *The State of Substance Use: Trends in the Prevalence and Harms of Substance Use in the United States*;[5] the annual report from Illinois' Adult Use Cannabis Health Advisory Committee;[6] and marijuana-related reports from the National Academies of Sciences, Engineering, and Medicine.[7,8]

The State of Youth Marijuana Use differs from these resources in a few ways. In addition to national estimates, it provides many state-level estimates, allowing readers to understand conditions in their communities (e.g., parents would not be able to find the percentage of 12–17-year-olds in their state who were approached by someone selling drugs in any of the other resources). Notably, it provides many cross-tabulation analyses that illustrate how marijuana use is associated with other outcomes. It also draws on many sources that were not included in the other reports, including the Department of Education's School Survey on Crime and Safety, the Centers for Disease Control and Prevention's National Violent Death Reporting System, the Our Youth, Our Future survey funded by the National Institute on Drug Abuse, the National Collegiate Athletic Association's Student-Athlete Health and Wellness Study, the position statements of many medical associations, and various public opinion polls, as well as state-level surveys, such as the New Mexico Youth Risk & Resiliency Survey and the Maryland Medical Cannabis Patient Survey, among others.

Of course, the other resources each have their own advantages. *The State of Substance Use* provides a more comprehensive summary of drug-related mortality and the broader drug crisis, while the reports from the National Academies of Sciences, Engineering, and Medicine examine the potential health-related benefits and harms of marijuana in greater detail. The resources from Smart Approaches to Marijuana and the National Organization for the Reform of Marijuana Laws are all-purpose overviews of many contemporary debates about marijuana, with the former focused on the unintended consequences of legalization and the latter focused on the unintended consequences of criminalization. The reports from Illinois' Adult Use Cannabis Health Advisory Committee and the High Intensity Drug Trafficking Areas are thorough but narrow in scope, given that they are focused on specific states.

No single report can capture every aspect of youth marijuana use. Even so, we hope this resource will help readers better understand the available data and support efforts to improve the health and well-being of young people and their communities.

If you would like to learn more about Johnny's Ambassadors and our work, please visit:
https://johnnysambassadors.org/

With gratitude and love,

Laura Stack
Founder
Johnny's Ambassadors

Chapter 1. Marijuana Use and Cannabis Use Disorder

The National Survey on Drug Use and Health (NSDUH), led by the Substance Abuse and Mental Health Services Administration (SAMHSA), and the Monitoring the Future survey (MTF), managed by the National Institute on Drug Abuse (NIDA), are the two primary sources for assessing annual trends in substance use in the United States. The NSDUH covers individuals aged 12 or older, while the MTF survey focuses on 8th, 10th, and 12th graders. NIDA also funds a panel study for 18–65-year-olds, helping to track long-term trends in substance use throughout the life course. The NSDUH is the primary survey used to estimate the prevalence of substance use disorder.

In 2025, the NSDUH estimated that 2.2 million Americans between the ages of 12 and 17, or 8.7% of this age group, used marijuana in the past year, while 1.3 million, or 5.0% of this age group, used marijuana in the past month.[1] It further estimated that 1.1 million Americans between the ages of 12 and 17 had a cannabis use disorder, corresponding to 4.4% of this population.

The 2025 MTF survey estimated that 7.6% of 8th graders, 15.6% of 10th graders, and 25.7% of 12th graders used marijuana in the past year.[2] It also estimated that 0.9% of 8th graders, 3.1% of 10th graders, and 5.6% of 12th graders used marijuana on a daily basis, which it defined as use on 20 or more occasions in the past 30 days. The MTF panel study estimated that the percentage of 18-year-olds who used marijuana in the past year was 33.1% in 1988, 37.5% in 1998, 32.4% in 2008, 35.9% in 2018, and 25.7% in 2025.[3]

The NSDUH also provides state-level estimates by pooling two years of data to ensure each state has a sufficient sample size. In 2023–2024, the five states with the lowest rates of past-year marijuana use among 12–17-year-olds were Utah (6.9%), North Dakota (7.6%), South Dakota (7.8%), Hawaii (8.1%), and Nebraska (8.3%), while the five states with the highest rates were Maine (16.8%), New Mexico (16.4%), Vermont (15.9%), Oregon (14.7%), and Colorado (14.1%).[4]

Additional surveys provide further insights into trends in youth marijuana use, often by asking questions that are not included in the primary national surveys. The Youth Risk Behavior Survey (YRBS), which is led by the Centers for Disease Control and Prevention (CDC) and conducted every other year, surveys secondary students about a range of behaviors, including substance use.[5] While the YRBS does not include data for all 50 states, it includes local data (e.g., trends in Chicago alongside statewide trends in Illinois). Many states, including Colorado and Maine, also conduct their own youth-focused health surveys, which often include questions about marijuana use.

Of note, school-based surveys, including the MTF and YRBS, inevitably miss students who have dropped out or are absent on the day the survey is administered. In turn, given that these student populations have higher rates of substance use, reported survey estimates likely underestimate the true prevalence of use among age cohorts. Even so, the MTF's report examined the likely effects of these omissions and concluded, "while adjustments for absentees and high school dropouts raise drug prevalence levels, as would be expected, they do not raise them substantially," often resulting in an increase of "less than one percentage point."[6]

A. The National Survey on Drug Use and Health

The NSDUH includes data on the civilian, non-institutionalized population aged 12 or older in the 50 states and the District of Columbia. It does not include active-duty military personnel, individuals in institutional settings (e.g., jails), or individuals who do not have a fixed address (e.g., people experiencing homelessness and not in shelters), though it does include individuals in shelters.

In 2025, 16.3% of individuals between the ages of 12 and 17 reported having used an illicit drug (e.g., cocaine, heroin, or marijuana) in their lifetime, while 11.2% used one in the past year and 5.8% used one in the past month (Table 1.1).[7] That year, 11.5% of 12–17-year-olds had ever used marijuana, 8.7% used it in the past year, and 5.0% used it in the past month.

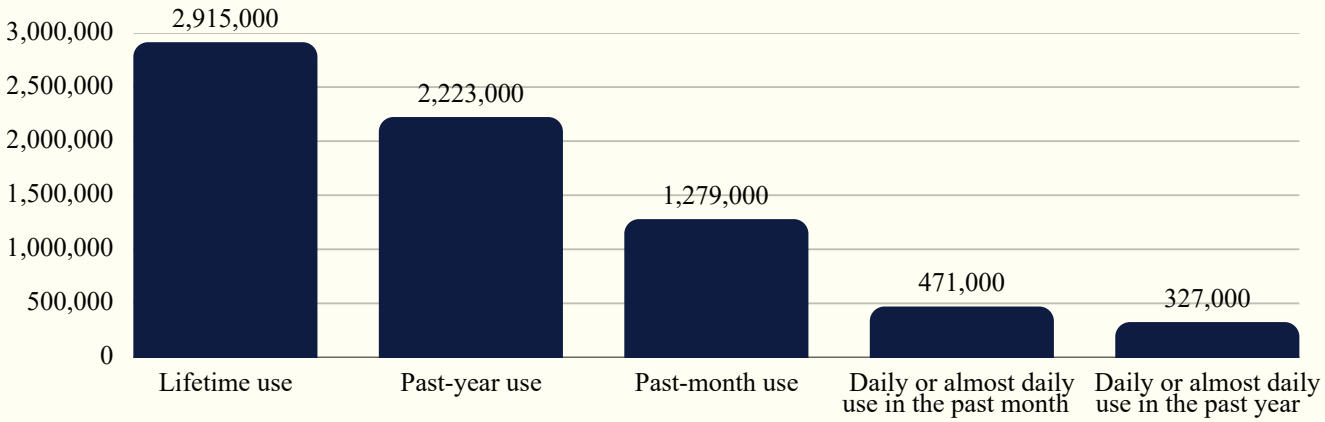
Table 1.1. Substance use among individuals between the ages of 12 and 17, 2025

Drug	Lifetime use	Past-year use	Past-month use	Daily or almost daily use in the past month	Daily or almost daily use in the past year
Any illicit drug	16.3%	11.2%	5.8%	N/A	N/A
Marijuana	11.5%	8.7%	5.0%	1.8%	1.3%
Cocaine	0.4%	0.2%	<0.1%	*	*
Heroin	<0.1%	<0.1%	<0.1%	*	*
Hallucinogens	2.2%	1.4%	0.4%	<0.1%	*
Methamphetamine	0.2%	0.1%	0.1%	0.1%	<0.1%
Alcohol	20.2%	14.8%	5.9%	0.1%	<0.1%
Cigarettes	6.8%	3.4%	1.3%	<0.1%	N/A

* = suppressed by SAMHSA due to low precision.

In 2025, 2.9 million 12–17-year-olds had ever tried marijuana, while 2.2 million used it in the past year and 327,000 used it on a daily or almost daily basis in the past year (Figure 1.1).

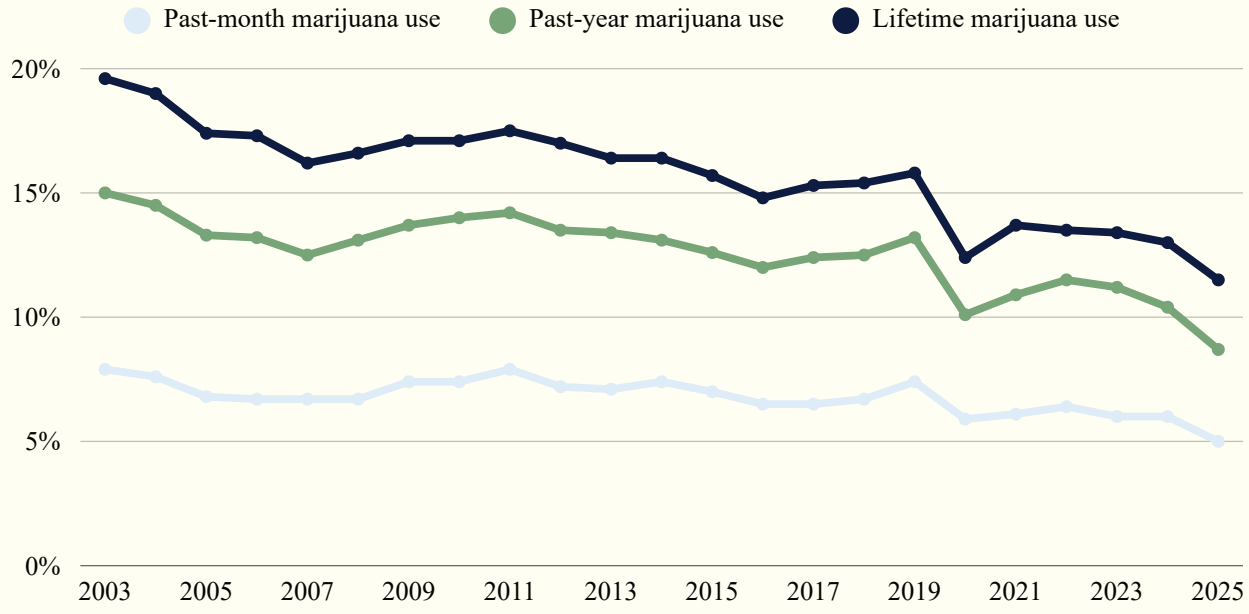
Figure 1.1. Marijuana users between the ages of 12 and 17, 2025



Notes: Per SAMHSA, daily cigarette use includes only respondents who smoked cigarettes on each of the past 30 days. Daily or almost daily use in the past month for other substances was defined as use on 20 or more days in the past month. Daily or almost daily use in the past year for other substances was defined as use on 300 or more days in the past year.

Between 2003 and 2025, the prevalence of lifetime marijuana use among 12–17-year-olds decreased from 19.6% to 11.5% (Figure 1.2).[8,9] Over this period, the prevalence of past-year marijuana use among 12–17-year-olds decreased from 15.0% to 8.7%, while the prevalence of past-month marijuana use decreased from 7.9% to 5.0%. Of note, between 2020 and 2021, the NSDUH switched from conducting in-person interviews to allowing respondents to complete the survey online, so estimates prior to 2021 are not perfectly comparable, though they are nevertheless included to provide a longer-term perspective.

Figure 1.2. Marijuana use among individuals between the ages of 12 and 17, 2003–2025



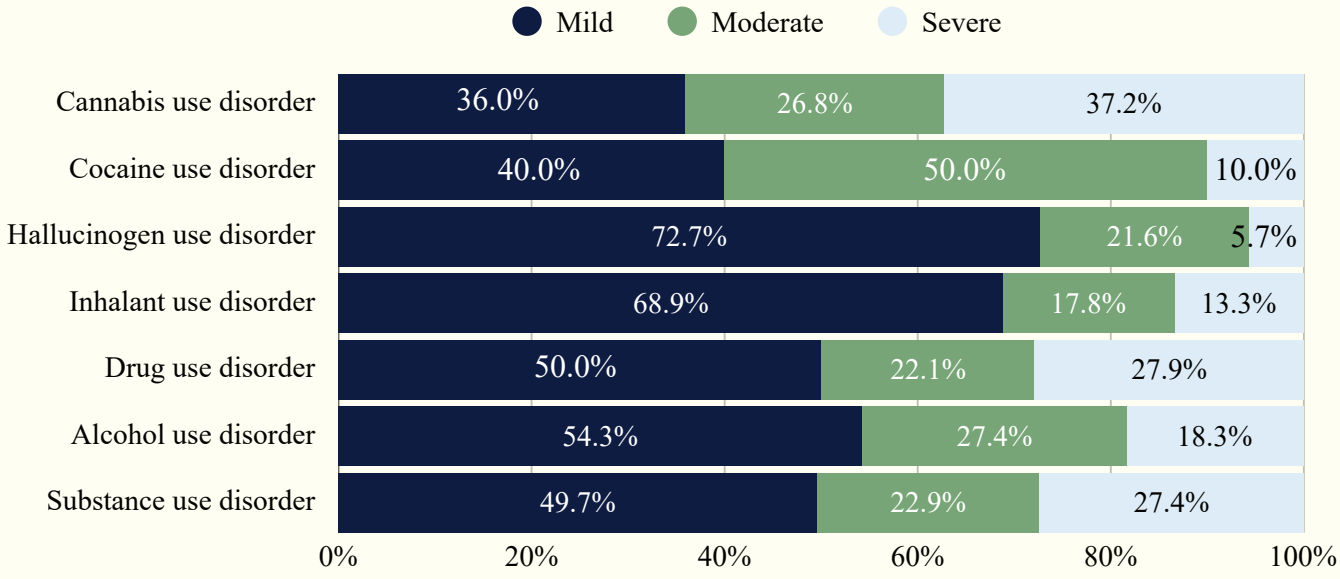
Among past-year users aged 12 or older in 2025, the average number of days of use ranged from a low of 18.9 days for hallucinogens to a high of 219.4 days for heroin, with marijuana at 154.2 days. Among past-month users, the frequency of use ranged from a low of 3.4 days for hallucinogens to a high of 24.1 days for heroin, with marijuana at 16.5 days (Table 1.2).

Table 1.2. Average number of days used among past-month and past-year users aged 12 or older, 2025

Substance	Average number of days used among past-month users	Average number of days used among past-year users
Marijuana	16.5	154.2
Cocaine	8.0	58.0
Heroin	24.1	219.4
Hallucinogens	3.4	18.9
Methamphetamine	20.4	190.3
Alcohol	7.7	79.9
Cigarettes	N/A	N/A

Figure 1.3 highlights the severity of substance use disorders among individuals between the ages of 12 and 17 in 2024, according to data in SAMHSA's Data Analysis System.[10] As outlined in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5), a mild substance use disorder is defined as meeting 2–3 of 11 criteria; a moderate disorder, 4–5 criteria; and a severe disorder, 6 or more criteria within a 12-month period. Among cases of cannabis use disorder in 2024, for example, 36.0% were mild, 26.8% were moderate, and 37.2% were severe.

Figure 1.3. Severity of substance use disorders among individuals aged 12–17, 2024



Substance use disorder criteria

The 11 diagnostic criteria for substance use disorders (SUD) in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5) are:[11]

- Often taking the substance in larger amounts or for longer than intended
- Desiring or unsuccessfully attempting to cut down or stop using the substance
- Spending a great deal of time obtaining, using, or recovering from the substance
- Experiencing cravings and urges to use the substance
- Failing to fulfill major role obligations at work, school, or home due to substance use
- Continuing use despite social or interpersonal problems caused or exacerbated by the effects of the substance
- Giving up or reducing important social, occupational, or recreational activities due to substance use
- Repeatedly using substances in situations in which it is physically hazardous
- Continuing use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance
- Developing a tolerance to the substance (needing an increased amount of the substance to achieve a desired effect or having a diminished effect from the same amount of the substance)
- Experiencing withdrawal symptoms from the substance (or using the substance to avoid experiencing withdrawal symptoms)

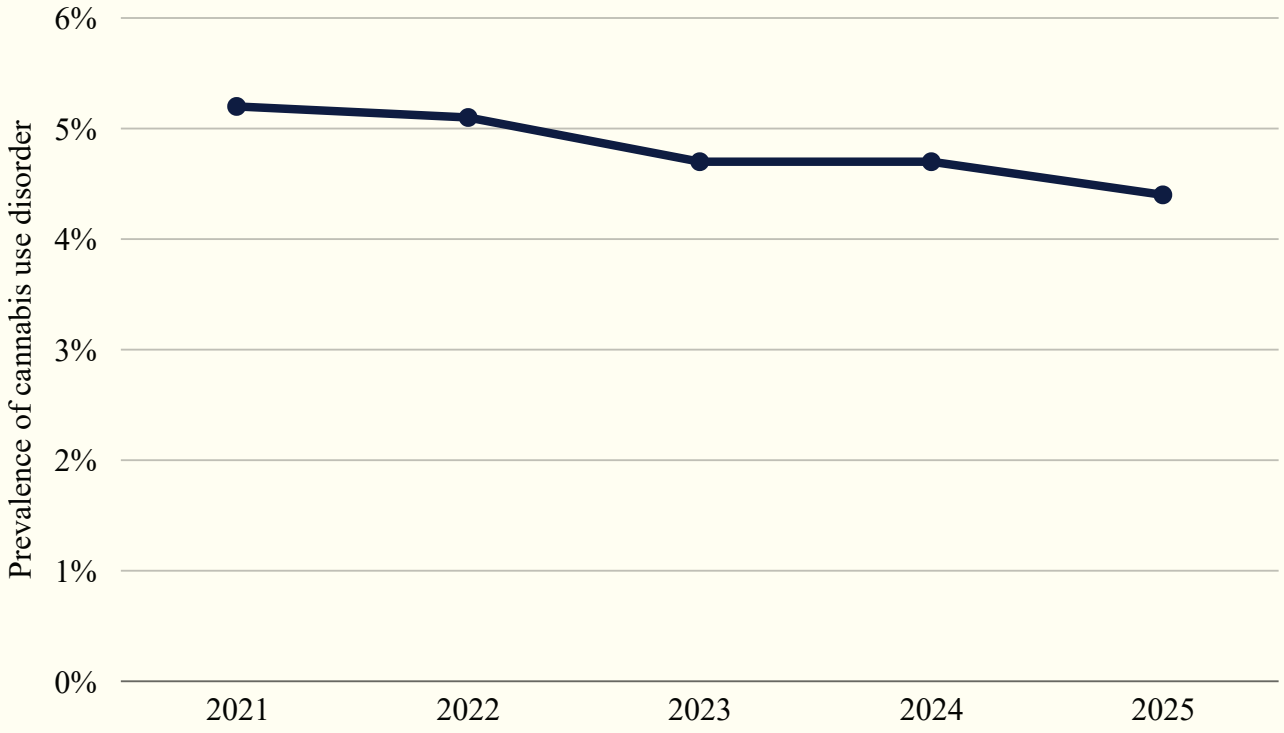
Table 1.3 shows the proportion of past-year users aged 12–17 who had a substance use disorder for the same substance in the past year.[12] In 2025, 2,223,000 12–17-year-olds used marijuana in the past year, of whom 1,118,000 (50.3%) had a cannabis use disorder.

Table 1.3. Substance use disorder among past-year users between the ages of 12 and 17, 2025

Substance	Number of past-year users	Number with past-year substance use disorder	Proportion of past-year users with a corresponding substance use disorder
Marijuana	2,223,000	1,118,000	50.3%
Cocaine	57,000	12,000	21.1%
Alcohol	3,762,000	710,000	18.9%
Heroin	<1,000	<1,000	N/A
Hallucinogens	360,000	66,000	18.3%
Inhalants	360,000	90,000	25.0%
Methamphetamine	32,000	3,000	9.4%

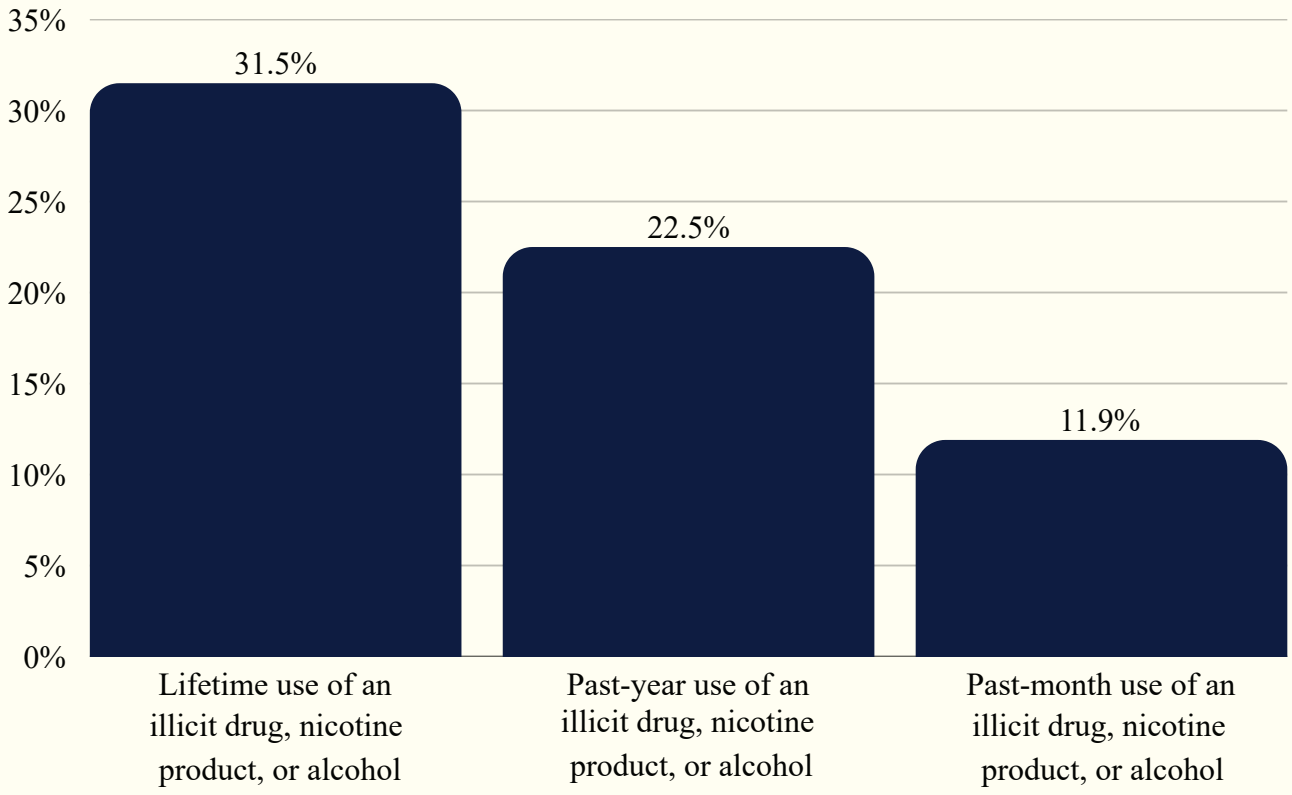
Between 2021 and 2025, the prevalence of cannabis use disorder among 12–17-year-olds decreased from 5.2% to 4.4% (Figure 1.4). Of note, earlier NSDUH estimates (e.g., 2.9% in 2013) were based on the DSM-IV criteria and are not comparable.

Figure 1.4. Prevalence of cannabis use disorder among individuals between the ages of 12 and 17, 2021–2025



In 2025, 31.5% of 12–17-year-olds had ever used an illicit drug, nicotine product, or alcohol (Figure 1.5). Likewise, 22.5% of 12–17-year-olds used at least one of these substances in the past year, while 11.9% used at least one in the past month.

Figure 1.5. General substance use among 12–17-year-olds, 2025



Substance-induced disorders

The DSM-5 noted that "substance-related disorders are divided into two groups: substance use disorders and substance-induced disorders."[13] Although the NSDUH provides annual estimates of the prevalence of SUD, there are no comparable estimates for the prevalence of substance-induced disorders. For example, the DSM-5 said that the "prevalence of substance/medication-induced psychotic disorder in the general population is unknown. Between 7% and 25% of individuals presenting with a first episode of psychosis in different settings are reported to have substance/medication-induced psychotic disorder." Notably, a substance-induced disorder can occur independently of a SUD and be equally or more disabling.

In addition to cannabis use disorder, the DSM-5 said that the substance-induced disorders associated with cannabis are cannabis-induced psychotic disorders, cannabis-induced anxiety disorders, and cannabis-induced sleep disorders, as well as delirium, intoxication, and withdrawal. It did not associate cannabis use with the onset of bipolar disorders, depressive disorders, obsessive-compulsive disorders, sexual dysfunction, or neurocognitive disorders.

Figure 1.6 illustrates that the prevalence of past-year marijuana use in 2023–2024 peaked at 39.0% among 23-year-olds, according to NSDUH data in SAMHSA's Data Analysis System.[14] In comparison, it was 1.4% among 12-year-olds and 10.0% among those aged 65 or older.

Figure 1.6. Past-year marijuana use among individuals aged 12 or older, 2023–2024

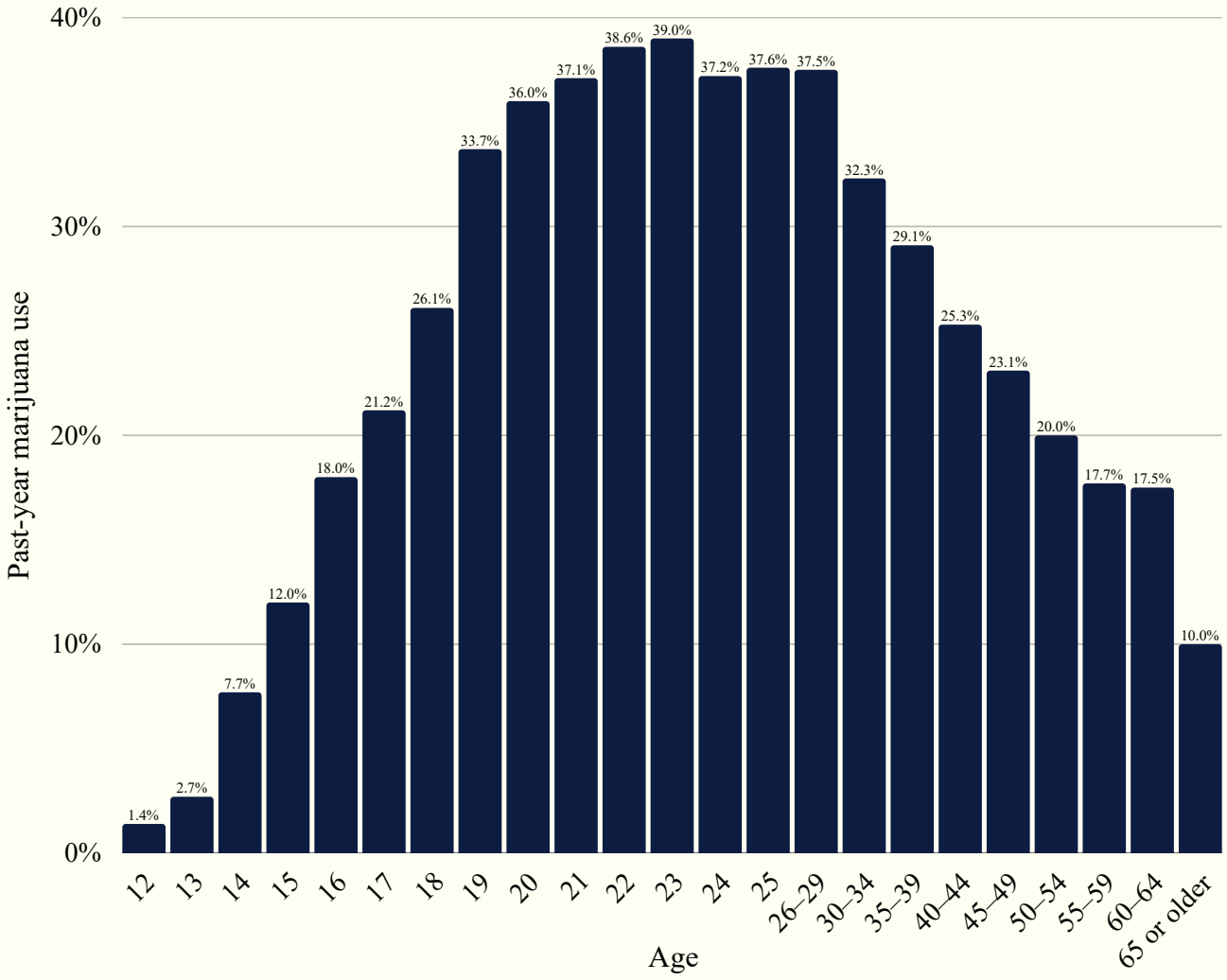


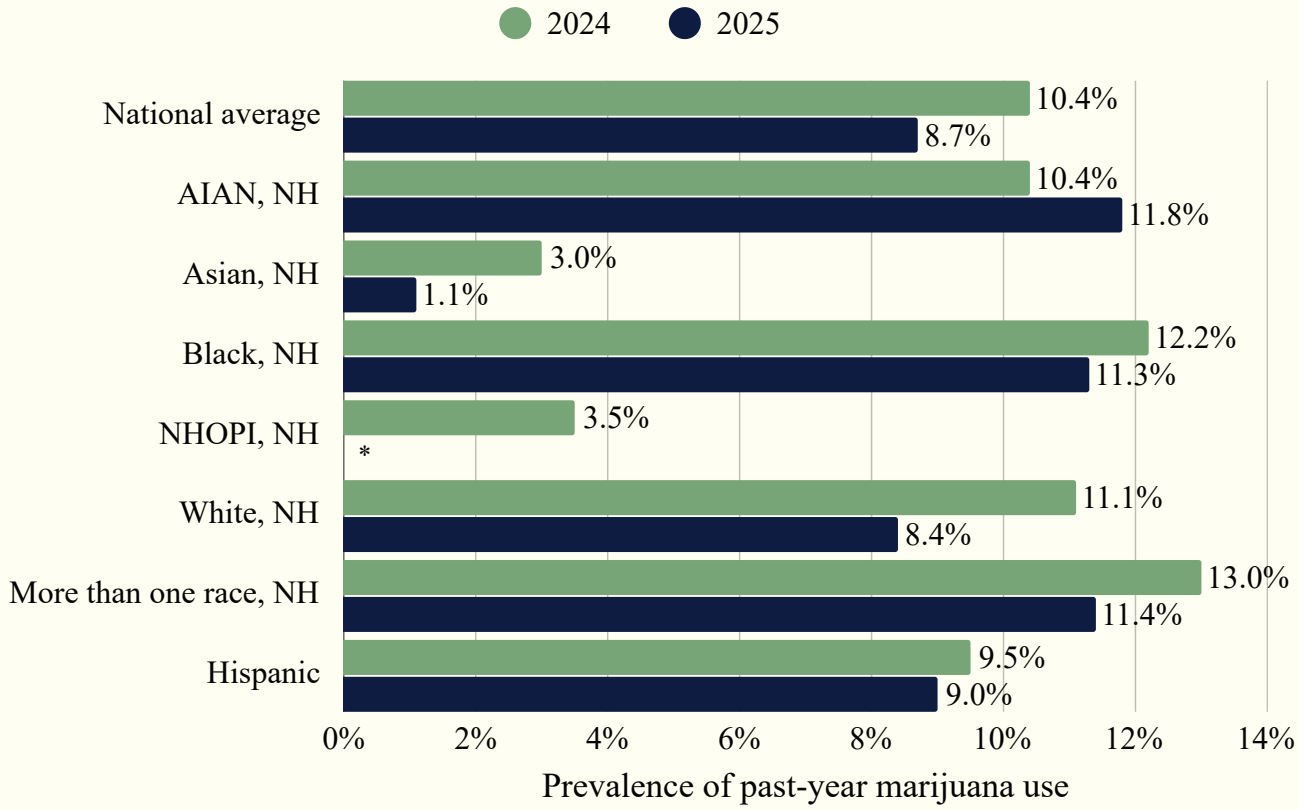
Table 1.4 highlights the frequency of marijuana use among past-year marijuana users aged 12–17 and the proportion of each group that had cannabis use disorder in 2024. Among 12–17-year-olds who used marijuana in the past year, 12.0% used it on 300 or more days.[15] Among those who used it on 300 or more days, 87.3% had cannabis use disorder.

Table 1.4. Frequency of marijuana use and prevalence of cannabis use disorder among past-year marijuana users aged 12–17, 2024

Frequency of marijuana use	Distribution of past-year marijuana users aged 12–17	Percentage with cannabis use disorder
1–11 days	34.6%	8.7%
12–49 days	19.1%	41.1%
50–99 days	8.8%	49.6%
100–299 days	25.5%	79.4%
300–365 days	12.0%	87.3%

Figure 1.7 shows the prevalence of past-year marijuana use among 12–17-year-olds by race and Hispanic origin in 2024 and 2025. In 2025, the American Indian or Alaska Native (AIAN) population had the highest rate, at 11.8%, whereas the Asian population had the lowest, at 1.1%.[16] Between 2024 and 2025, past-year marijuana use among 12–17-year-olds decreased in all groups with available estimates except among the AIAN population.

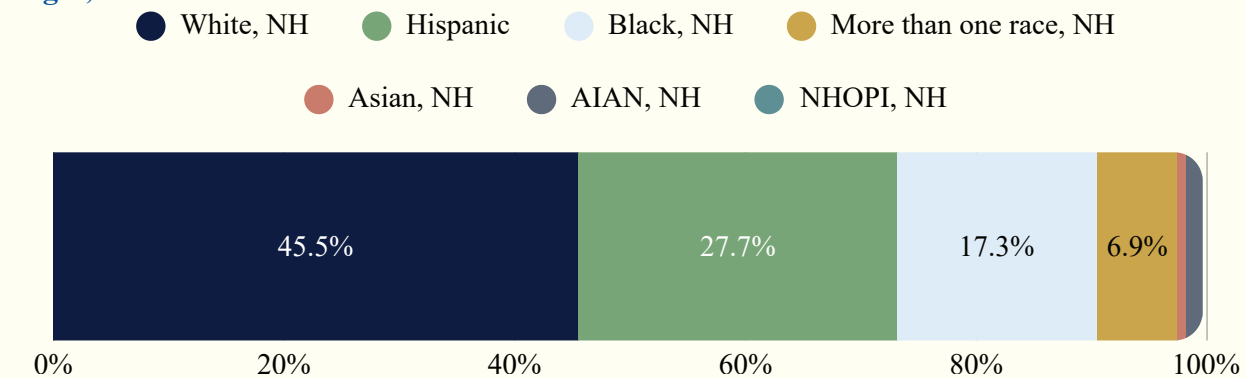
Figure 1.7. Past-year marijuana use by race and Hispanic origin among individuals between the ages of 12 and 17, 2024–2025



Notes: * = suppressed by SAMHSA due to a lack of precision. NH = non-Hispanic. NHOPI = Native Hawaiian or Other Pacific Islander. AIAN = American Indian or Alaska Native.

Figure 1.8 highlights the distribution of past-year marijuana users aged 12–17 by race and Hispanic origin in 2025. The AIAN population, which had the highest rate, accounted for 1.4% of the marijuana users in that age group (32,000 out of 2,223,000). In 2025, the White population accounted for 45.5% of marijuana users (1,011,000 out of 2,223,000).

Figure 1.8. Past-year marijuana users between the ages of 12 and 17 by race and Hispanic origin, 2025



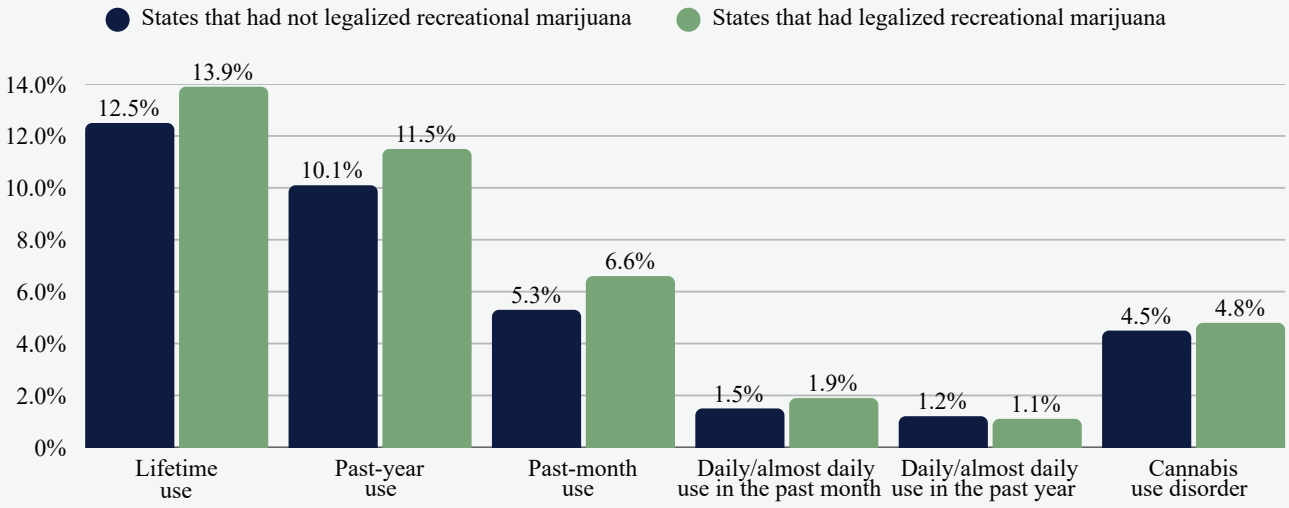
Note: NH = non-Hispanic.

The association between the legalization of marijuana and youth marijuana use

On average, the states that had legalized recreational marijuana had higher rates of marijuana use than the states that had not. According to data from the 2023–2024 NSDUH analyzed in SAMHSA's Data Analysis System, the prevalence of past-year marijuana use among 12–17-year-olds in the 24 states* and the District of Columbia that had legalized recreational marijuana through 2023 was 11.5%.[17] In comparison, in the 26 states that had not legalized recreational marijuana, the prevalence of past-year marijuana use among this age group was 10.1%.

The states that had legalized recreational marijuana also had a higher prevalence of lifetime marijuana use (13.9% in the states that had legalized recreational marijuana vs. 12.5% in the states that had not), past-month marijuana use (6.6% vs. 5.3%), daily or almost daily marijuana use in the past month (1.9% vs. 1.5%), and past-year cannabis use disorder (4.8% vs. 4.5%) (Figure 1.9). The measure of daily or almost daily use in the past year is one exception to this trend, with "legal" states at 1.1% and non-"legal" states at a similar 1.2%.

Figure 1.9. Marijuana use by state-level legalization policy among individuals between the ages of 12 and 17, 2023–2024



According to the 2023–2024 data tables published by SAMHSA, the 10 states that had the highest rates of past-month marijuana use among 12–17-year-olds had all legalized recreational marijuana (Maine, Vermont, New Mexico, Colorado, Rhode Island, Oregon, Delaware, Massachusetts, Illinois, and Connecticut).[18] Conversely, 9 of the 10 states that had the lowest rates of past-month marijuana use among 12–17-year-olds had not legalized recreational marijuana (Alaska has legalized recreational marijuana; the 9 states that have not are Idaho, Iowa, Nebraska, Texas, North Dakota, South Dakota, Wyoming, Utah, and Hawaii).

* = The 24 states that had legalized recreational marijuana through 2023 were: Alaska, Arizona, California, Colorado, Connecticut, Delaware, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nevada, New Jersey, New Mexico, New York, Ohio, Oregon, Rhode Island, Vermont, Virginia, and Washington, as well as the District of Columbia. Commercialization does not always follow legalization, as seen in Virginia. States that legalized medical marijuana but not recreational marijuana were placed in the non-legalization group.

Table 1.5 includes the state-level prevalence of lifetime, past-year, and past-month marijuana use, as well as cannabis use disorder, among 12–17-year-olds in 2023–2024. The estimates of past-year and past-month marijuana use are from SAMHSA's published tables, while the estimates of lifetime marijuana use and cannabis use disorder are from SAMHSA's Data Analysis System.[19,20]

Table 1.5. Marijuana use among individuals between the ages of 12 and 17 by jurisdiction, 2023–2024

Jurisdiction	Lifetime marijuana use	Past-year marijuana use	Past-month marijuana use	Cannabis use disorder
Total	**13.2%**	**10.8%**	**6.0%**	**4.7%**
Alabama	16.6%	11.0%	5.3%	6.3%
Alaska	15.5%	10.0%	4.9%	3.7%
Arizona	14.4%	10.8%	6.4%	6.2%
Arkansas	16.3%	12.9%	6.5%	4.3%
California	12.2%	9.9%	5.9%	4.3%
Colorado	17.2%	14.1%	8.2%	6.8%
Connecticut	22.0%	12.9%	7.5%	6.3%
Delaware	16.9%	12.7%	7.7%	9.2%
District of Columbia	18.7%	13.1%	8.8%	5.5%
Florida	12.9%	10.5%	5.7%	3.9%
Georgia	13.9%	12.1%	7.0%	5.6%
Hawaii	9.5%	8.1%	3.7%	3.0%
Idaho	18.0%	9.8%	5.1%	3.7%
Illinois	13.2%	11.9%	7.6%	6.1%
Indiana	15.1%	11.6%	5.9%	6.0%
Iowa	14.1%	10.0%	4.9%	4.6%
Kansas	18.8%	11.6%	6.7%	5.3%
Kentucky	13.6%	10.5%	5.4%	3.5%
Louisiana	13.5%	11.7%	6.6%	4.3%
Maine	21.9%	16.8%	9.9%	11.4%
Maryland	18.3%	12.0%	6.4%	6.5%
Massachusetts	13.6%	13.1%	7.6%	5.6%
Michigan	13.0%	12.2%	7.0%	4.0%
Minnesota	9.4%	9.3%	5.4%	1.3%
Mississippi	14.6%	10.5%	5.3%	4.5%
Missouri	9.1%	11.6%	7.2%	3.7%
Montana	17.4%	13.2%	7.2%	7.0%

(The table continues on the next page)

Table 1.5. Marijuana use among individuals between the ages of 12 and 17 by jurisdiction, 2023–2024 (continued)

Jurisdiction	Lifetime marijuana use	Past-year marijuana use	Past-month marijuana use	Cannabis use disorder
Nebraska	10.9%	8.3%	4.6%	4.9%
Nevada	15.8%	13.2%	6.7%	7.7%
New Hampshire	15.2%	12.9%	6.9%	6.8%
New Jersey	11.2%	9.9%	5.4%	3.5%
New Mexico	26.6%	16.4%	9.5%	11.0%
New York	13.6%	11.4%	5.8%	2.9%
North Carolina	11.0%	9.3%	5.4%	3.0%
North Dakota	11.5%	7.6%	4.3%	4.9%
Ohio	14.5%	12.0%	6.5%	3.9%
Oklahoma	14.7%	12.1%	7.1%	4.3%
Oregon	20.1%	14.7%	8.1%	9.8%
Pennsylvania	10.8%	10.1%	5.7%	3.9%
Rhode Island	12.5%	12.9%	8.1%	5.6%
South Carolina	11.0%	10.6%	5.3%	3.0%
South Dakota	7.3%	7.8%	4.1%	2.9%
Tennessee	15.0%	11.3%	6.0%	5.4%
Texas	10.7%	8.5%	4.6%	5.2%
Utah	7.1%	6.9%	3.8%	3.0%
Vermont	19.7%	15.9%	9.5%	7.7%
Virginia	14.3%	10.5%	5.8%	4.0%
Washington	14.3%	11.2%	6.4%	5.6%
West Virginia	10.3%	10.0%	5.2%	4.2%
Wisconsin	8.9%	9.6%	5.2%	3.8%
Wyoming	9.7%	8.7%	4.1%	4.2%

Of note, the estimates in SAMHSA's Data Analysis System may differ slightly from the estimates reported directly by SAMHSA in its published tables. SAMHSA explained that "statistical disclosure limitation procedures are implemented during the construction of the [public-use file] to ensure any information that may be used to directly identify respondents is removed. These changes to the data may result in estimates that differ slightly from those created using the restricted-use file (RUF) and published in NSDUH data products."[21] For example, SAMHSA reported in its tables that 13.1% of 12–17-year-olds in Massachusetts used marijuana in the past year, while the Data Analysis System indicated that it was 12.6%. In a few states (Missouri, Rhode Island, South Dakota, and Wisconsin), the lifetime estimate is lower than the past-year estimate, which would not occur if all columns had come from the same source. Additionally, state-level estimates have wider confidence intervals than national estimates. An advantage of the Data Analysis System is that it can generate cross-tabulation analyses that are not included in SAMHSA's published tables (e.g., the prevalence of cannabis use disorder among 12–17-year-olds in each state).

Cannabis-induced psychosis

A 2017 report from the National Academies of Sciences, Engineering, and Medicine that reviewed the health effects of marijuana concluded, "there is substantial evidence of a statistical association between cannabis use and the development of schizophrenia or other psychoses, with the highest risk among the most frequent users."[22]

As such, given that Mennis et al. found that the legalization of marijuana was associated with increases in the past-month use of marijuana among 18–24-year-olds, as well as decreases in the number of treatment admissions for cannabis use disorder, it would follow that legalization would be associated with increases in cannabis-associated schizophrenia and related conditions.[23]

Indeed, Moran et al. found that the Pacific census region, which included states like Colorado and Washington that had legalized recreational marijuana, had a higher rate of hospital discharges for cannabis-associated psychosis among individuals aged 18–64 than the the other census divisions.[24] Similarly, Joshi et al. found that psychosis-related emergency department visits and hospitalizations among individuals aged 10–29 in Denver, Colorado, with cannabis use disorder increased after Colorado legalized marijuana.[25]

Similar trends have been observed outside of the United States. A 2026 study in *Lancet Psychiatry* by Myran et al. found that the incidence of first-episode substance-induced psychosis increased in Ontario, Canada, particularly among more recent birth cohorts, noting that "our sensitivity analysis suggested that much of the increase in substance involvement in first-episode psychosis was related to cannabis use."[26] The authors added that "the current findings from Ontario suggest that rising substance use, particularly cannabis use, could be reshaping the epidemiology of psychotic disorders across generations."

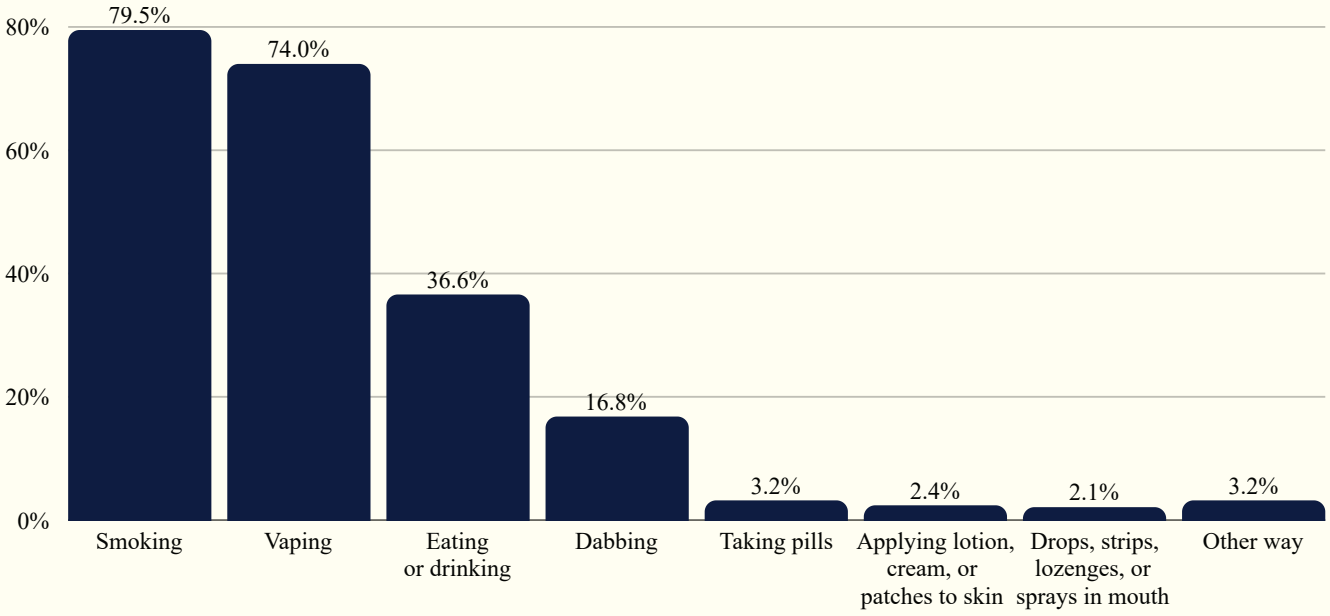
Drawing on data from 11 sites in Europe and Brazil, Di Forti et al. found that daily marijuana use was associated with increased odds of the onset of psychotic disorder compared to the non-use of marijuana.[27] Daily users of high-potency marijuana products, which the study defined as products above 10% THC, had nearly five times higher odds of the onset of psychotic disorder than non-users. The authors added, "assuming causality, if high-potency cannabis types were no longer available, then 12% of cases of first-episode psychosis could be prevented across Europe, rising to 30% in London and 50% in Amsterdam."

These trends have also been observed on the ground by medical professionals. In 2022, Dr. Roneet Lev, who at the time was serving as an addiction medicine doctor at Scripps Mercy Hospital in San Diego, told *The New York Post*, "we're now counting 37 cannabis-related diagnoses a day."[28] Dr. Lev, who has also served as the Chief Medical Officer of the White House Office of National Drug Control Policy, continued, "It's been steadily increasing over the years. When I started in the 1990s, there was no such thing. Now I see 1 to 2 cases per shift. The most common symptom is psychosis."

For reference, the National Alliance on Mental Illness said, "although schizophrenia can occur at any age, the average age of onset tends to be in the late teens to the early 20s for men, and the late 20s to early 30s for women."[29] Figure 1.6 illustrated that the prevalence of past-year marijuana use peaks during these same ages. Even so, all age groups remain at risk of the psychiatric harms of marijuana.

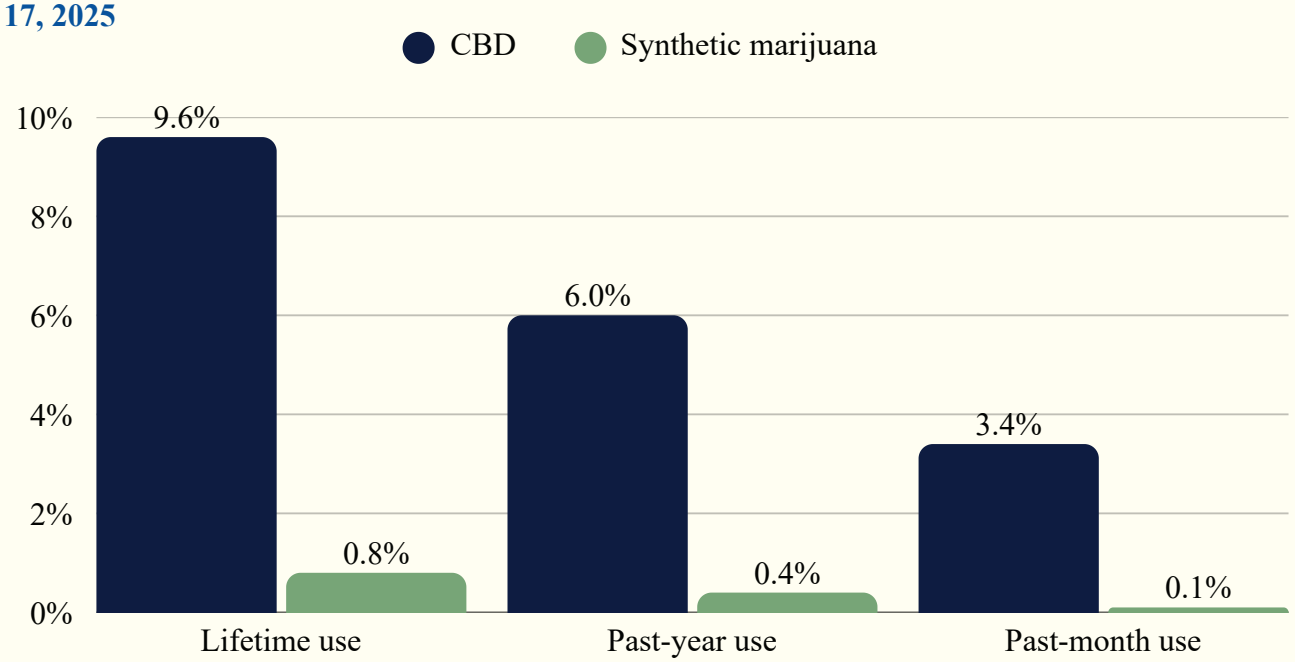
Figure 1.10 shows the methods of marijuana use among past-year marijuana users between the ages of 12 and 17 in 2025. Smoking was the most common method of use, at 79.5%, followed by vaping, at 74.0%.[30] Less common methods of use included pills and lotions. Respondents could select multiple options (e.g., they could have smoked and vaped marijuana in the past year).

Figure 1.10. Methods of marijuana use among past-year marijuana users between the ages of 12 and 17, 2025



In 2025, 6.0% of 12–17-year-olds used cannabidiol (CBD), a non-intoxicating compound derived from the cannabis plant, in the past year, while 0.4% used synthetic marijuana (e.g., K2 or spice) in the past year (Figure 1.11). That year, 9.6% of 12–17-year-olds had ever tried CBD, while 0.8% had ever tried synthetic marijuana.

Figure 1.11. CBD and synthetic marijuana use among individuals between the ages of 12 and 17, 2025

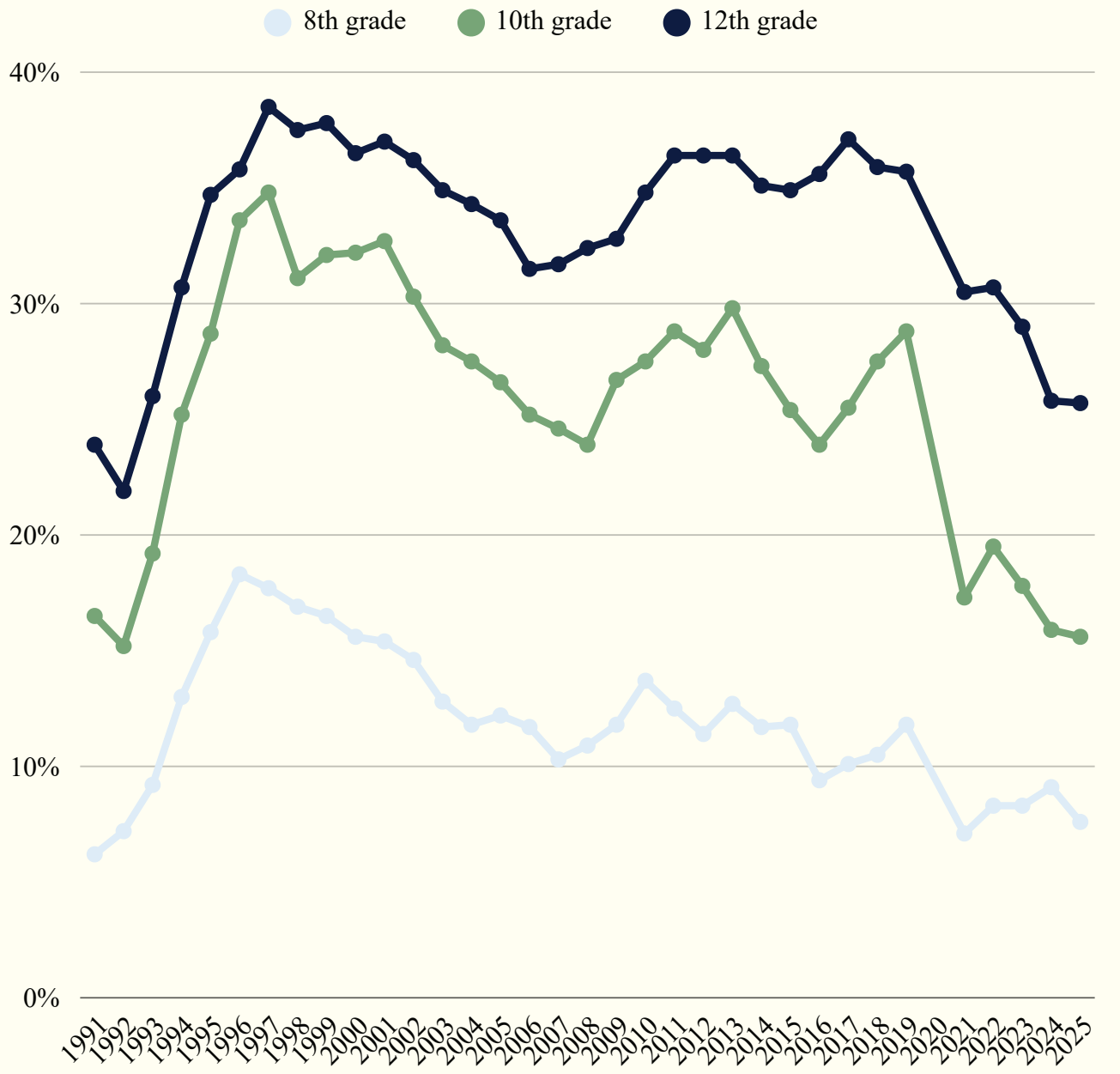


B. The Monitoring the Future Survey

In 2025, the Monitoring the Future (MTF) survey estimated that 25.7% of 12th graders, 15.6% of 10th graders, and 7.6% of 8th graders used marijuana in the past year (Figure 1.12).[31] In comparison, in 1991, 23.9% of 12th graders, 16.5% of 10th graders, and 6.2% of 8th graders used marijuana in the past year. For reference, 1991 was the first year that the survey included 8th and 10th graders.

The MTF report explained that "the substantial declines from 2020 to 2021 during the onset of the pandemic marked the first substantial change in cannabis prevalence in more than a decade; in the ten years previous to 2021, cannabis levels had hovered without any systematic trending. These lower levels have persisted in the following years and have not returned to pre-pandemic levels."[32]

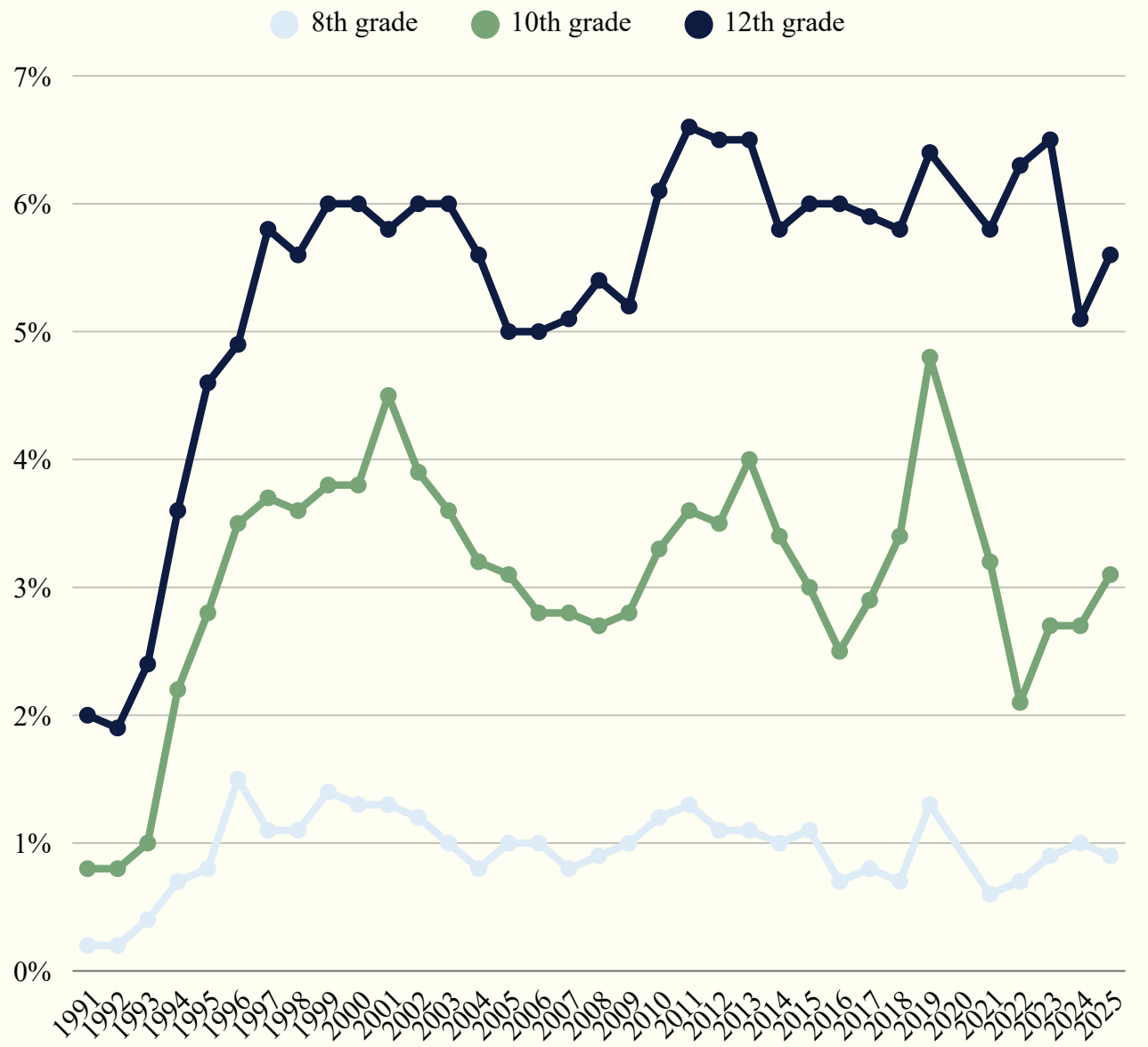
Figure 1.12. Past-year marijuana use among 8th, 10th, and 12th graders, 1991–2025



Between 1991 and 2025, the percentage of 12th graders who used marijuana on a daily basis, defined as use on 20 or more occasions in the past 30 days, increased from 2.0% to 5.6% (Figure 1.13).[33] Likewise, over this period, the percentage of 10th graders who used marijuana on a daily basis increased from 0.8% to 3.1%, while the percentage of 8th graders increased from 0.2% to 0.9%.

The MTF report said that "in 12th and 10th grades, the 2025 levels remained at about 2021 levels, when they had dropped during the pandemic-era social distancing policies. In 8th grade, prevalence has hovered between 0.2% and 2% since first tracked in 1991."[34]

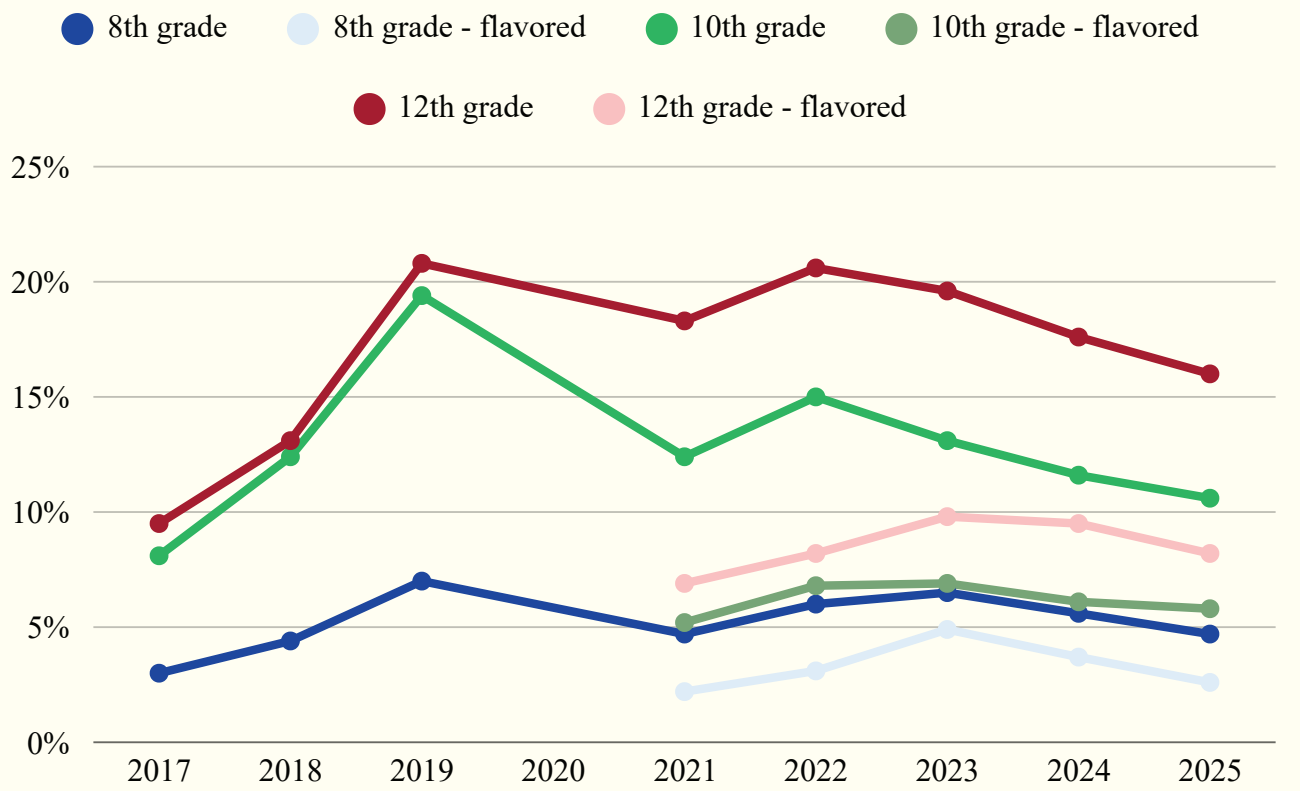
Figure 1.13. Daily marijuana use among 8th, 10th, and 12th graders, 1991–2025



The MTF survey began asking about marijuana vaping in 2017 and about flavored marijuana vaping in 2021. Between 2017 and 2025, the percentage of 12th graders who vaped marijuana in the past year increased from 9.5% to 16.0%, peaking at 20.8% in 2019 (Figure 1.14). Between 2021 and 2025, the percentage of 12th graders who vaped flavored marijuana in the past year increased from 6.9% to 8.2%, peaking at 9.8% in 2023.

The MTF report said, "since 2019, the prevalence of cannabis vaping has plateaued after marked increases in 2018 and 2019. As with nicotine vaping, these results suggest that in recent years the decline in adolescent cannabis vaping partly stems from the increasing percentage of adolescents who discontinued use after initiating use."

Figure 1.14. Past-year marijuana vaping among 8th, 10th, and 12th graders, 2017–2025



Marijuana vapes

Marijuana vapes produce an aerosolized version of marijuana that is inhaled rather than smoked like traditional joints. While marijuana flower is often 15–20% THC, vapes often exceed 60% THC.[35] In turn, the higher THC concentrations in vapes provide larger doses of THC to users more quickly.

This method of consumption is preferred by many adolescents because it can be used discreetly (e.g., a student can use their vape at school and exhale the vapor inside the collar of their jacket). Additionally, vapes can be easily concealed and the vapor emits less of an odor than traditional marijuana smoke.

The MTF survey also asks about the use of additional marijuana products. In 2025, 2.4% of 8th graders, 5.5% of 10th graders, and 9.2% of 12th graders used cannabis products made from hemp in the past year (e.g., delta-8 THC) (Figure 1.15).[36] That year, 2.9% of 12th graders reported using hash oil in the past year—the question was not asked of 8th or 10th graders (Figure 1.16).

Additionally, though the question was last asked in 2022, 1.5% of 8th graders, 2.2% of 10th graders, and 3.2% of 12th graders reported using synthetic marijuana that year (Figure 1.17). In 2024, the last year it was asked, 3.3% of 8th graders, 8.3% of 10th graders, and 13.3% of 12th graders reported using CBD in the past year (Figure 1.18).

Figure 1.15. Past-year use of cannabis products made from hemp among 8th, 10th, and 12th graders, 2025

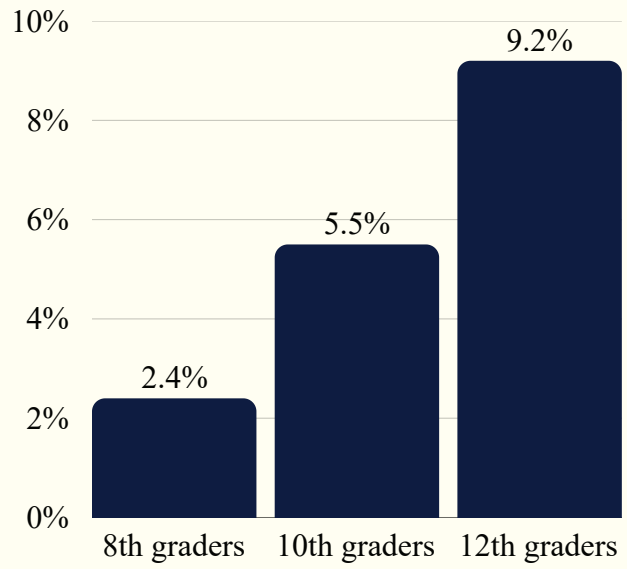


Figure 1.16. Past-year hash oil use among 12th graders, 2025

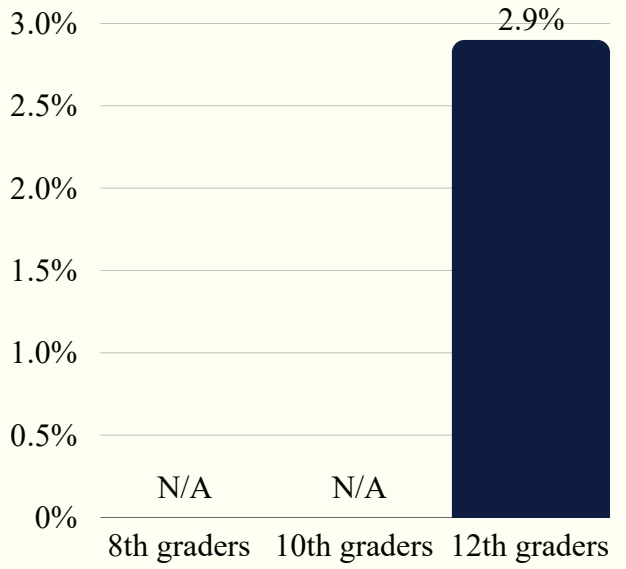


Figure 1.17. Past-year synthetic marijuana use among 8th, 10th, and 12th graders, 2022

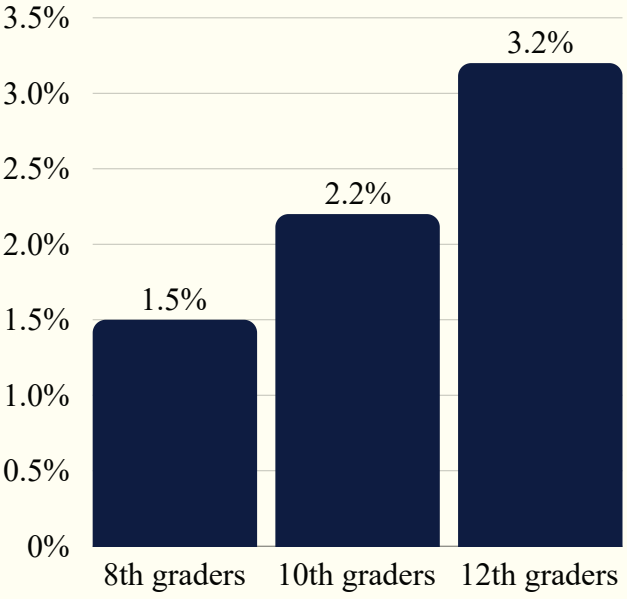
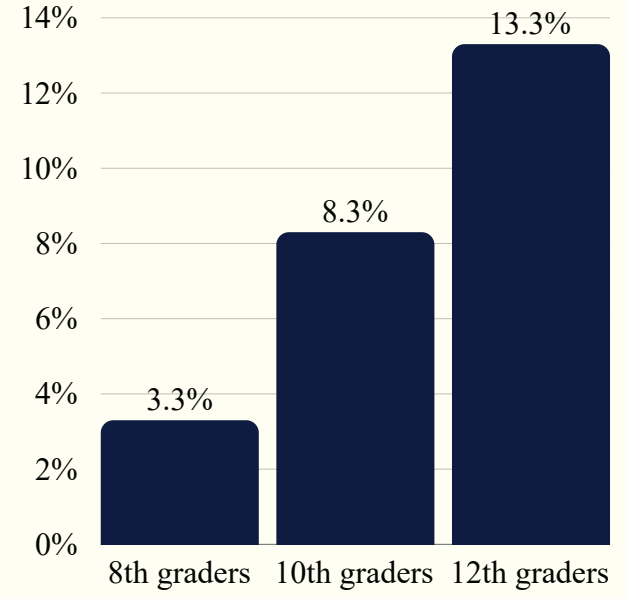
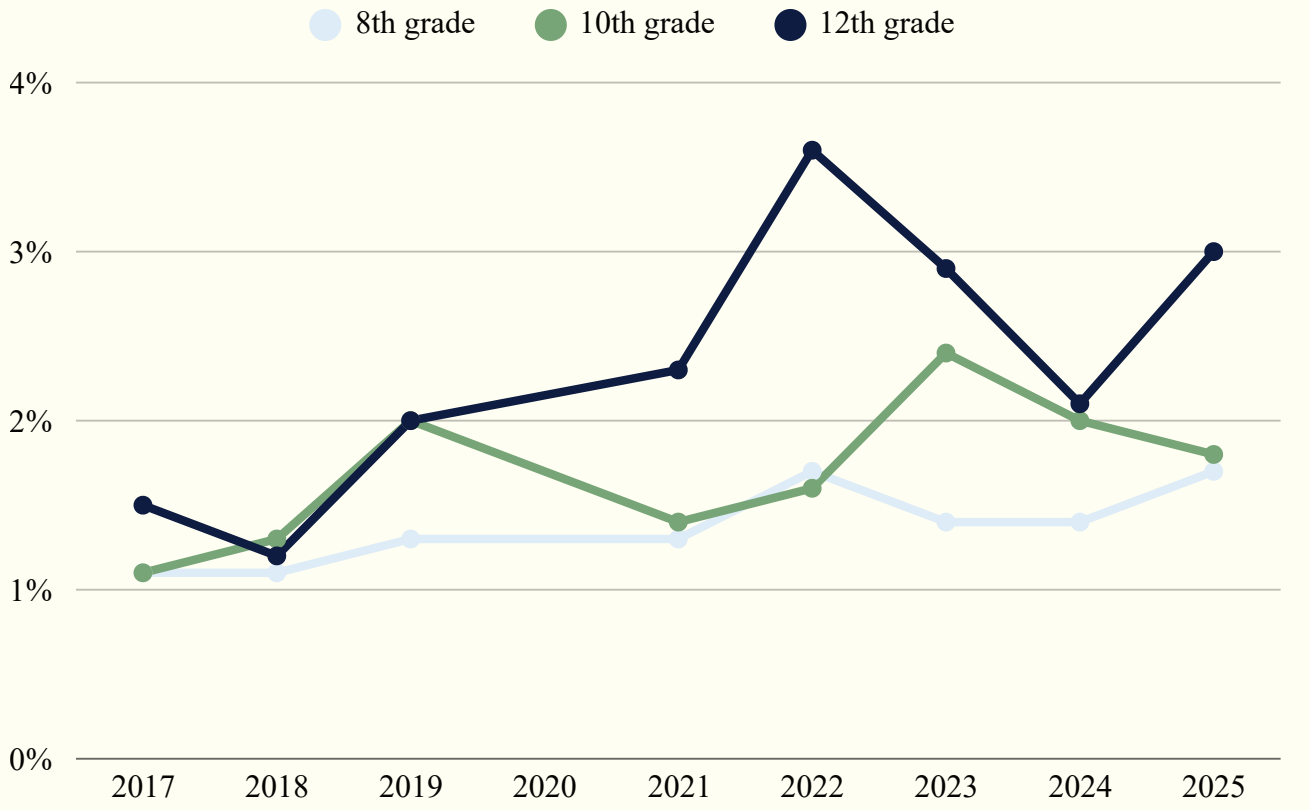


Figure 1.18. Past-year CBD use among 8th, 10th, and 12th graders, 2024



In 2025, the MTF survey estimated that 3.0% of 12th graders, 1.8% of 10th graders, and 1.7% of 8th graders had ever used medical marijuana, which the survey defined as marijuana that was used because a doctor told them to use it (Figure 1.19). The MTF report said that "prevalence has hovered between 1% and 4% in all years in all grades and has not systematically trended."

Figure 1.19. Prevalence of lifetime medical marijuana use among 8th, 10th, and 12th graders, 2017–2025



Medical marijuana

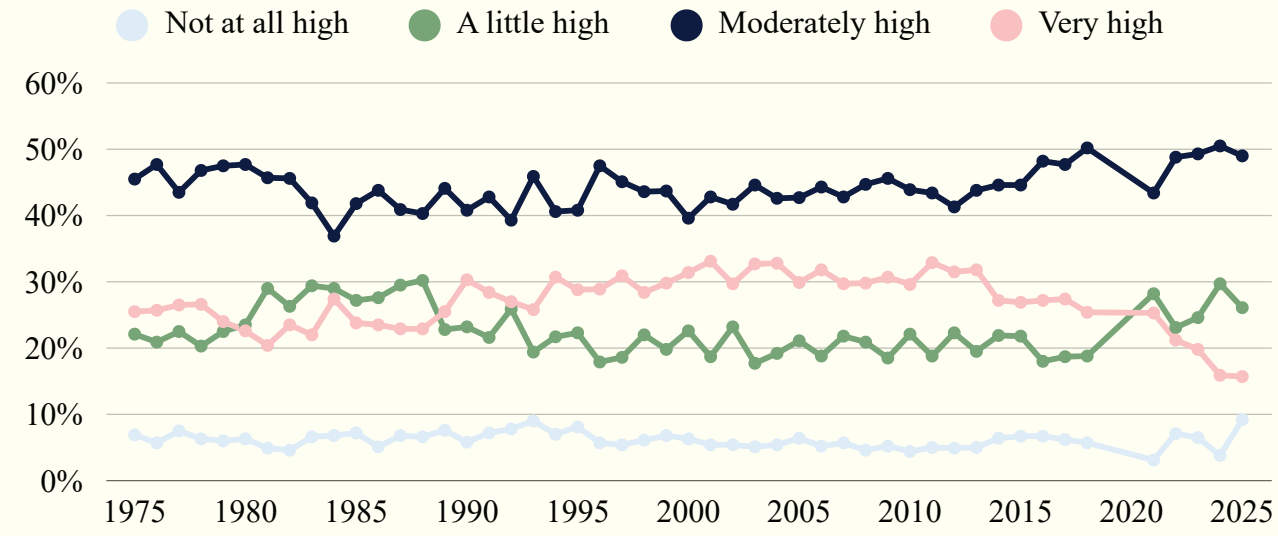
As of June 2025, 41 states, three territories, and the District of Columbia permit the use of medical marijuana, according to the National Conference of State Legislatures.[37] The appendix includes information about the marijuana laws in each state. The American Academy of Pediatrics said that "almost all states with medical marijuana laws allow access by minors, though often with greater regulation."[38] For minors to obtain medical marijuana in Colorado, for example, they must obtain approval from two separate medical providers, have parental consent, and be diagnosed with a disabling medical condition (e.g., post-traumatic stress disorder).[39]

Of note, marijuana has not been approved by the Food and Drug Administration for the treatment of any disease or condition, meaning it is technically not an approved medicine.[40] Even so, the Department of Justice, through the Drug Enforcement Administration, has been working to reclassify marijuana from Schedule I to Schedule III, which would signify that it has an accepted medical use.[41]

The percentage of past-year marijuana users in 12th grade who said that they would usually get "very high" was 25.5% in 1975, peaked at 32.9% in 2011, and was 15.7% in 2025 (Figure 1.20). The percentage who said that they usually get "a little high" was 22.1% in 1975, peaked at 30.2% in 1988, and was 26.1% in 2025.[42]

The MTF report explained, "in historical perspective, the degree of getting high from marijuana use among recent users appears to be shifting from 'very high' to 'moderately high,' at least in subjective experience. The percentage reporting getting 'very high' is at the lowest level recorded in the survey, while 'moderately high' is near the highest."

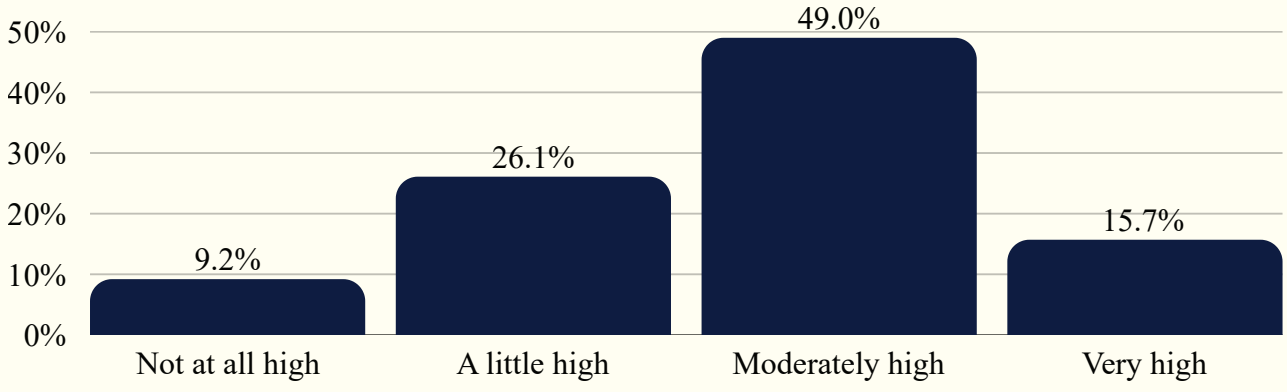
Figure 1.20. Degree of feeling high among past-year marijuana users in 12th grade, 1975–2025



In 2025, among past-year marijuana users in 12th grade, 9.2% said that they would usually get "not at all high," 26.1% would get "a little high," 49.0% would get "moderately high," and 15.7% would get "very high" (Figure 1.21).

The MTF report said, "by comparison, this 16% level [for marijuana users] ranks near the top for substances that make 12th grade users 'very high'—e.g., above the 2018 levels for cocaine (15.3%), opioid medications (12.1%), and stimulant medications (11.6%) but below hallucinogens such as LSD and hallucinogens other than LSD (>50%)." It added, "in 2025, only a relatively few of the 12th graders who recently used alcohol said that they usually get very high when drinking (6.1%), although a fair portion (26%) said they usually get moderately high."

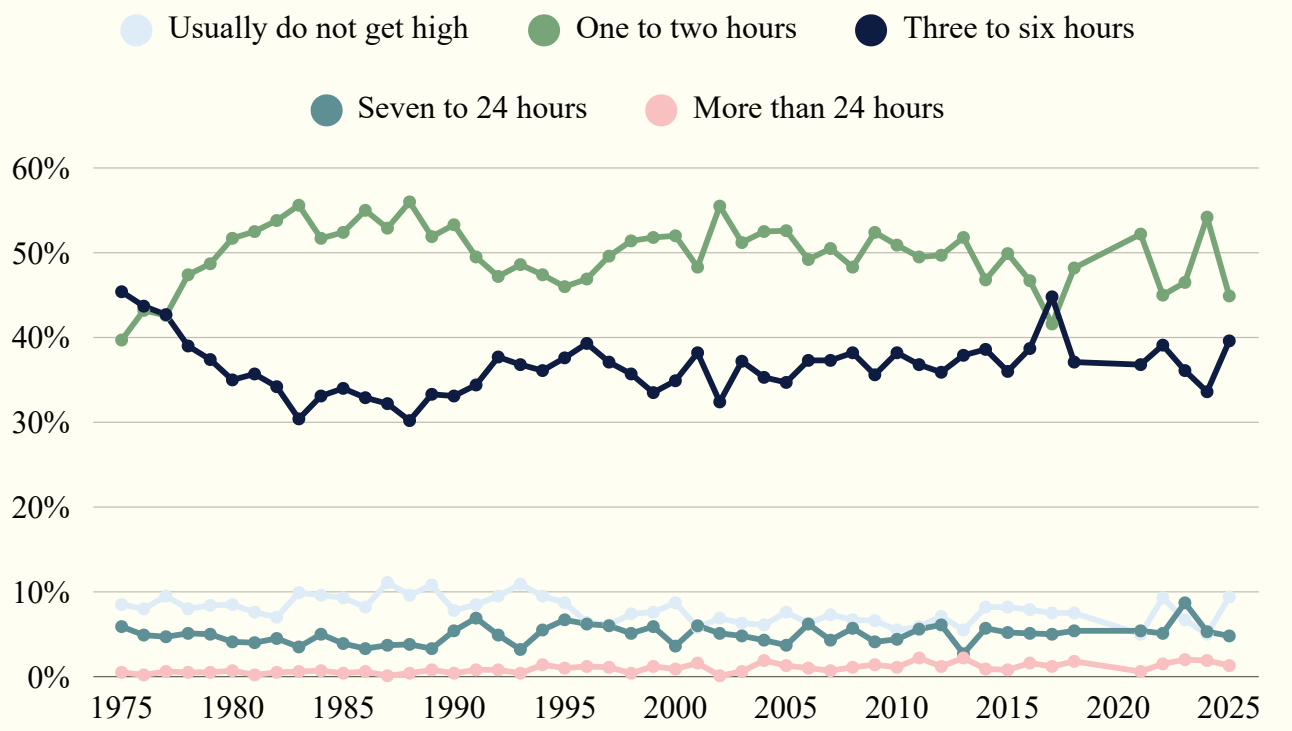
Figure 1.21. Degree of feeling high among past-year marijuana users in 12th grade, 2025



The percentage of past-year marijuana users in 12th grade who said that they usually stayed high for one to two hours was 39.7% in 1975, peaked at 56.0% in 1988, and was 44.9% in 2025—this was the most common duration in 2025 (Figure 1.22). The percentage who said that they usually stayed high for seven to 24 hours was 5.9% in 1975 and 4.8% in 2025, while the percentage who said that they usually stayed high for more than 24 hours was 0.5% in 1975 and 1.3% in 2025.

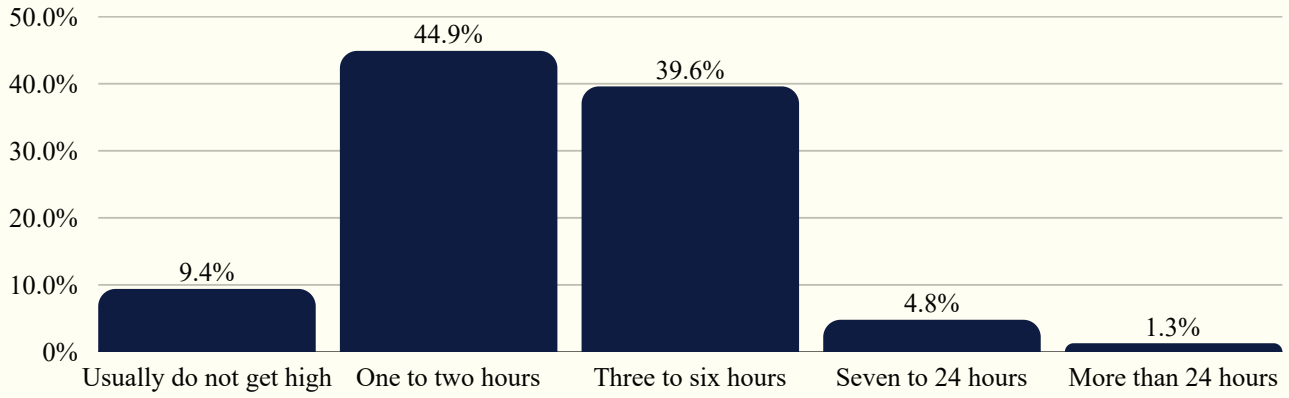
The MTF report said that the "duration of highs from cannabis has changed little in recent decades. The proportion of recent users saying they stay high three or more hours has hovered around the value of 44% since 2020, and in 2025 it was 46%."

Figure 1.22. Duration of high among past-year marijuana users in 12th grade, 1975–2025



In 2025, when past-year marijuana users in 12th grade were asked about the duration of their high, 9.4% said that they "usually don't get high," while 39.6% said three to six hours and 1.3% said more than 24 hours (Figure 1.23). The MTF report said that this indicates that "there is considerable variability among users in how long they stay high."

Figure 1.23. Duration of high among past-year marijuana users in 12th grade, 2025



In 2025, 11.4% of 12th graders had used marijuana on 40 or more occasions in their lifetime compared to 6.3% of 10th graders and 1.9% of 8th graders (Table 1.6). Likewise, 3.9% of 12th graders used marijuana on 40 or more occasions in the past month compared to 2.0% of 10th graders and 0.6% of 8th graders.

The MTF report said that "cannabis shows some of the highest proportions reporting more than experimental use, with 2.7%, 8.1%, and 14.4%, of 8th, 10th, and 12th graders, respectively, reporting use on 20 or more occasions in their lifetime in 2025."

Table 1.6. Frequency of marijuana use among 8th, 10th, and 12th graders, 2025

Frequency	8th graders	10th graders	12th graders
Lifetime frequency			
No occasions	87.4%	77.9%	65.2%
1–2 occasions	5.4%	7.2%	9.5%
3–5 occasions	2.0%	3.2%	4.4%
6–9 occasions	1.3%	1.7%	3.1%
10–19 occasions	1.2%	1.9%	3.4%
20–39 occasions	0.8%	1.8%	3.0%
40 or more occasions	1.9%	6.3%	11.4%
Past-year frequency			
No occasions	92.4%	84.4%	74.3%
1–2 occasions	3.0%	4.9%	7.4%
3–5 occasions	1.4%	2.4%	3.5%
6–9 occasions	0.9%	1.5%	2.8%
10–19 occasions	0.7%	1.5%	2.8%
20–39 occasions	0.6%	1.5%	1.9%
40 or more occasions	1.1%	3.8%	7.4%
Past-month frequency			
No occasions	96.0%	90.6%	82.9%
1–2 occasions	1.7%	3.0%	5.4%
3–5 occasions	0.5%	1.4%	2.3%
6–9 occasions	0.5%	0.9%	1.8%
10–19 occasions	0.5%	1.0%	2.0%
20–39 occasions	0.3%	1.0%	1.8%
40 or more occasions	0.6%	2.0%	3.9%

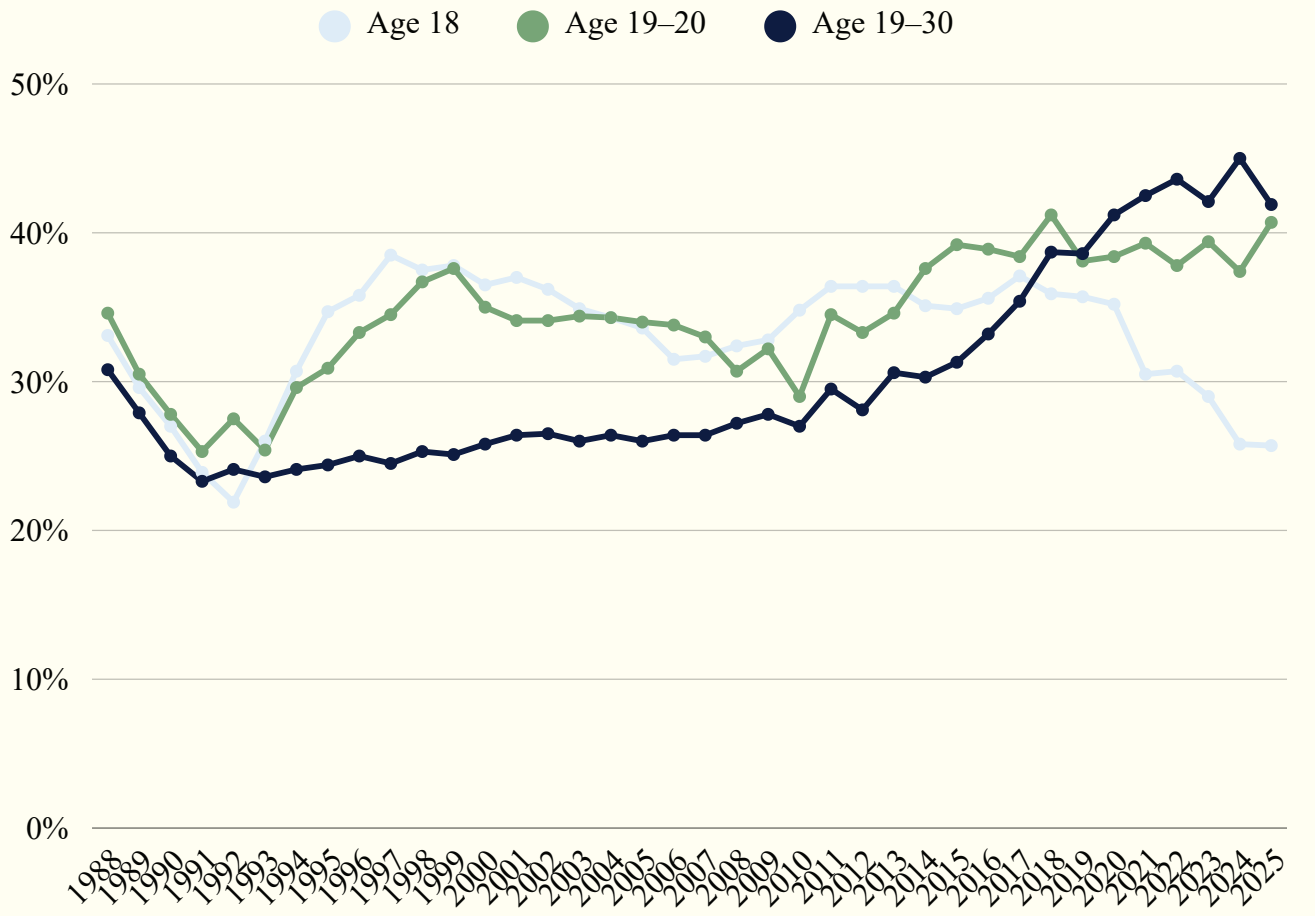
MTF: Panel Study

Alongside the main MTF survey that is focused on students, a complementary panel study follows individuals who were recruited in 12th grade into adulthood, tracking changes in substance use over the life course. The study has been conducted since 1976 and its report explained that "these data, gathered on national samples over such a large portion of the lifespan, are extremely rare and can provide needed insight into the epidemiology, etiology, and life course history of substance use and relevant behaviors, attitudes, and other factors."[43]

Among 19–30-year-olds, whom the study classifies as "young adults," the percentage who used marijuana in the past year was 30.8% in 1988, 25.3% in 1998, 27.3% in 2008, 38.7% in 2018, and 41.9% in 2025.[44] The MTF panel study's report said, "past 12-month and past 30-day use in 2025 remained at or near the recent highest levels ever recorded among young adults, all with significant increases across the past 10 years."[45] It added that "these indicators have been available in the full age band since 1988."

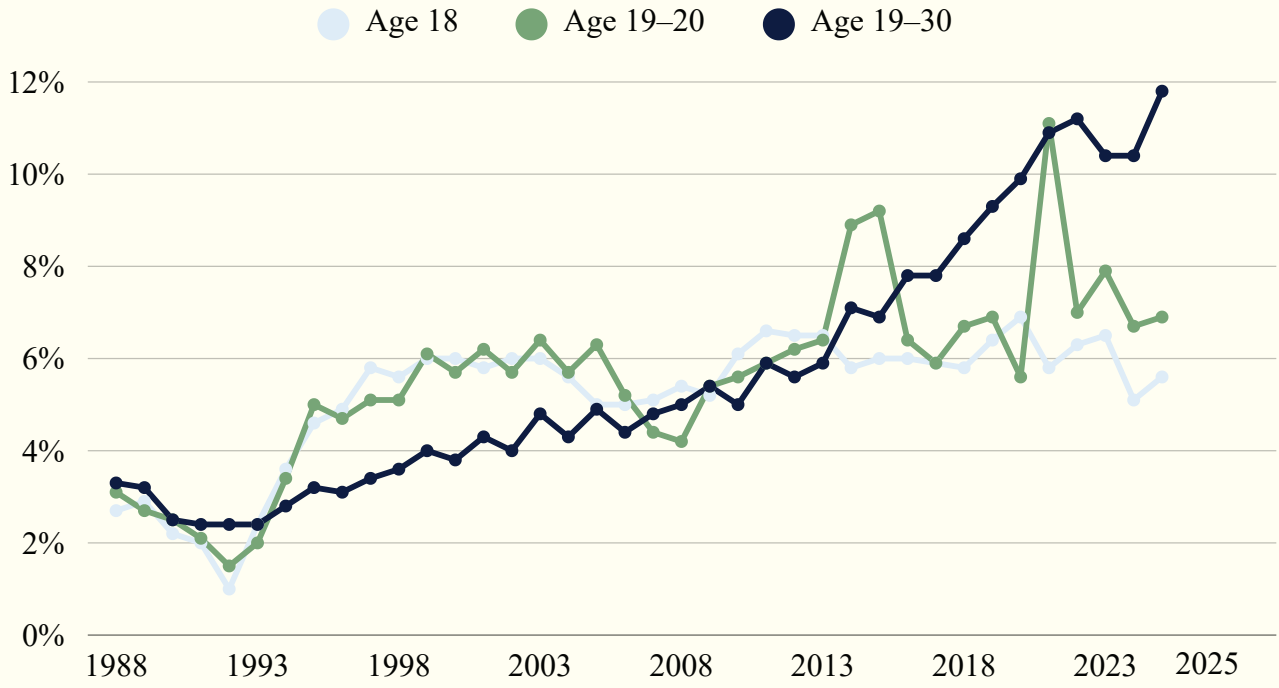
The percentage of 18-year-olds who used marijuana in the past year was 33.1% in 1988, 37.5% in 1998, 32.4% in 2008, 35.9% in 2018, and 25.7% in 2025 (Figure 1.24).[46] The percentage of 19–20-year-olds who used marijuana in the past year was 34.6% in 1988, 36.7% in 1998, 30.7% in 2008, 41.2% in 2018, and 40.7% in 2025.

Figure 1.24. Past-year marijuana use among individuals between the ages of 18 and 30, 1988–2025



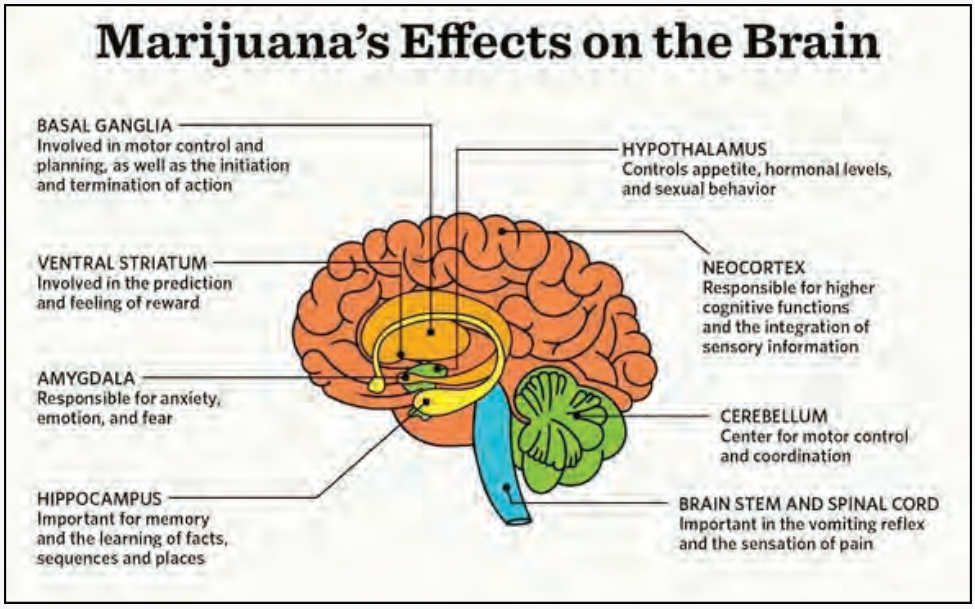
The percentage of 19–30-year-olds who used marijuana on a daily basis, defined as use on 20 or more occasions in the past 30 days, was 3.3% in 1988, 3.6% in 1998, 5.0% in 2008, 8.6% in 2018, and 11.8% in 2025 (Figure 1.25). Among 18-year-olds, the percentage who used marijuana on a daily basis was 2.7% in 1988, 5.6% in 1998, 5.4% in 2008, 5.8% in 2018, and 5.6% in 2025. The percentage of 19–20-year-olds who used marijuana on a daily basis was 3.1% in 1988, 5.1% in 1998, 4.2% in 2008, 6.7% in 2018, and 6.9% in 2025.

Figure 1.25. Daily marijuana use among individuals between the ages of 18 and 30, 1988–2025



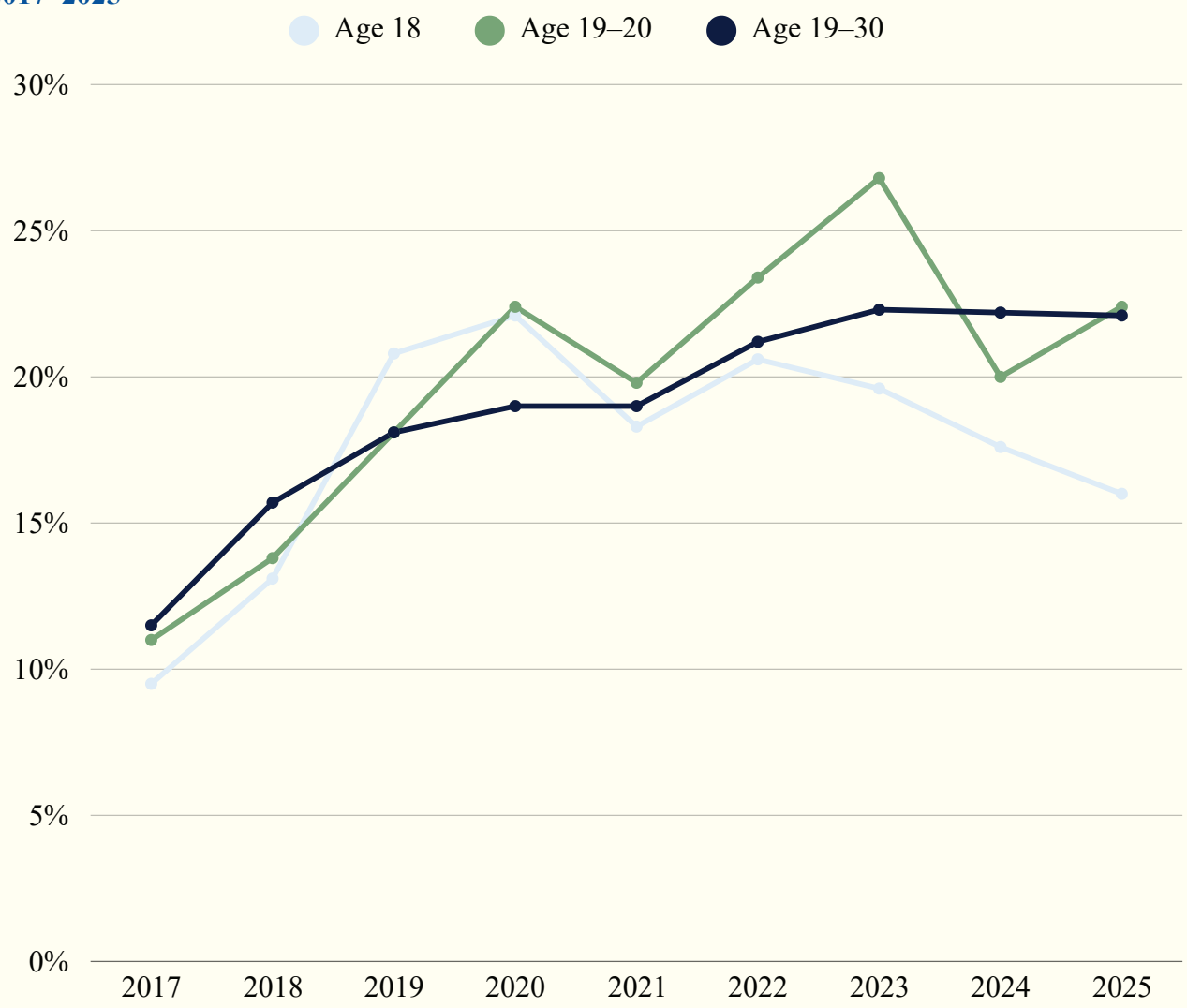
Marijuana's effects on the brain

A 2023 article in the American Psychological Association's *Monitor on Psychology* included the following graphic on the effects of marijuana on the brain:[47]



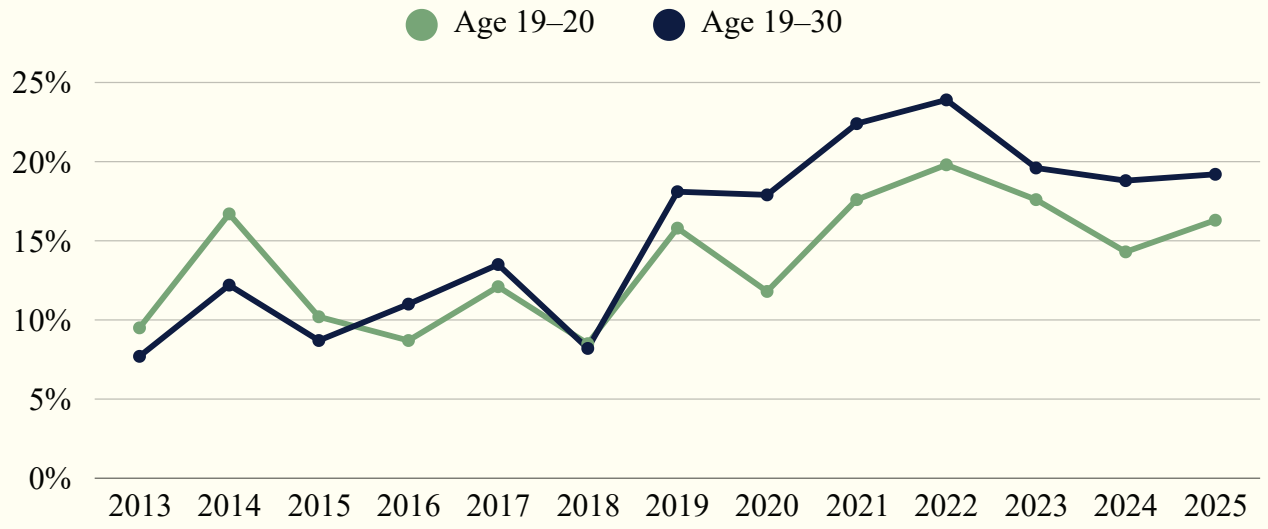
The percentage of 19–30-year-olds who vaped marijuana in the past 12 months was 11.5% in 2017 and 22.1% in 2025 (Figure 1.26). Among 18-year-olds, the percentage who vaped marijuana in the past 12 months was 9.5% in 2017 and 16.0% in 2025. Among 19–20-year-olds, the percentage was 10.8% in 2017 and 22.4% in 2025.

Figure 1.26. Past-year marijuana vaping among individuals between the ages of 18 and 30, 2017–2025



The percentage of 19–30-year-olds who used a marijuana edible in the past year increased from 7.7% in 2013 to 19.2% in 2025, peaking at 23.9% in 2022 (Figure 1.27). The percentage of 19–20-year-olds who used a marijuana edible in the past year increased from 9.5% in 2013 to 16.3% in 2025, peaking at 19.8% in 2022. The survey did not report data for 18-year-olds.

Figure 1.27. Past-year use of marijuana edibles among individuals aged 19–30, 2013–2025



Marijuana edibles

Marijuana edibles are food products that are infused with marijuana. THC can be infused into gummies, candies, cookies, brownies, mints, and more, just as other supplements are mixed into food products. While marijuana flower is often sold by its potency (e.g., 15% THC flower), edibles are often sold by their quantity (e.g., a pack of edibles that each contain 10mg of THC).

Many of these are designed and packaged in ways that appeal to minors, often mirroring the designs and names of brands that are recognizable to children. For example, a marijuana company named Haute Health created a product called Trips Ahoy and said, "Enjoy Chips Ahoy cookies? Well you're in luck cause now there's Trips Ahoy—the same old classic chocolate cookies that you love but now infused with cannabis! These delicious cookies are made with real chocolate chips and taste just like the classics."[48]

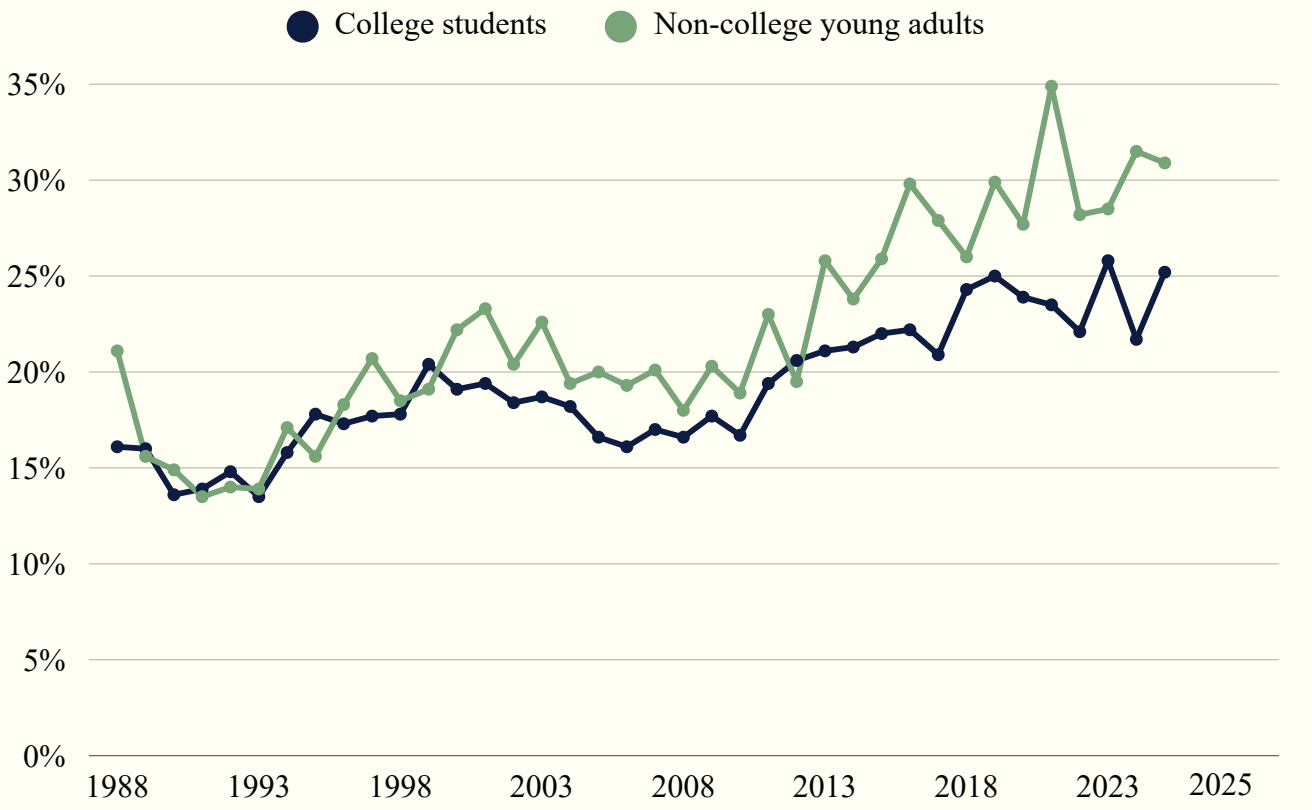
The brand Stoney Patch Kids said: "With vibrant packaging and a familiar candy-inspired concept, stoney patch kids stand out as a fun and flavorful choice ... The design makes them instantly recognizable and adds to the overall experience."[49]





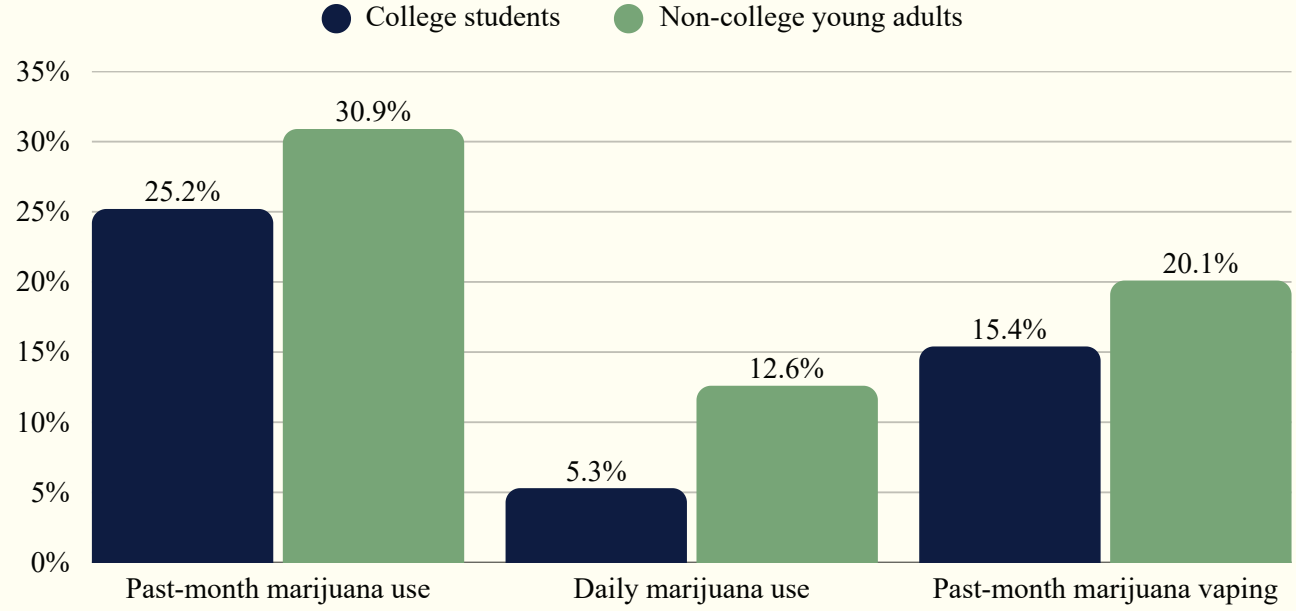
The MTF panel study also tracks differences in marijuana use among 19–22-year-olds by whether they are in college. The percentage of young adults in college who used marijuana in the past month increased from 16.1% in 1988 to 25.2% in 2025, while the percentage among non-college young adults increased from 21.1% to 30.9% (Figure 1.28).[50]

Figure 1.28. Past-month marijuana use among young adults by college enrollment status, 1988–2025



In 2025, young adults not in college had higher rates of marijuana use than young adults in college. For example, 12.6% of young adults not in college used marijuana on a daily basis compared to 5.3% of young adults in college (Figure 1.29).

Figure 1.29. Marijuana use among young adults by college enrollment status, 2025

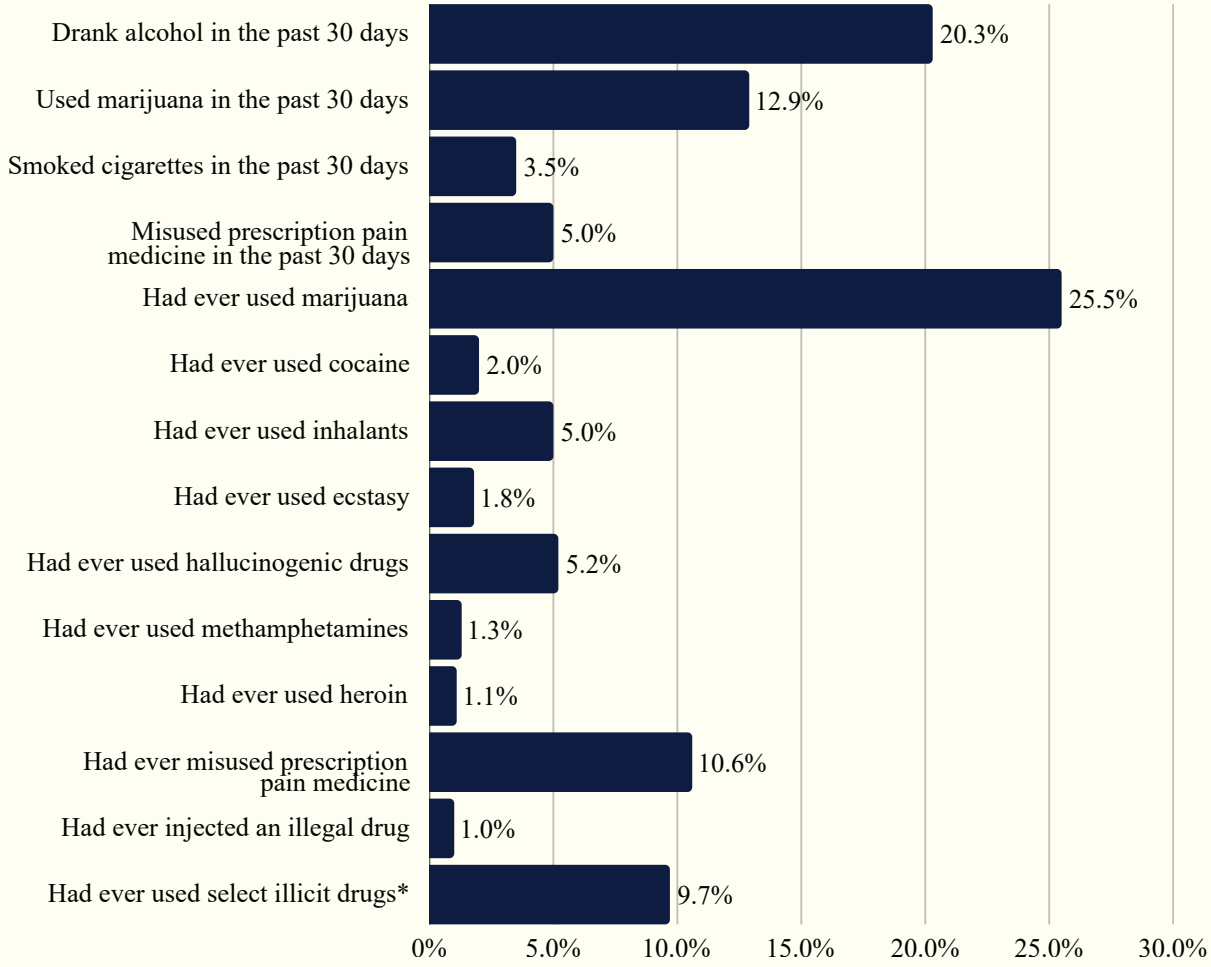


C. The Youth Risk Behavior Survey

The CDC's Youth Risk Behavior Survey (YRBS) asks high school students about a range of behaviors and experiences, including those related to substance use. In 2025, the YRBS estimated that 25.5% of high school students had ever used marijuana, while 12.9% used marijuana in the past 30 days (Figure 1.30).[51]

The YRBS differs from the MTF in its granularity. While the racial and ethnic categories in the MTF are limited to White, Black, and Hispanic, the YRBS includes additional options (e.g., Native Hawaiian or Other Pacific Islander). In addition to the question of sex in the MTF (male or female), the YRBS asks students about their sexual and gender identity (e.g., heterosexual or bisexual). Unlike the MTF, the YRBS has data on students in 9th and 11th grades and reports state-level and local estimates.

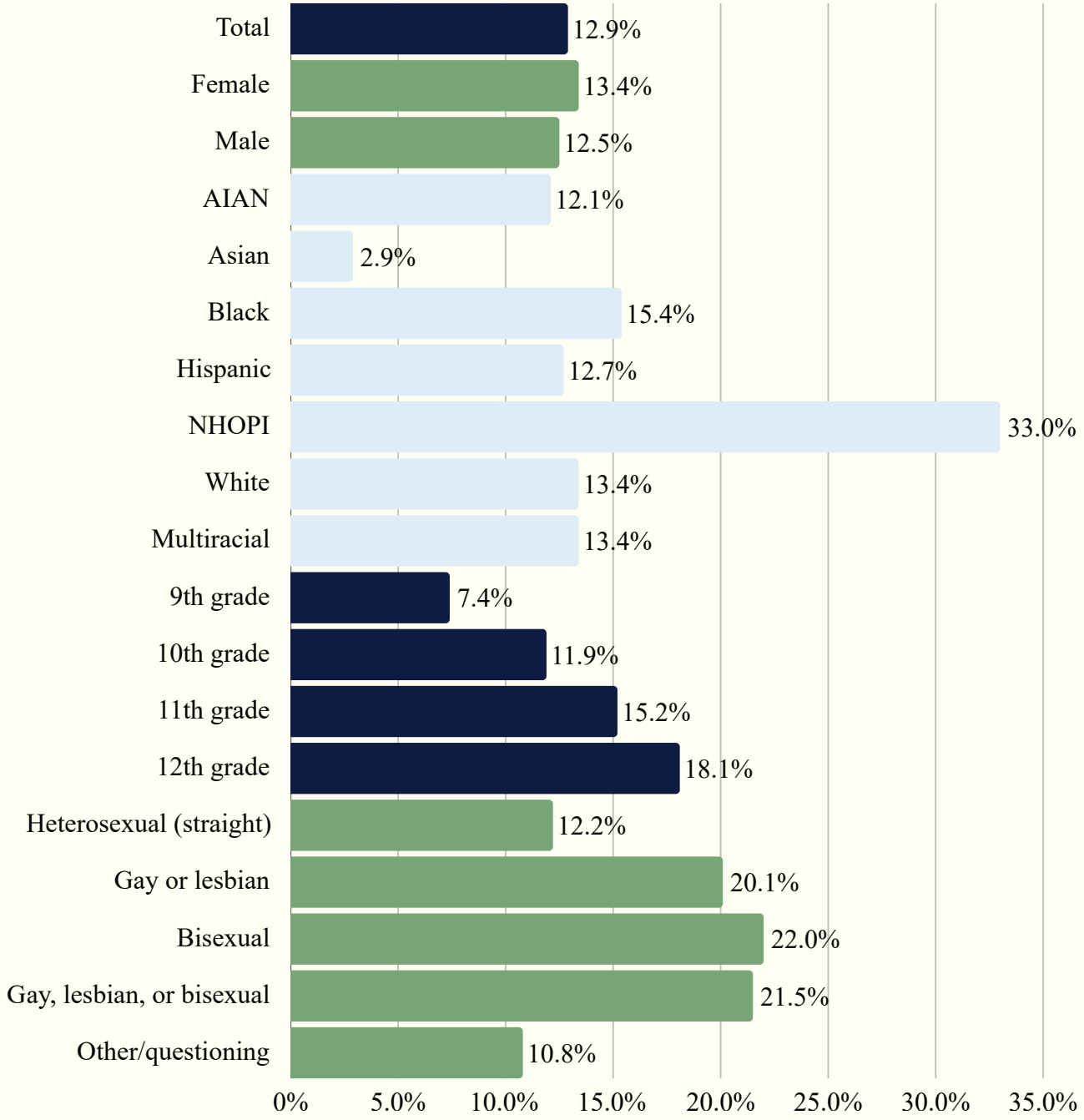
Figure 1.30. Substance use among high school students, 2025



* = The use of cocaine, inhalants, heroin, methamphetamine, ecstasy, or hallucinogens one or more times during their life.

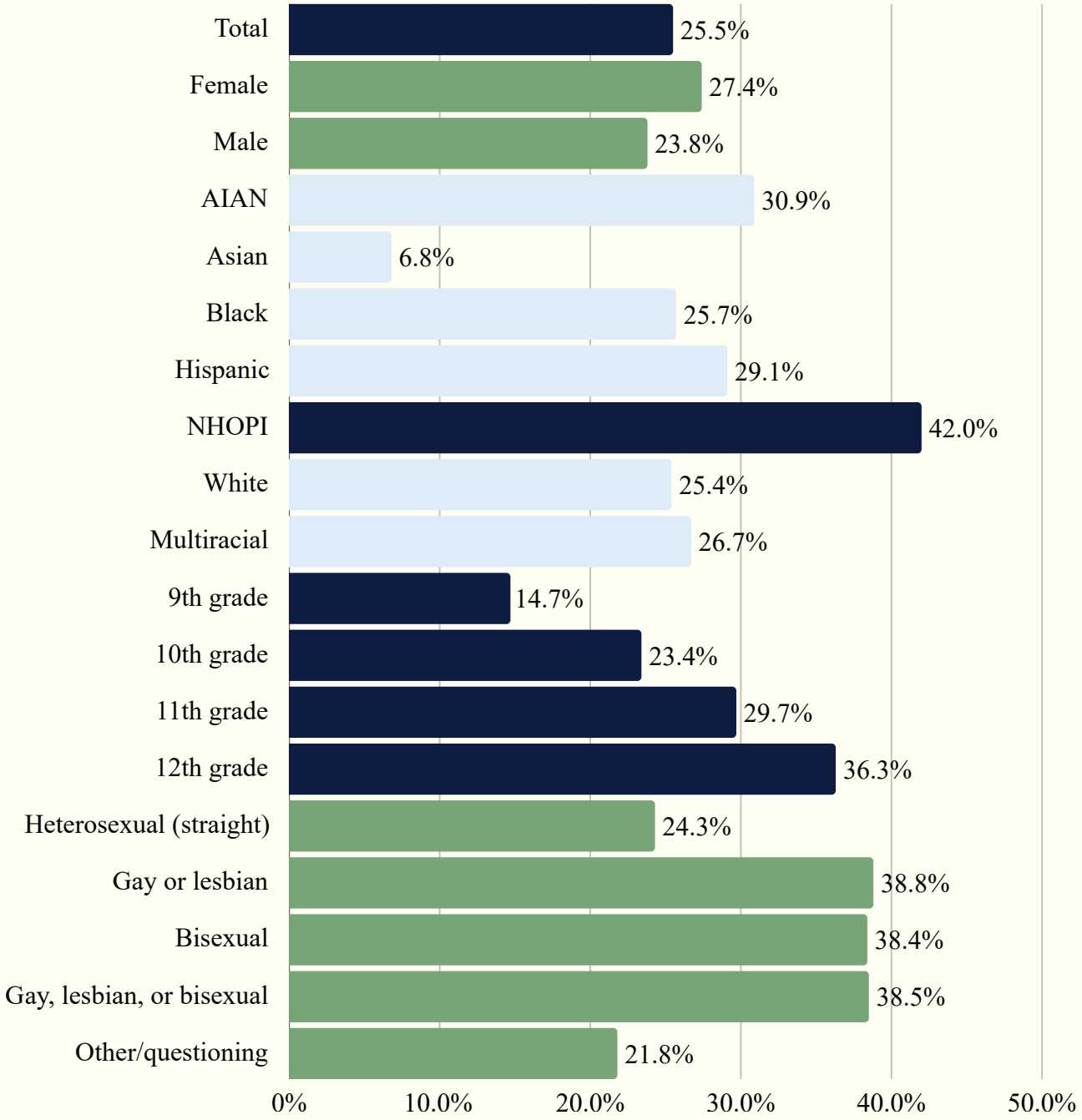
In 2025, 12.9% of high school students used marijuana in the past month (Figure 1.31). The past-month use of marijuana ranged from 13.4% among females to 12.5% among males. That year, 12.2% of heterosexual students used marijuana in the past month compared to 21.5% of students who were gay, lesbian, or bisexual. By race, past-month marijuana use ranged from a low of 2.9% among Asian students to a high of 33.0% among Native Hawaiian or Other Pacific Islander (NHOPI) students. By grade, 7.4% of 9th graders used marijuana in the past month compared to 18.1% of 12th graders.

Figure 1.31. Past-month marijuana use among high school students, 2025



In 2025, 25.5% of high school students had ever used marijuana (Figure 1.32). The lifetime use of marijuana ranged from 23.8% among males to 27.4% among females. That year, 24.3% of heterosexual students had ever used marijuana compared to 38.5% of students who were gay, lesbian, or bisexual. By race, lifetime marijuana use ranged from a low of 6.8% among Asian students to a high of 42.0% among NHOPI students. By grade, 14.7% of 9th graders had ever used marijuana compared to 36.3% of 12th graders.

Figure 1.32. Lifetime marijuana use among high school students, 2025



In 2025, 4.4% of high school students had tried marijuana before age 13 (Figure 1.33). This ranged from 3.7% of heterosexual students to 8.4% of students who were gay, lesbian, or bisexual. By race, the percentage who tried marijuana before age 13 ranged from a low of 1.2% among Asian students to a high of 6.5% among NHOPI students. By grade, 5.4% of 9th graders used marijuana before age 13 compared to 3.0% of 12th graders.

Figure 1.33. High school students who tried using marijuana before age 13, 2025

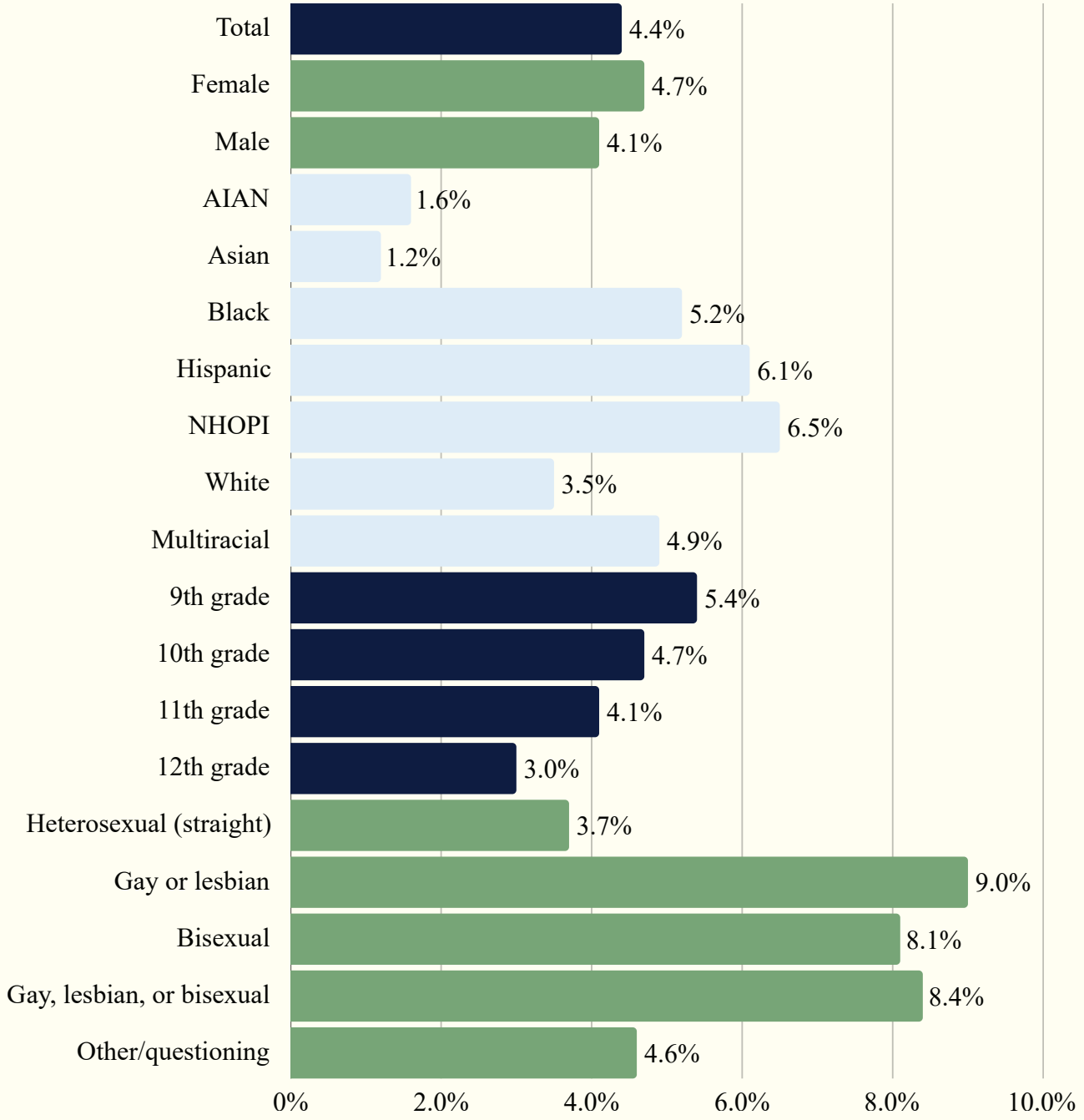


Table 1.7 summarizes estimates of marijuana use among high school students in 2025 among the states that participated in the YRBS and had representative data.[52]

Table 1.7. Marijuana use among high school students by jurisdiction, 2025

Jurisdiction	Past-month marijuana use	Lifetime marijuana use	High school students who tried marijuana before age 13
United States average	**12.9%**	**25.5%**	**4.4%**
Alabama	N/A	N/A	N/A
Alaska	N/A	N/A	N/A
Arizona	10.5%	N/A	N/A
Arkansas	10.3%	22.5%	5.0%
California	N/A	N/A	N/A
Colorado	N/A	N/A	N/A
Connecticut	11.7%	22.6%	3.3%
Delaware	11.3%	22.4%	4.8%
Florida	N/A	N/A	N/A
Georgia	N/A	N/A	N/A
Hawaii	8.1%	N/A	4.5%
Idaho	N/A	N/A	N/A
Illinois	8.2%	20.0%	5.9%
Indiana	14.4%	N/A	4.1%
Iowa	N/A	N/A	N/A
Kansas	N/A	N/A	N/A
Kentucky	9.6%	21.8%	N/A
Louisiana	10.1%	20.7%	4.4%
Maine	14.7%	26.4%	6.3%
Maryland	12.1%	N/A	4.6%
Massachusetts	12.0%	N/A	2.8%
Michigan	12.1%	24.2%	5.7%
Mississippi	12.2%	26.7%	9.3%
Missouri	8.5%	21.8%	4.5%
Montana	13.3%	26.6%	6.3%
Nebraska	N/A	N/A	N/A

(The table continues on the next page)

Table 1.7. Marijuana use among high school students by jurisdiction, 2025 (continued)

Jurisdiction	Past-month marijuana use	Lifetime marijuana use	High school students who tried marijuana before age 13
Nevada	13.7%	28.6%	7.8%
New Hampshire	15.6%	N/A	4.7%
New Jersey	N/A	N/A	N/A
New Mexico	11.6%	N/A	7.2%
New York	N/A	N/A	N/A
North Carolina	10.6%	19.7%	3.7%
North Dakota	9.3%	21.2%	4.3%
Ohio	11.4%	18.3%	N/A
Oklahoma	11.3%	25.8%	5.9%
Pennsylvania	11.6%	21.9%	4.1%
Rhode Island	14.3%	26.3%	4.0%
South Carolina	11.3%	19.5%	3.1%
South Dakota	8.3%	16.2%	N/A
Tennessee	N/A	N/A	N/A
Texas	N/A	N/A	N/A
Utah	7.5%	13.8%	1.9%
Vermont	17.6%	N/A	5.9%
Virginia	8.8%	15.4%	3.5%
Washington	N/A	N/A	N/A
West Virginia	12.5%	N/A	4.9%
Wisconsin	11.0%	21.3%	4.4%
Wyoming	N/A	N/A	N/A

Table 1.8 summarizes estimates of marijuana use among high school students in 2025 among the school districts that participated in the YRBS and had representative data.

Table 1.8. Marijuana use among high school students by school district, 2025

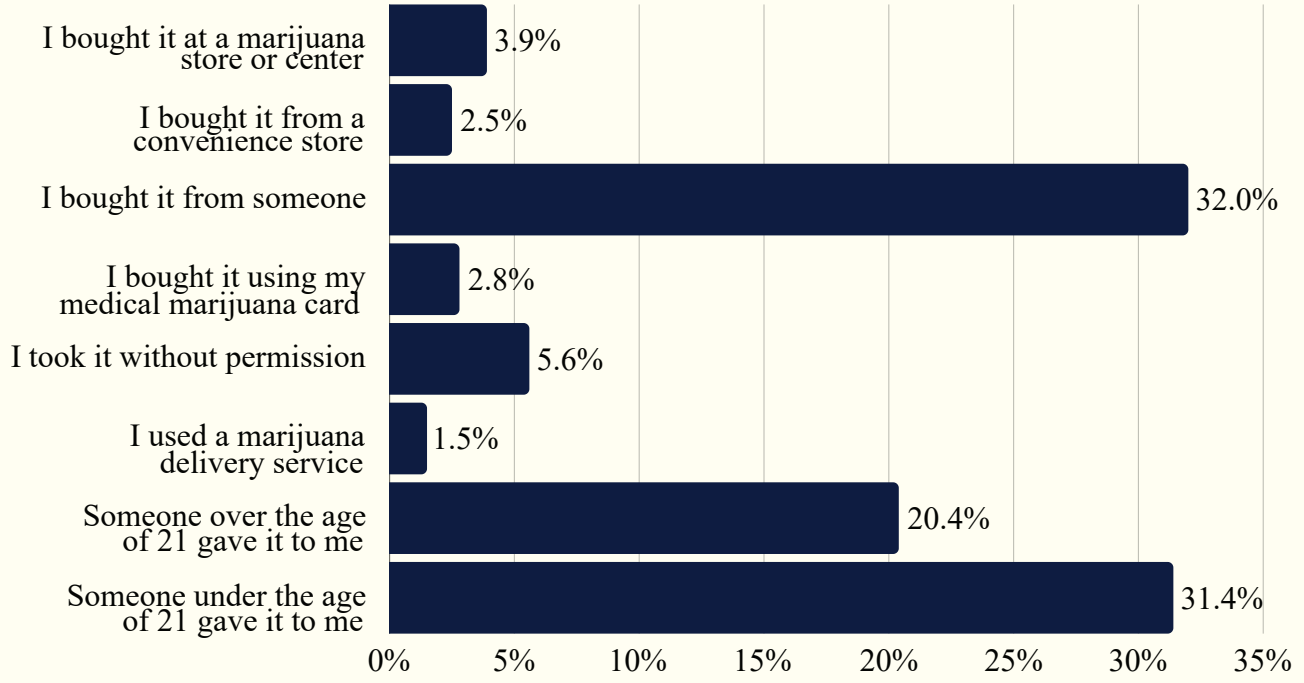
Jurisdiction	Past-month marijuana use	Lifetime marijuana use	High school students who tried marijuana before age 13
United States average	**12.9%**	**25.5%**	**4.4%**
Albuquerque, NM	12.2%	N/A	8.5%
Boston, MA	12.3%	N/A	3.5%
Chicago, IL	14.1%	25.4%	3.9%
District of Columbia	19.3%	N/A	7.9%
Houston, TX	12.1%	26.0%	6.3%
Los Angeles, CA	12.0%	22.2%	5.2%
Montgomery County, MD	9.5%	N/A	3.1%
Nashville, TN	10.2%	19.2%	2.1%
New York City, NY	12.9%	N/A	N/A
Newark, NJ	9.3%	16.3%	3.0%
Oakland, CA	13.8%	N/A	6.3%
Philadelphia, PA	18.1%	N/A	5.9%
Portland, OR	16.9%	N/A	3.6%
San Diego, CA	13.1%	N/A	5.6%
San Francisco, CA	10.3%	N/A	N/A
Seattle, WA	12.0%	N/A	2.6%

D. Additional Surveys

Healthy Kids Colorado Survey

In 2025, the prevalence of past-month marijuana use among high school students in Colorado was 9.7%, according to the Healthy Kids Colorado Survey conducted by the Colorado Department of Public Health and Environment.[53] That year, when high school students who used marijuana in the past month were asked how they usually obtained it, 32.0% said that they bought it from someone, while 5.6% took it without permission and 3.9% bought it at a marijuana store or center (Figure 1.34).

Figure 1.34. Sources of marijuana among past-month high school marijuana users in Colorado, 2025



Among past-month marijuana users in high school in Colorado in 2025, 37.3% used marijuana 1–2 times in the past month, while 12.7% used it 10–19 times and 17.4% used it 40 or more times (Figure 1.35). Past-month marijuana users reported that smoking was their most common method of use, followed by vaping (Figure 1.36).

Figure 1.35. Frequency of marijuana use among past-month high school marijuana users in Colorado, 2025

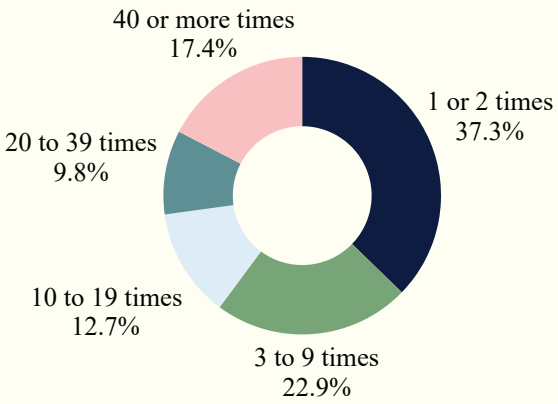
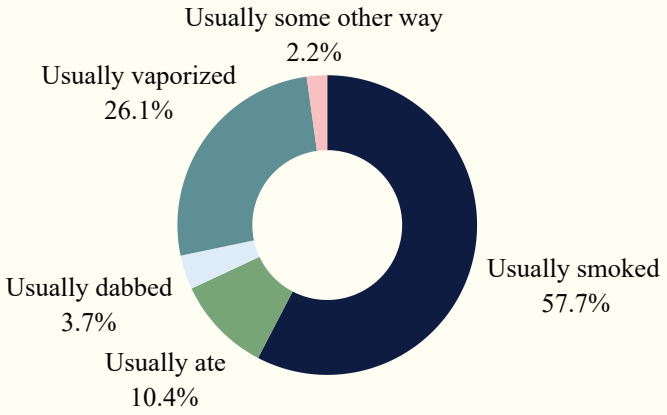


Figure 1.36. Method of usual use among past-month high school marijuana users in Colorado, 2025



Arizona Youth Survey

Between 2020 and 2024, the percentage of 8th, 10th, and 12th graders in Arizona who said that they had been offered marijuana in the past month decreased from 30.4% to 18.9%, according to the Arizona Youth Survey conducted by the Arizona Criminal Justice Commission (Figure 1.37).[54] Over this same period, the percentage of students who drove a car or other vehicle in the past month when they had been using marijuana decreased from 3.9% to 1.8% (Figure 1.38).

The percentage of students who had ever vaped marijuana wax or THC oil on school grounds decreased from 12.1% in 2020 to 5.5% in 2024 (Figure 1.39). When students who used marijuana in the past month were asked how they got it, 60.5% said that they got it from friends, while 16.4% got it from a dispensary within Arizona and 13.6% got it from someone with a medical marijuana card (Figure 1.40).

Figure 1.37. Students in Arizona who were offered marijuana, 2020–2024

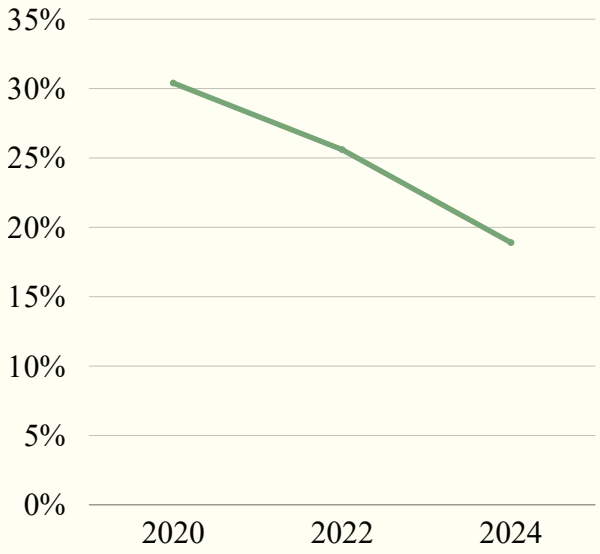


Figure 1.38. Students in Arizona who drove when they had been using marijuana, 2020–2024

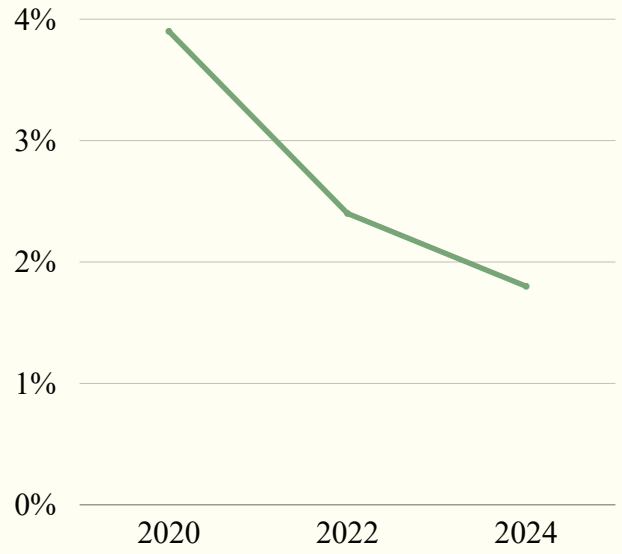


Figure 1.39. Students in Arizona who vaped marijuana wax or THC oil on school grounds, 2020–2024

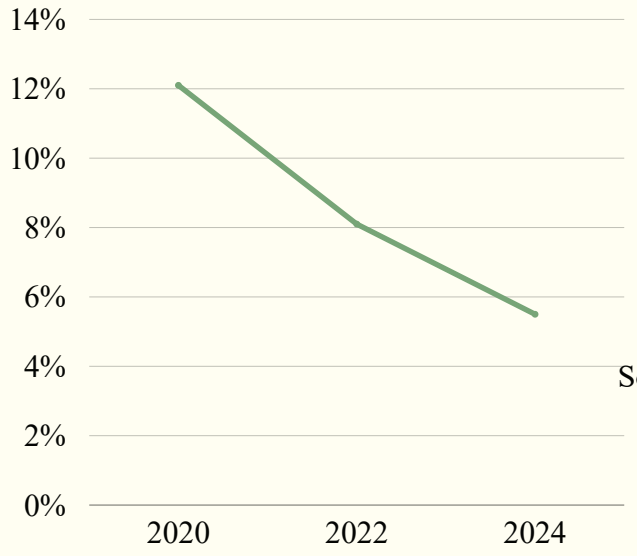
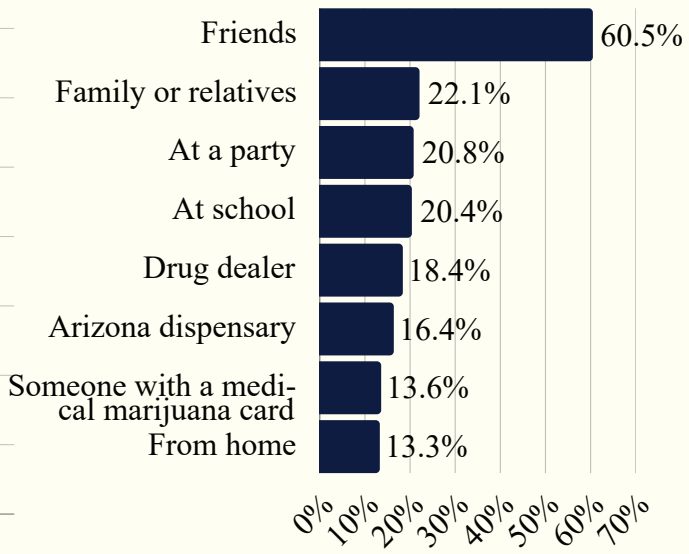


Figure 1.40. Marijuana sources for students in Arizona, 2024



Washington Healthy Youth Survey

Between 2010 and 2025, the percentage of 12th graders in Washington state who said it would be "sort of or very easy" to get marijuana declined from 67.0% to 34.4%, according to the Healthy Youth Survey conducted by the Washington State Department of Health and other agencies (Figure 1.41).[55] Though the question was not asked on earlier iterations of the survey, the percentage of 12th graders who reported using marijuana on school property in the past month decreased from 4.7% in 2018 to 2.6% in 2025 (Figure 1.42).

Between 2010 and 2025, the percentage of 12th graders who thought that kids who used marijuana would be caught by the police increased from 23.7% to 58.0%, though this is in part likely due to changes in the wording of the question (Figure 1.43). The percentage of 12th graders who rode in a vehicle driven by someone who had been using marijuana decreased from 25.9% in 2014, the first year it was asked, to 11.5% in 2025 (Figure 1.44).

Figure 1.41. Access to marijuana among 12th graders in Washington, 2010–2025

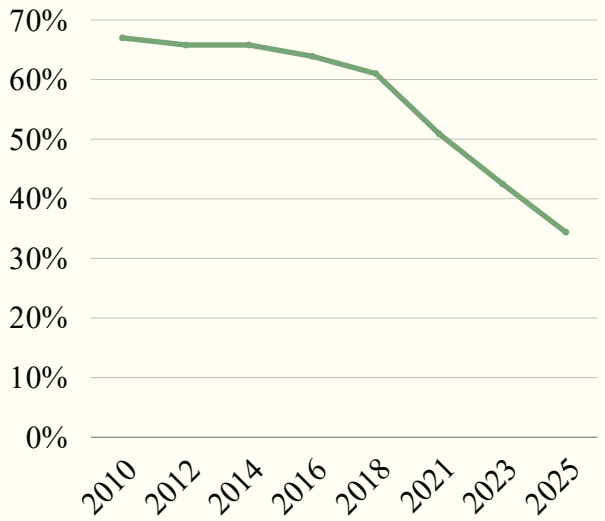


Figure 1.42. 12th graders in Washington who used marijuana on school property, 2018–2025

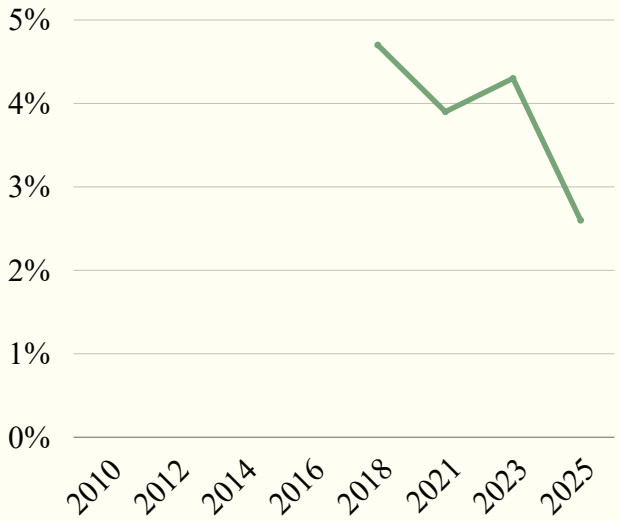


Figure 1.43. 12th graders in Washington who thought kids would be caught by the police for using marijuana, 2010–2025

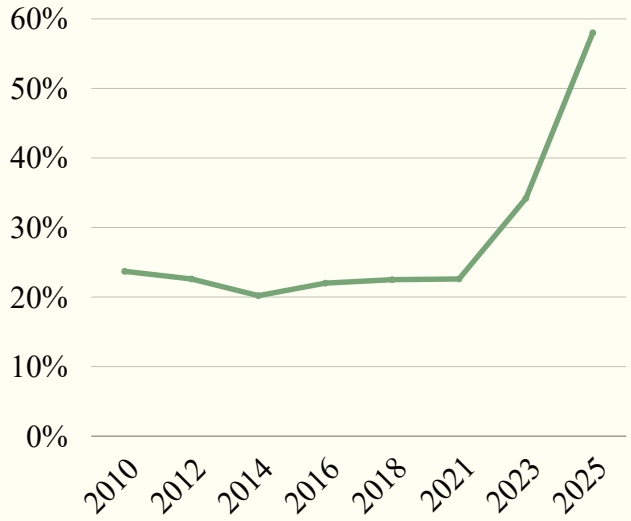
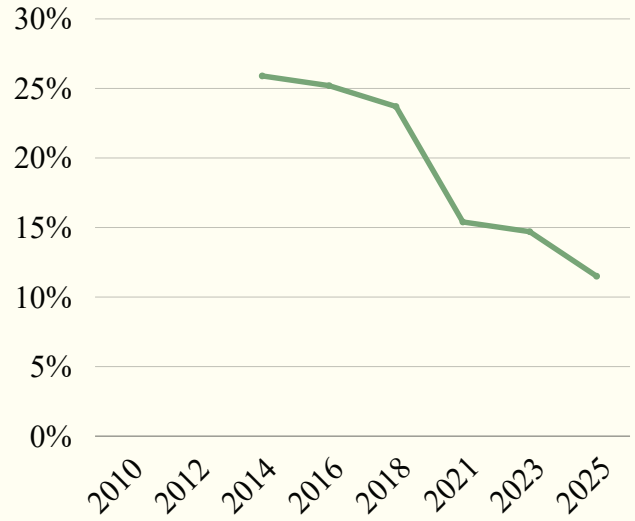


Figure 1.44. 12th graders in Washington who rode with someone who had been using marijuana, 2014–2025



Idaho Healthy Youth Survey

In 2021, among 6th, 8th, 10th, and 12th graders in Idaho who used marijuana, 52.7% said that they used it once on the days when they used it—19.9% used it two times and 8.2% used it six or more times, according to the Idaho Healthy Youth Survey conducted by the Idaho Office of Drug Policy (Figure 1.45).[56] Between 2017 and 2021, the percentage of students who had ever used marijuana with their parents' or caregivers' knowledge decreased from 6.1% to 5.7% (Figure 1.46). In 2021, among students who reported getting marijuana in the past month, 46.6% said that a friend or family member gave it to them for free, while 29.7% said that they bought it from a dealer or stranger (Figure 1.47). Notably, 7.5% answered, "I grew it myself."

Figure 1.45. Frequency of marijuana use on days of use among students in Idaho, 2021

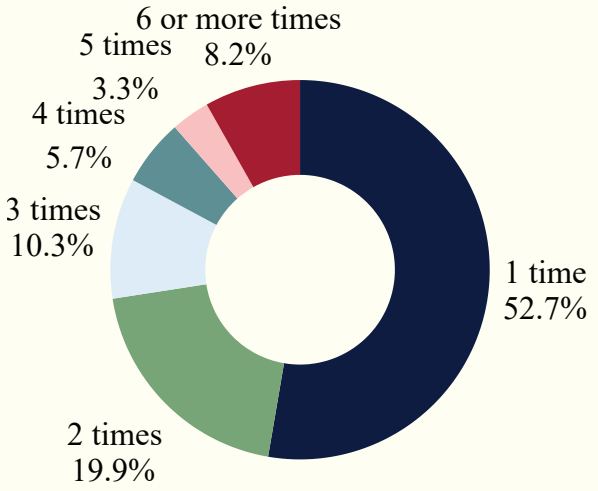


Figure 1.46. Students in Idaho who used marijuana with their parents' or caregivers' knowledge, 2017–2021

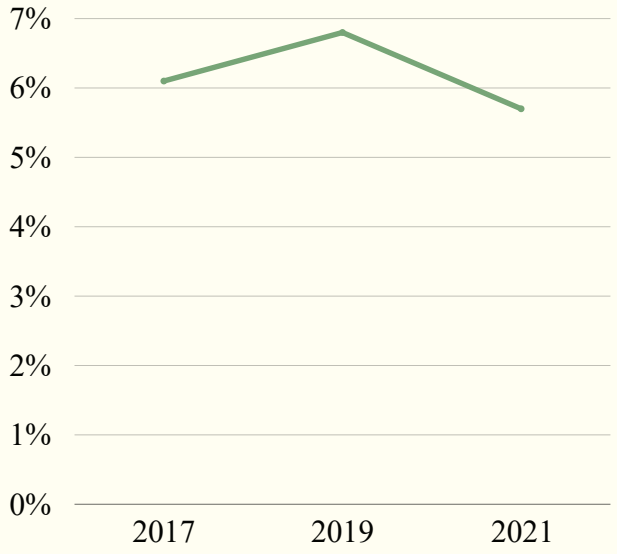
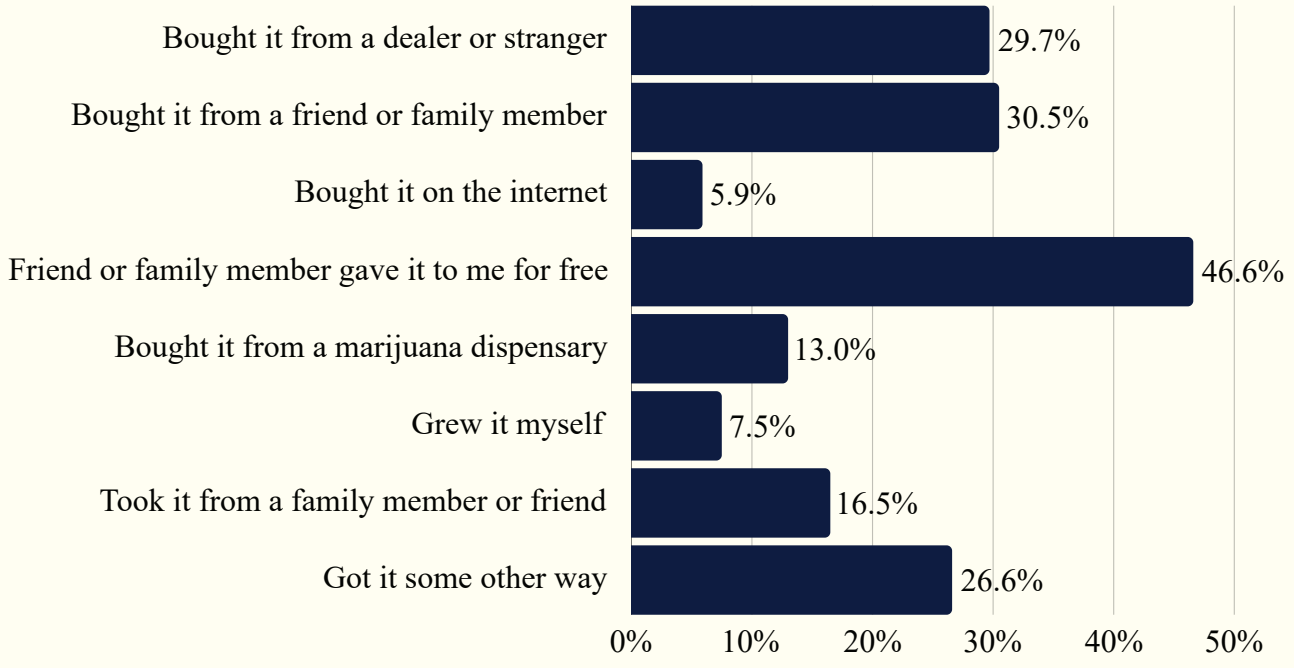


Figure 1.47. Sources of marijuana among students in Idaho, 2021



Illinois Youth Survey

In 2024, among 12th graders in Illinois, 1% first used marijuana at age 12, 4% first used it at age 15, and 6% first used it at age 16, while 76% had never used it, according to the Illinois Youth Survey conducted by the Illinois Department of Human Services (Figure 1.48).[57] That year, 1% of 8th graders, 4% of 10th graders, and 8% of 12th graders reported using alcohol and marijuana at the same time in the past year (Figure 1.49). When 12th-grade marijuana users were asked about their marijuana sources, 69% said that a friend gave it to them, 13% got it from a parent with the parent's permission, 5% got it from someone else's medical marijuana prescription, and 3% got it from their own medical marijuana prescription (Figure 1.50).

Figure 1.48. Age when 12th graders in Illinois first used marijuana, 2024

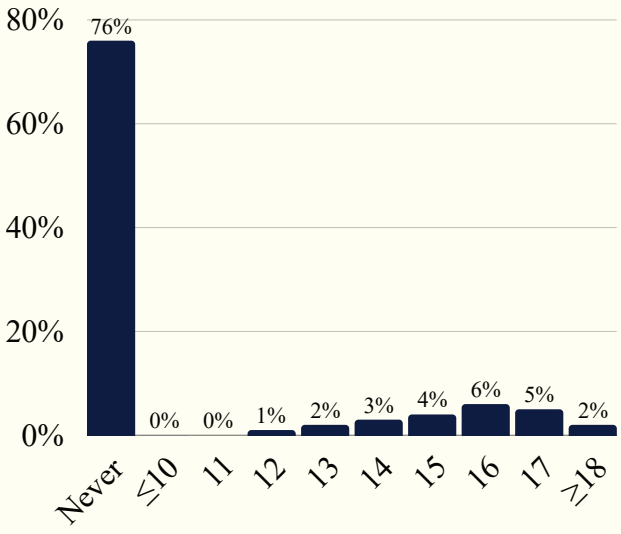


Figure 1.49. Students in Illinois who used alcohol and marijuana at the same time, 2024

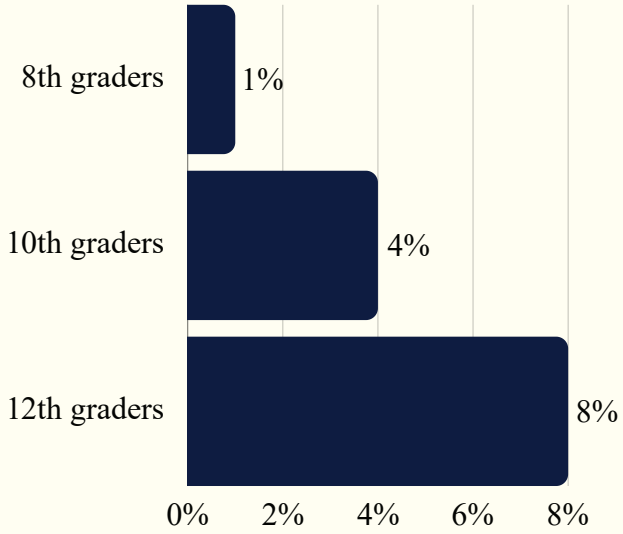
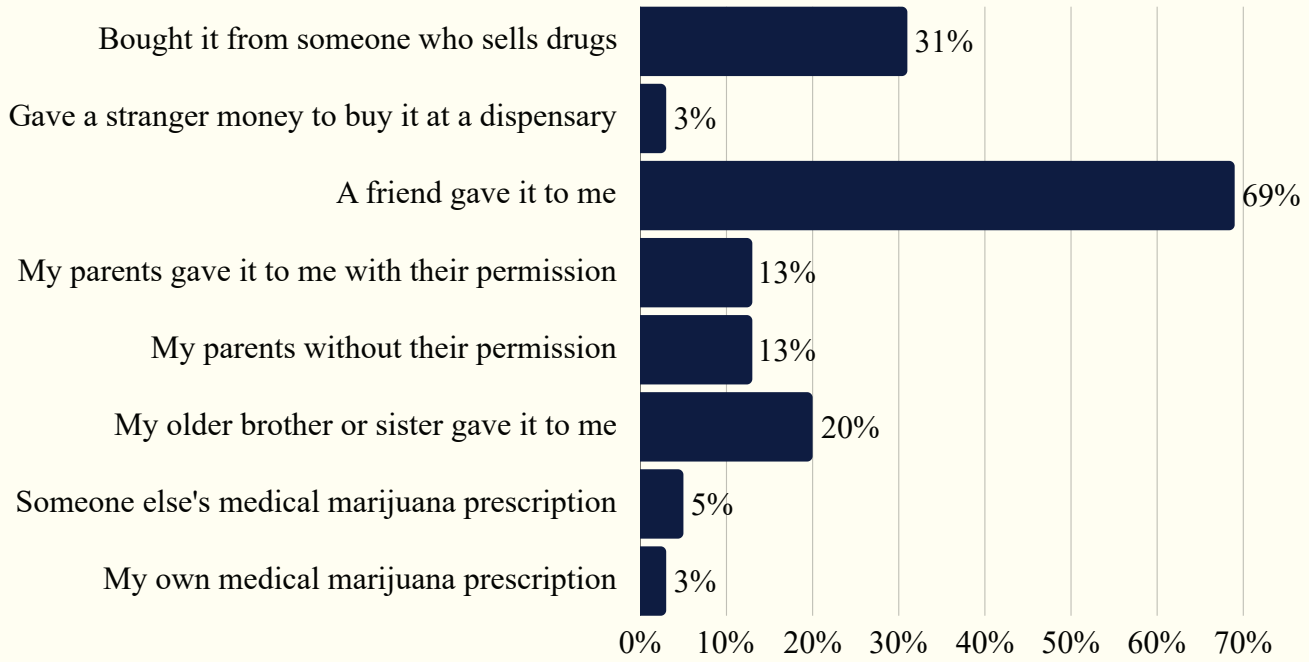


Figure 1.50. Sources of marijuana among 12th-grade marijuana users in Illinois, 2024



Texas School Survey

In 2024, 6.5% of 12th graders said that marijuana and/or other drugs were always at the parties they attended that school year, while 3.0% said that drugs were present half the time and 59.4% said that they were never present, according to the Texas School Survey conducted by the Texas Health and Human Services Commission (Figure 1.51).[58] That year, 2.3% of 12th graders said that they used marijuana every day, while 3.8% used it about once a year and 81.1% never used it (Figure 1.52). The survey also found that marijuana users missed an average of 6.2 days of school due to illness or other reasons compared to 4.4 days among marijuana non-users (Figure 1.53). Marijuana users also reported an average of 4.5 days of conduct problems compared to 1.4 days among marijuana non-users.

Figure 1.51. Marijuana and other drugs at parties among 12th graders in Texas, 2024

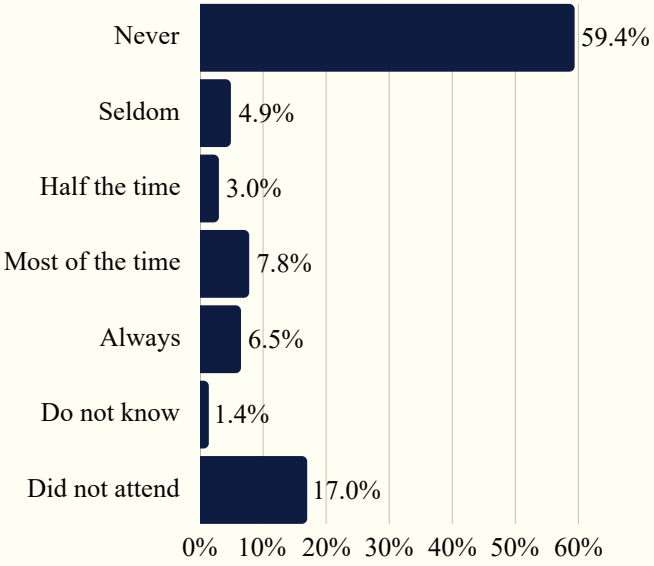


Figure 1.52. Frequency of marijuana use among 12th graders in Texas, 2024

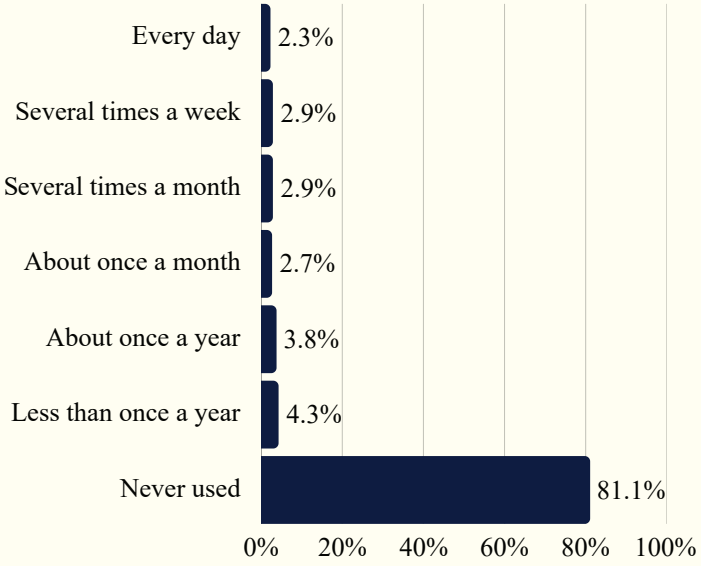
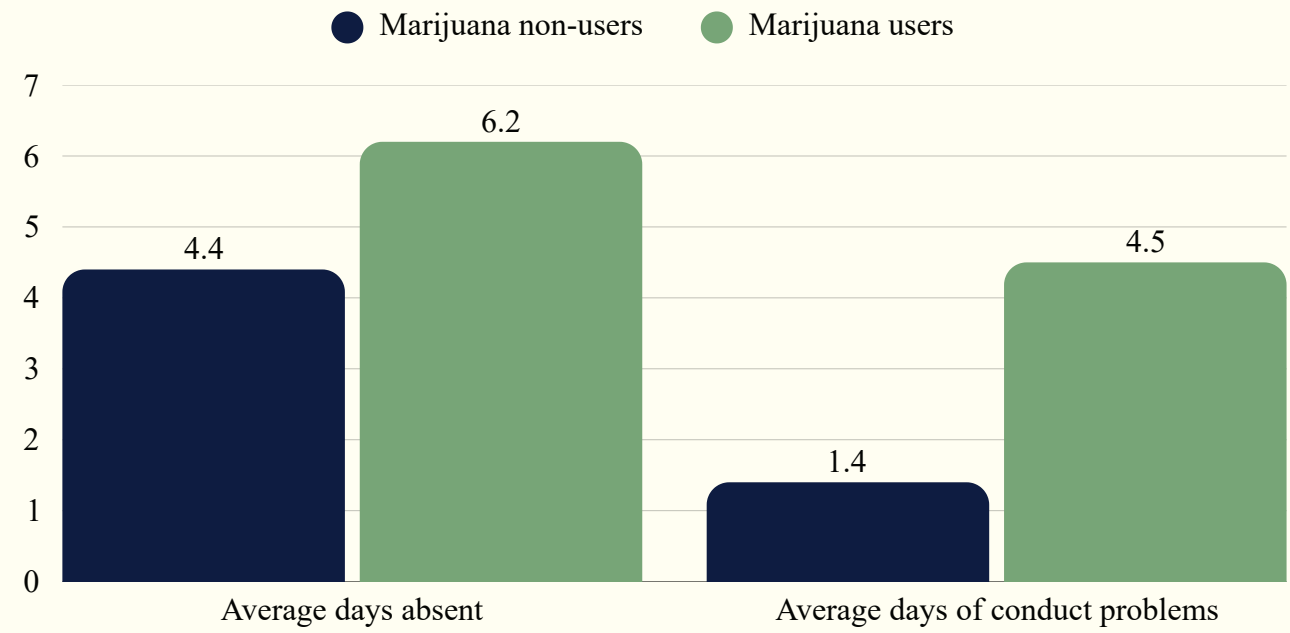


Figure 1.53. School year absences and conduct problems in Texas by marijuana use, 2024



Maine Integrated Youth Health Survey

In 2025, the percentage of high school students in Maine who used marijuana on school property in the past month ranged from 3.2% among 9th graders to 5.6% among 12th graders, according to the Maine Integrated Youth Health Survey conducted by the Maine Department of Health and Human Services (Figure 1.54).[59] That year, 7.0% of 9th graders, 6.8% of 10th graders, 9.8% of 11th graders, and 10.9% of 12th graders answered that they had ever used synthetic marijuana (e.g., spice or K2) or hemp-derived products (e.g., delta-8 or delta-10 THC products) (Figure 1.55).

In 2025, 79.2% of 9th graders and 61.0% of 12th graders thought that using marijuana would negatively impact their goals or future (Figure 1.56).* That year, 40.0% of 9th graders and 22.1% of 12th graders thought that a kid using marijuana in their community would be caught by the police (Figure 1.57).*

Figure 1.54. Maine students who used marijuana on school property in the past month, 2025

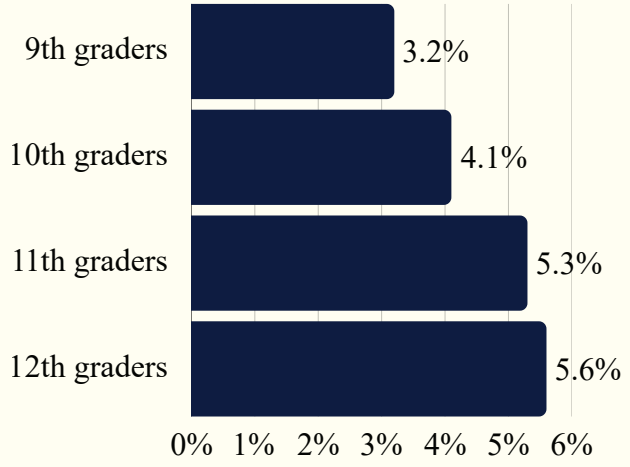


Figure 1.55. Maine students who had ever used synthetic marijuana or hemp-derived products, 2025

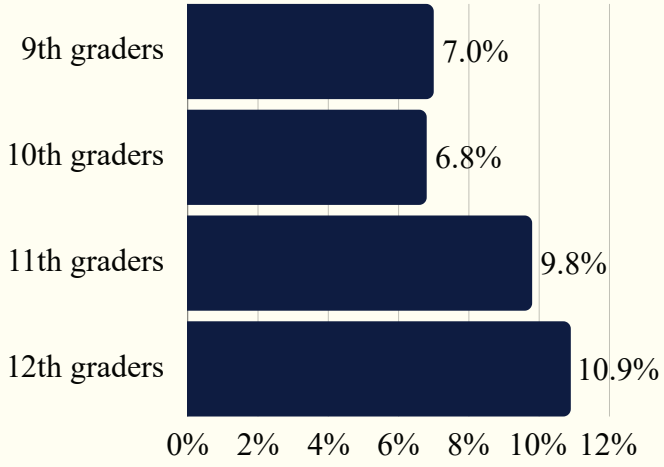


Figure 1.56. Maine students who thought marijuana would negatively impact their goals or future, 2025*

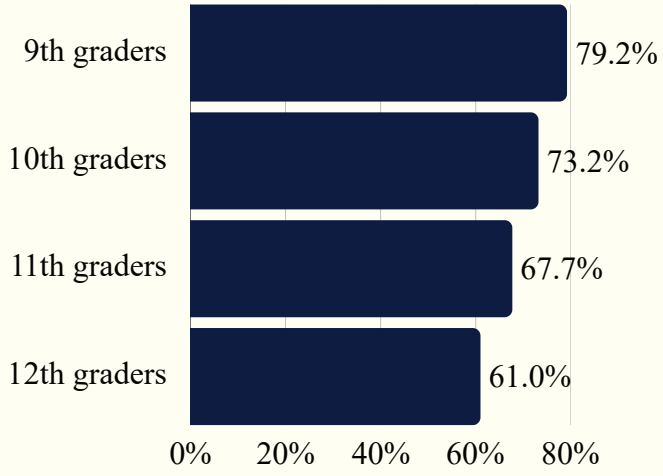
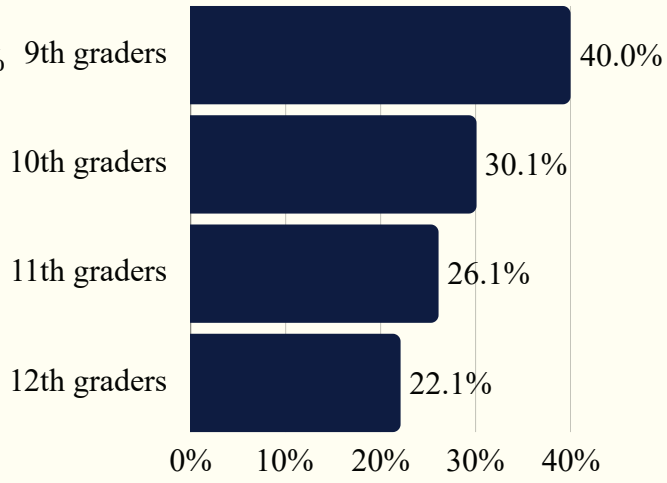


Figure 1.57. Maine students who thought a kid using marijuana in their community would be caught by the police, 2025*



* = Calculated as 100 minus the percentage of students who answered "probably not" or "definitely not."

New Mexico Youth Risk & Resiliency Survey

In 2023, 14.8% of high school students in New Mexico whose parents went to college used marijuana in the past month compared to 18.1% of those whose parents graduated from high school but did not go to college, and 21.9% of those whose parents did not complete high school, according to the New Mexico Youth Risk & Resiliency Survey (Figure 1.58).[60] That year, 40.0% of high school students who were experiencing homelessness used marijuana in the past month compared to 16.4% of those who had stable housing (Figure 1.59).

In 2023, 16.9% of high school students who were born in the United States used marijuana in the past month compared to 19.0% of those who were born outside of the United States (Figure 1.60). The survey also found that 15.5% of those who did not have a disability used marijuana in the past month compared to 24.7% of those who did have a disability (Figure 1.61).

Figure 1.58. Past-month marijuana use among high school students in New Mexico by parental education, 2023

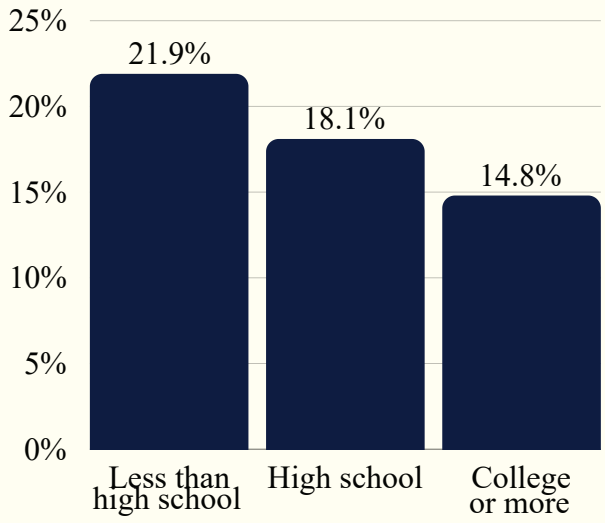


Figure 1.59. Past-month marijuana use among high school students in New Mexico by housing status, 2023

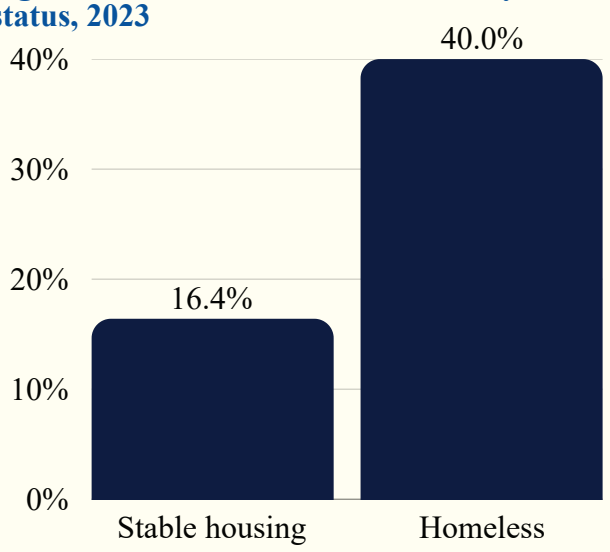


Figure 1.60. Past-month marijuana use among high school students in New Mexico by place of birth, 2023

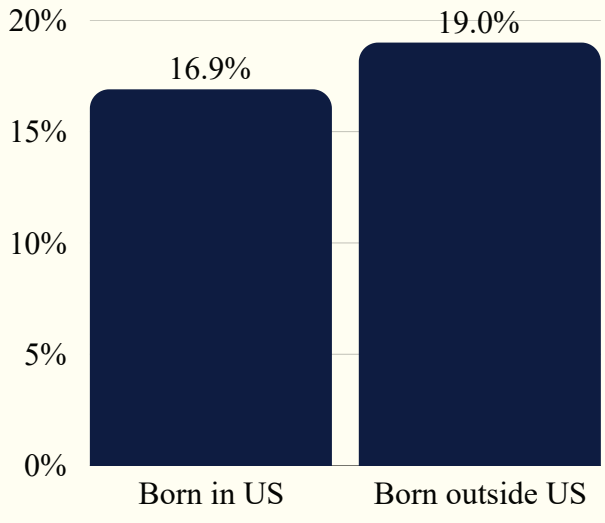
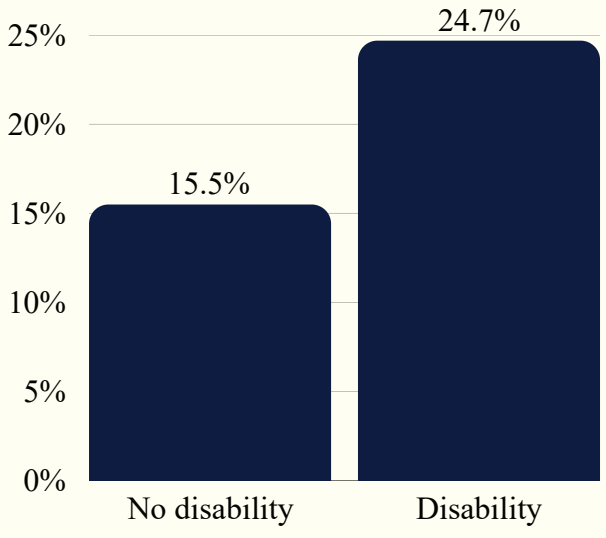


Figure 1.61. Past-month marijuana use among high school students in New Mexico by disability status, 2023



Additional States

The 2024–2025 Ohio Healthy Youth Environments Survey asked students in grades 7–12 about when they usually used marijuana and found that 29.4% of past-month marijuana users usually used it before school, 16.3% usually used it during school, and 89.8% usually used it on the weekend (Figure 1.62).[61] Students could have selected more than one response. The 2025 Arkansas Prevention Needs Assessment reported on the "simultaneous use" of substances, finding that 8.3% of 12th graders used marijuana in the past month, 3.3% co-used marijuana and alcohol, 3.2% co-used marijuana and tobacco, and 2.8% co-used marijuana, tobacco, and alcohol (Figure 1.63).[62]

The 2026 Montana Prevention Needs Assessment found that 0.1% of 8th graders, 0.2% of 10th graders, and 0.6% of 12th graders—not only marijuana users—reported using a fake ID to buy marijuana in the past year (Figure 1.64).[63] The 2023–2024 Oklahoma Prevention Needs Assessment found that 47.1% of 6th, 8th, 10th, and 12th graders said that they had not heard or seen prevention messages about the risks of marijuana use in the past year.[64] Additionally, 13.2% of respondents said that they saw or heard these prevention messages only in school, 18.6% saw or heard them only outside of school, and 21.1% saw or heard them both in and outside of school (Figure 1.65).

Figure 1.62. The usual times of marijuana use among students in Ohio, 2024–2025

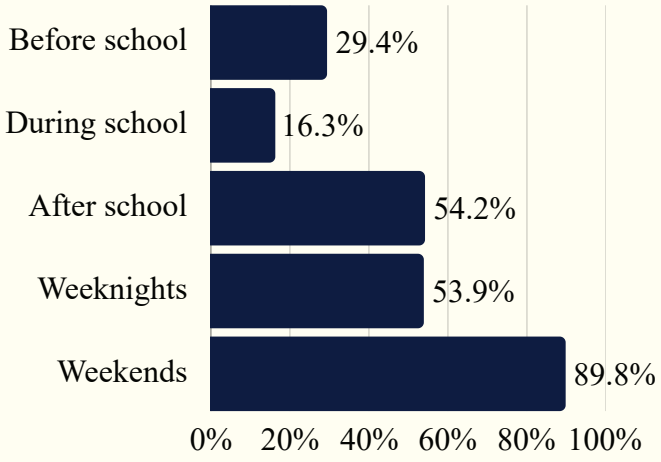


Figure 1.63. The co-use of substances among 12th graders in Arkansas, 2025

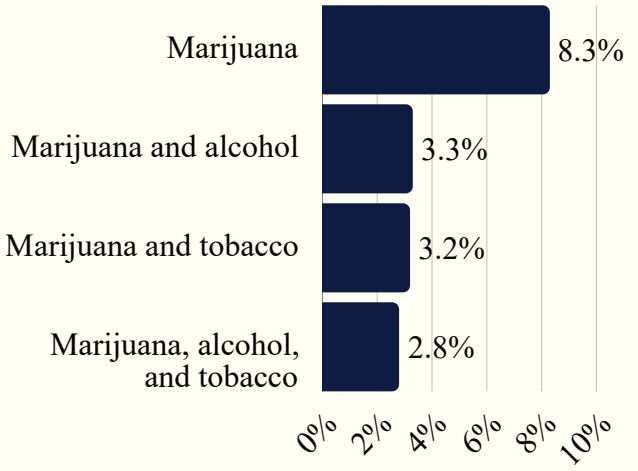


Figure 1.64. The percentage of students in Montana who used a fake ID to buy marijuana, 2026

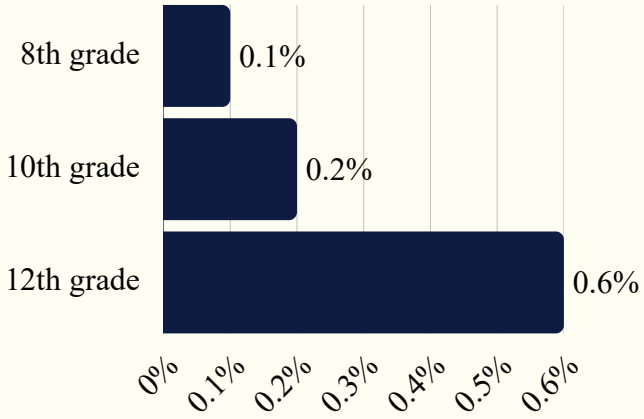
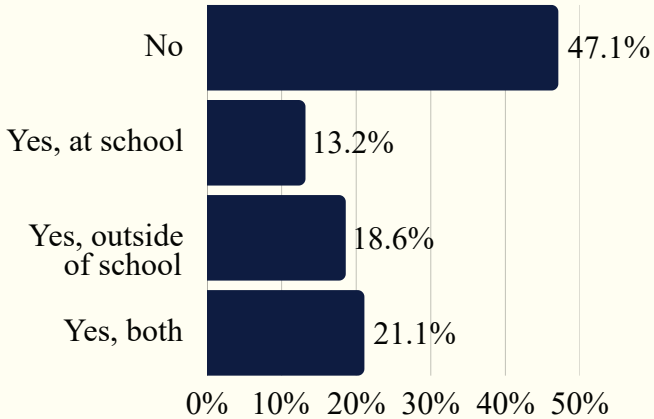


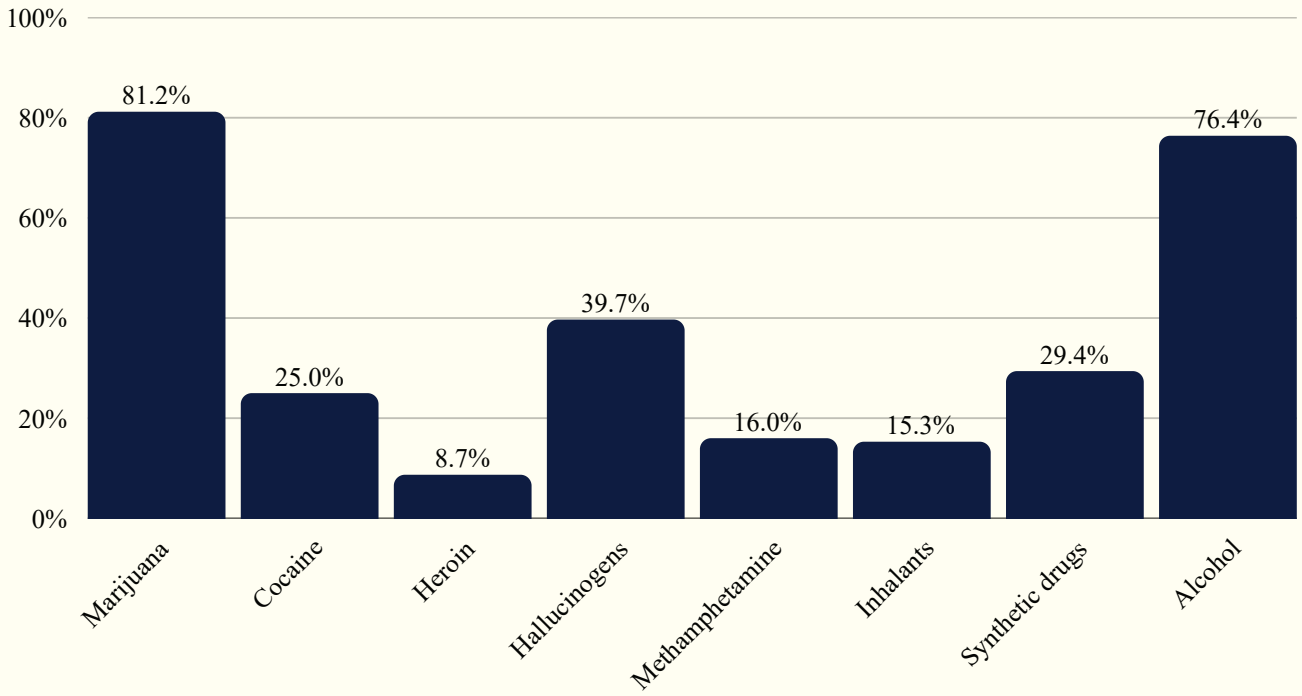
Figure 1.65. The percentage of students in Oklahoma who saw prevention messages about marijuana, 2023–2024



Bureau of Justice Statistics

A 2023 report from the Department of Justice's Bureau of Justice Statistics, based on data from the National Survey of Youth in Custody from 2008–2018, found that 81.2% of youth in juvenile facilities had ever used marijuana before entering custody (Figure 1.66).[65] In comparison, 76.4% had ever drunk alcohol, 39.7% had ever used hallucinogens, 25.0% had ever used cocaine, and 8.7% had ever used heroin.

Figure 1.66. Lifetime substance use among youth admitted to justice facilities, 2008–2018



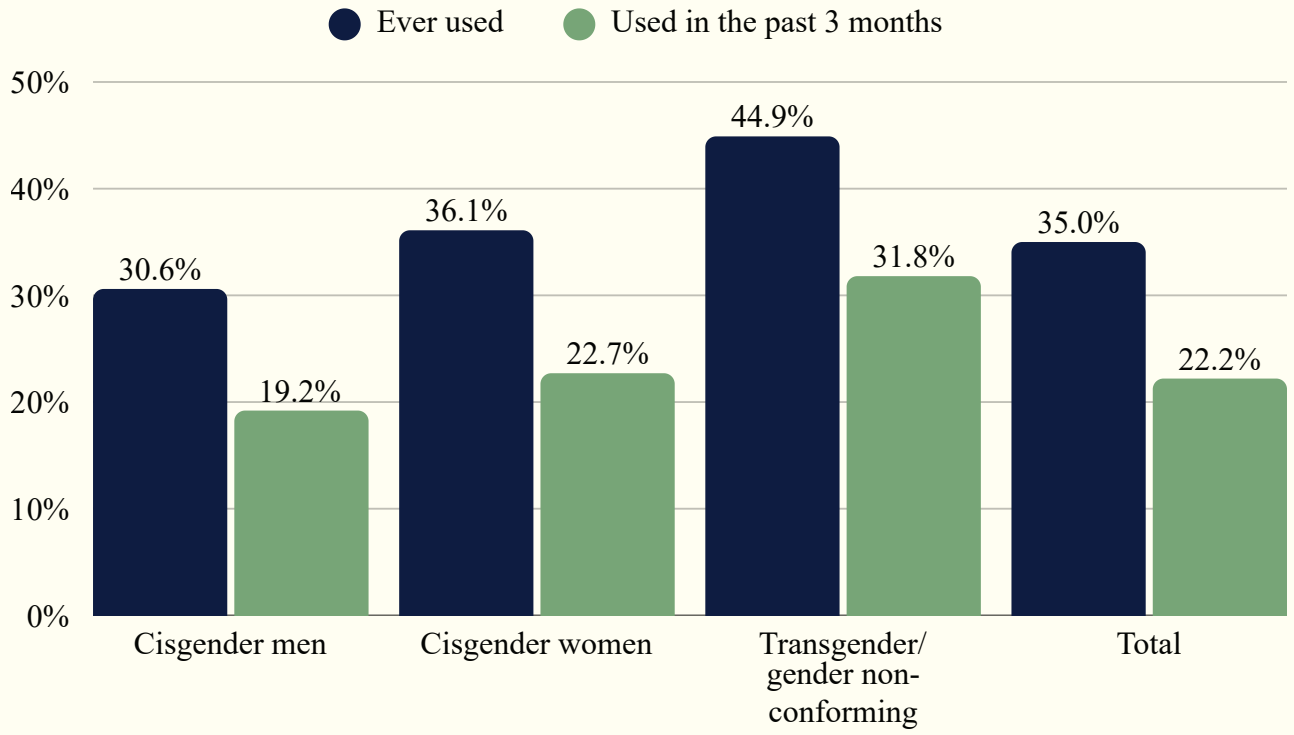
The report noted that 59.9% of this youth population met the criteria for having a drug use disorder (for marijuana or another drug, such as cocaine). More specifically, 31.8% had a severe drug use disorder, 13.0% had a moderate drug use disorder, and 15.1% had a mild drug use disorder. In comparison, 35.5% met the criteria for having an alcohol use disorder. More specifically, 12.6% had a severe alcohol use disorder, 8.8% had a moderate alcohol use disorder, and 14.1% had a mild alcohol use disorder. Additionally, 31.9% of this population met the criteria for having both a drug use disorder and an alcohol use disorder.

National College Health Assessment

The National College Health Assessment, conducted by the American College Health Association, surveyed undergraduate and graduate students on a range of health-related outcomes in fall 2025.[66] Among respondents, 88.2% were full-time students, 11.0% were part-time, and 0.8% were "other," while 80.3% were undergraduates.

The prevalence of marijuana use for recreational purposes in the past 3 months among these students was 22.2%, including 19.2% of cisgender men, 22.7% of cisgender women, and 31.8% of students who identified as transgender or gender non-conforming (Figure 1.67). The survey also found that 35.0% of students reported having ever used marijuana for recreational purposes in their lifetime, ranging from a low of 30.6% among cisgender men to a high of 44.9% of individuals who identified as transgender or gender non-conforming.

Figure 1.67. Recreational marijuana use among college students, fall 2025



When asked when, if ever, they had last used marijuana for either medical or non-medical purposes:

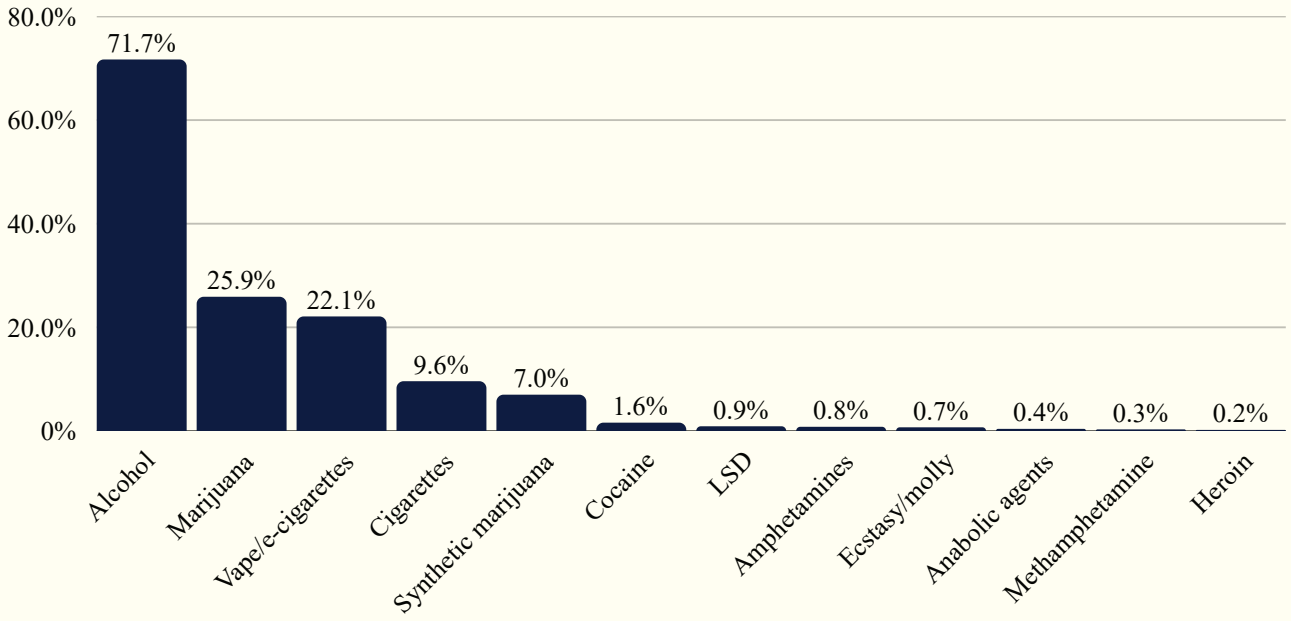
- 14.2% said that they used it within the last 2 weeks
- 3.3% said that they used it more than 2 weeks ago but within the last 30 days
- 4.5% said that they used it more than 30 days ago but within the last 3 months
- 5.9% said that they used it more than 3 months ago but within the last 12 months
- 12.7% said that they used it more than 12 months ago
- 59.4% said that they had never used marijuana

Among college students who used marijuana in the past 30 days, 26.6% said that they drove within 6 hours of using it.

NCAA Student-Athlete Health and Wellness Study

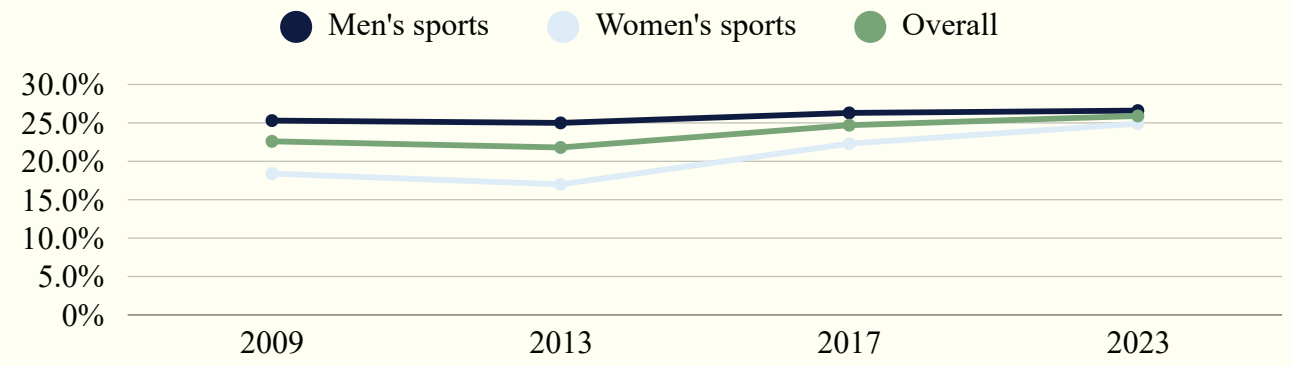
The NCAA Student-Athlete Health and Wellness Study, conducted during the 2022–2023 school year with responses from more than 23,000 student athletes across all collegiate divisions, found that 25.9% of student athletes reported using marijuana in the past year, while 71.7% reported drinking alcohol in the past year (Figure 1.68).[67] Additionally, 23.0% of Division I athletes used marijuana in the past year compared to 23.3% of those in Division II and 30.1% of those in Division III.

Figure 1.68. Substance use in the past year among college athletes, 2022–2023



Between 2009 and 2023, the percentage of student athletes who used (inhaled or ingested) marijuana in the past year increased from 22.6% to 25.9% while it increased from 25.3% to 26.6% among those in men's sports and from 18.4% to 24.9% among those in women's sports (Figure 1.69).

Figure 1.69. Marijuana use in the past year among college athletes, 2009–2023

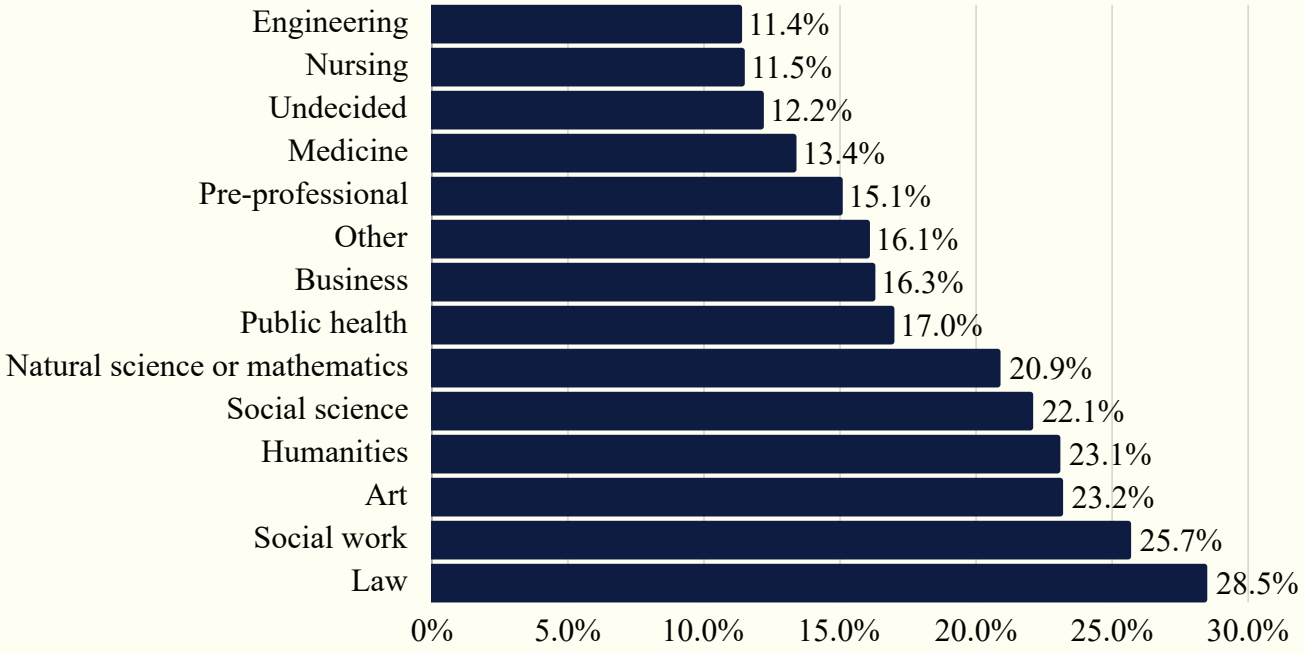


Among student athletes in states where marijuana is legal for recreational and medical purposes, 43% reported using marijuana in the past year during the 2022–2023 school year. This compared to 35% of those in states where it is legal only for medical purposes, 28% of those in states where it is not legal for any purpose, and 16% of those who did not know the legal status of marijuana in their state.

Healthy Minds Study

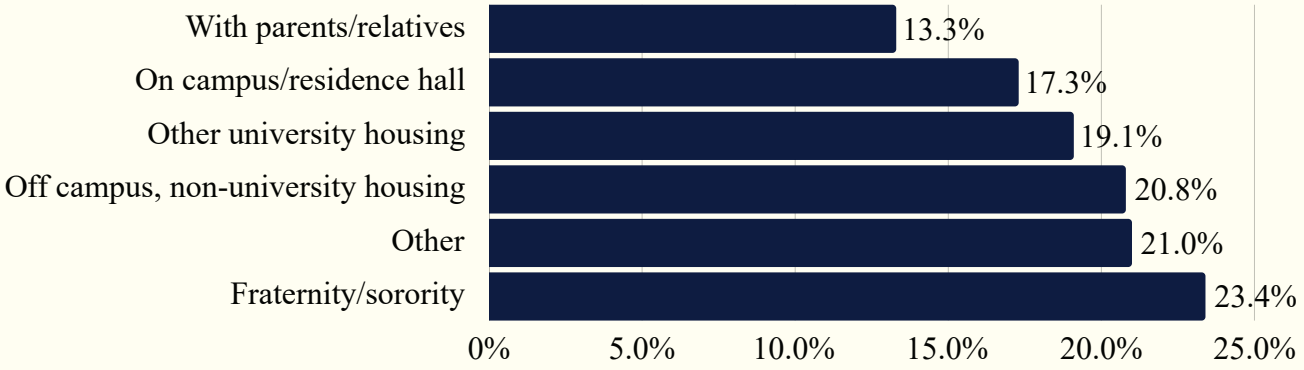
The 2026 Healthy Minds Study, focused on undergraduate and graduate students with a sample of more than 55,000 students, found that 17.6% of respondents used marijuana in the past month.[68] When sorted by their field of study, this ranged from a low of 11.4% among engineering students to a high of 28.5% among law students (Figure 1.70). Additionally, 18.4% of students who were U.S. citizens used marijuana in the past month compared to 6.7% of those who were international students.

Figure 1.70. Past-month marijuana use among undergraduate and graduate students by field of study, 2026



By residence, the prevalence of past-month marijuana use among students ranged from a low of 13.3% among those who lived with their parents or relatives to a high of 23.4% among those who lived in a fraternity or sorority (Figure 1.71).

Figure 1.71. Past-month marijuana use among undergraduate and graduate students by place of residence, 2026



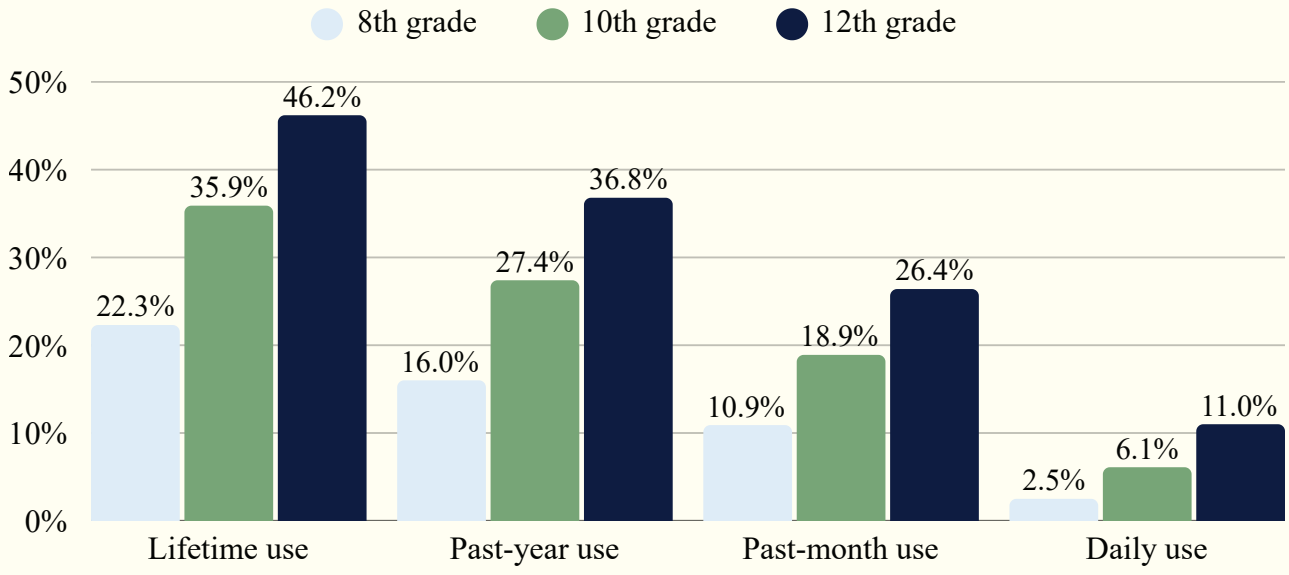
A separate 2025–2026 study surveyed more than 5,500 faculty and staff members, finding that 11% used marijuana in the past month.[69]

Our Youth, Our Future

The Our Youth, Our Future survey, which is funded by the National Institute on Drug Abuse, states that it is "the only source of nationally-representative substance use data specifically for reservation-area Indigenous adolescents living on reservations, a population that experiences large health disparities."[70] In order for schools to be eligible to participate in the voluntary survey, they must be located within 25 miles of a federally recognized reservation in the continental United States, have at least 20% American Indian student enrollment, and have at least 20 students in each grade.

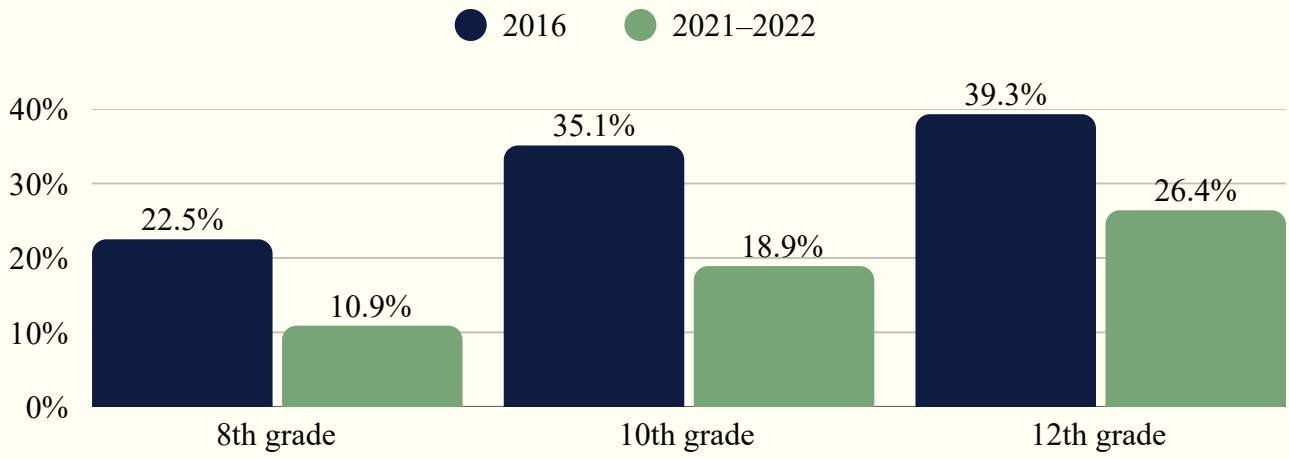
In 2021–2022, the Our Youth, Our Future survey found that 46.2% of 12th graders had ever used marijuana, while 36.8% used it in the past year, 26.4% used it in the past month, and 11.0% used it on a daily basis (Figure 1.72).[71] The survey noted that "cannabis is often the most used substance among Native youth that live on a reservation."

Figure 1.72. Marijuana use among reservation-area American Indian youth, 2021–2022



The survey explained that there were "significant reductions in the use of cannabis from 2016 to 2021–2022. Whether these are related to the COVID-19 pandemic is unknown until more data is gathered." Between 2016 and 2021–2022, the percentage of 12th graders who used marijuana in the past month decreased from 39.3% to 26.4% (Figure 1.73).

Figure 1.73. Past-month marijuana use among reservation-area American Indian youth, 2016–2022



The Trevor Project

The Trevor Project, a non-profit focused on preventing suicide among LGBTQ+ youth, recruited nearly 1,700 participants aged 13–24 between September 2023 and February 2024 through its Project SPARK and found that 25% reported past-month marijuana use, including 13.2% of 13–17-year-olds and 33.1% of 18–24-year-olds.[72] Additionally, 34% of those who attempted suicide in the past year used marijuana in the past month compared to 24% of those who had not attempted it (Table 1.9).

Table 1.9. Past-month marijuana use among LGBTQ+ individuals aged 13–24, 2023–2024

Characteristic	Past-month marijuana use
Sexual orientation	
Gay	19.6%
Lesbian	22.9%
Bisexual	29.6%
Queer	34.0%
Pansexual	27.5%
Asexual	11.9%
Heterosexual	23.5%
Not sure	21.4%
Gender identity	
Cisgender boy/man	18.6%
Cisgender girl/woman	23.6%
Transgender boy/man	28.7%
Transgender girl/woman	25.4%
Nonbinary	30.4%
Gender questioning	16.7%
Victimization in the past year	
Experienced victimization due to their sexual orientation or gender identity	30%
Did not experience victimization due to their sexual orientation or gender identity	22%
Experienced discrimination due to their sexual orientation or gender identity	24%
Did not experience discrimination due to their sexual orientation or gender identity	27%
Mental health*	
Anxiety	29%
No anxiety	19%
Depression	29%
No depression	21%
Suicidal behaviors in the past year	
Attempted suicide	34%
Did not attempt suicide	24%
Considered suicide	29%
Did not consider suicide	23%

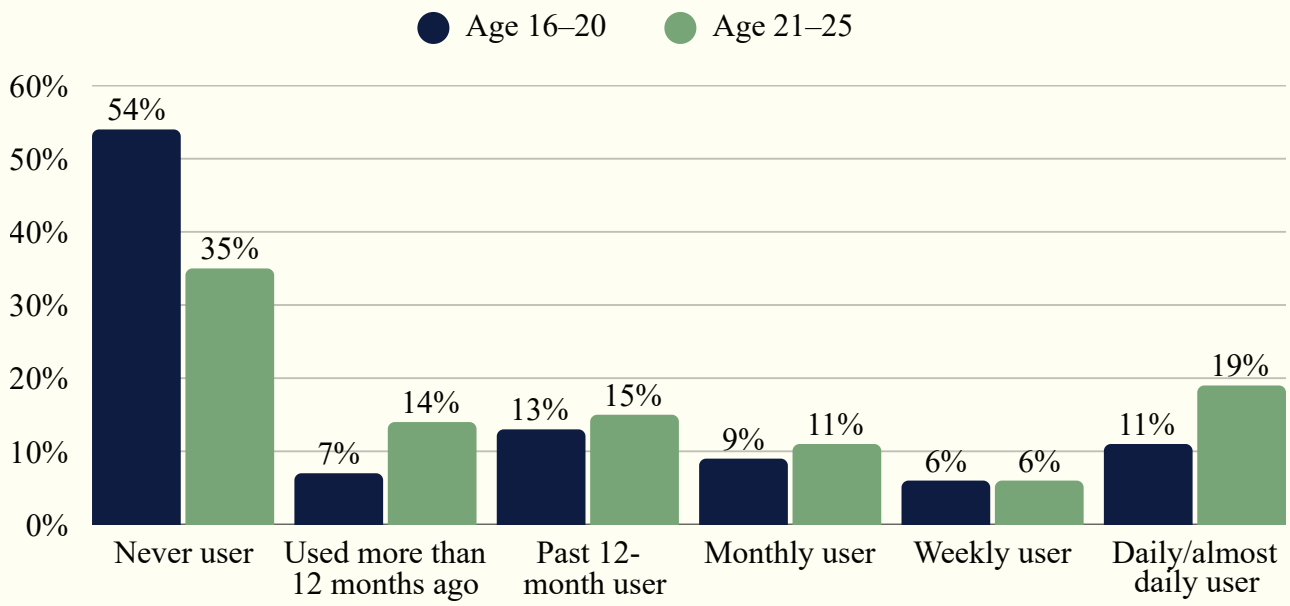
* = symptoms of anxiety and depression were assessed using the GAD-2 and PHQ-2, respectively.

International Cannabis Policy Study

The International Cannabis Policy Study (ICPS), led by Professor David Hammond at the University of Waterloo, conducts marijuana-related surveys in the United States, Canada, Australia, New Zealand, Germany, and the United Kingdom. It also conducts surveys for specific states in the United States. In 2023, it estimated that 33% of 16–20-year-olds in the United States used marijuana in the past year, while 23% used it at least monthly and 10% used it on a daily or almost daily basis.[73]

The survey, focused specifically on Massachusetts from 2019 to 2023, estimated that 46% of 16–20-year-olds had ever used marijuana.[74] Based on mutually exclusive groups, it also estimated that 7% of 16–20-year-olds last used marijuana more than a year ago, while 9% were monthly users and 6% were weekly users (Figure 1.74).

Figure 1.74. Frequency of marijuana use among 16–25-year-olds in Massachusetts, 2019–2023



Among past-year marijuana users aged 16–20 in Massachusetts, 76% reported using flower, 63% used edibles, 52% used vaporized oils, 22% used hash/kief, 21% used oils orally, 18% used concentrates, 14% used topicals, 13% drank it, and 6% used tinctures.

When 16–20-year-olds in Massachusetts who used marijuana in the past year were asked where they got it, 69% said they got it from a family member or friend, 42% said from a dealer, 29% said from a store, 6% said from a delivery service, and 4% said it was self-grown. Of note, the survey's report said, "because this ICPS question did not specify 'Store' as meaning a licensed adult-use Marijuana Establishment within Massachusetts, these participants may have visited smoke shops," while some respondents may have been registered as patients in the state's medical marijuana program.

Among past-year marijuana users aged 16–20 in Massachusetts, 14% said that they had either used marijuana at work or within two hours before work. Similarly, 14% of 21–25-year-olds said that they had either used marijuana at work or two hours before work.

Canadian Student Alcohol and Drugs Survey

The Canadian Student Alcohol and Drugs Survey, led by Health Canada, surveys students in grades 7 to 12 every two years. Between the 2014–2015 and 2023–2024 school years, the percentage of 12th graders who used marijuana 5 or more times a week in the past month increased from 6.3% to 8.3%, while the percentage among 11th graders increased from 4.5% to 5.5% (Table 1.10).[75] Among 7th graders, the percentage increased slightly from 0.1% in 2014–2015 to 0.4% in 2023–2024.

Table 1.10. The use of marijuana 5 or more times a week in the past month among Canadians in grades 7–12 by grade, 2014–2024

School year	7th graders	8th graders	9th graders	10th graders	11th graders	12th graders
2014–2015	0.1%	0.7%	1.7%	3.2%	4.5%	6.3%
2016–2017	0.2%	0.4%	1.4%	3.0%	4.4%	6.2%
2018–2019	0.3%	0.6%	1.3%	2.5%	5.6%	7.2%
2021–2022	0.4%	1.0%	3.9%	4.7%	5.7%	7.3%
2023–2024	0.4%	1.2%	1.9%	3.9%	5.5%	8.3%

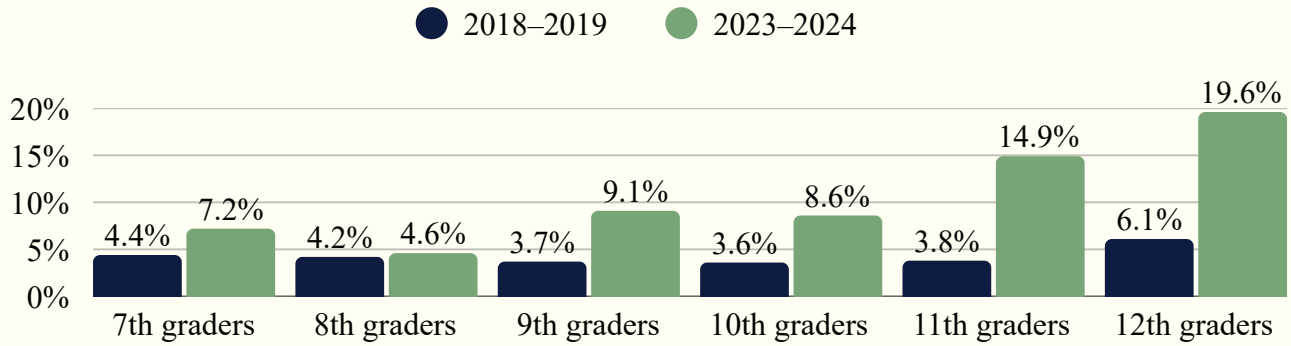
Among 12th graders during the 2023–2024 school year, 38.7% reported using marijuana in the past year, including 32.0% who smoked it, 30.4% who vaped it in a liquid form, 22.4% who ate it, and 5.0% who dabbed it (Table 1.11).

Table 1.11. The past-year use of marijuana among Canadians in grades 7–12, 2023–2024

2023–2024	7th graders	8th graders	9th graders	10th graders	11th graders	12th graders
Using marijuana	2.6%	5.5%	11.9%	19.6%	29.6%	38.7%
Smoking marijuana	2.0%	4.6%	9.2%	14.9%	24.4%	32.0%
Eating marijuana	1.6%	3.2%	6.6%	10.5%	16.4%	22.4%
Drinking marijuana	0.8%	1.1%	1.9%	3.2%	3.4%	5.5%
Vaping liquid marijuana	2.1%	5.1%	10.4%	17.5%	25.8%	30.4%
Dabbing marijuana	0.3%	1.1%	1.5%	2.9%	3.4%	5.0%
Swallowing marijuana oil	0.2%	0.8%	1.4%	2.1%	2.7%	3.9%

Among those who reported marijuana use, the survey found that 19.6% of 12th graders reported getting their marijuana mainly from retail sources during the 2023–2024 school year (Figure 1.75). In comparison, 6.1% of 12th graders reported getting their marijuana mainly from retail sources during the 2018–2019 school year.

Figure 1.75. Canadians in grades 7–12 who mainly got their marijuana from retail sources, 2018–2024



European School Survey Project on Alcohol and Other Drugs

The European School Survey Project on Alcohol and Other Drugs (ESPAD), conducted in partnership with the European Union Drugs Agency, included data on students aged 15–16 in 37 European countries, including 25 member states of the European Union. The survey is typically conducted every four years. The 2024 survey had 113,882 respondents.

In 2024, the prevalence of lifetime marijuana use among 15–16-year-olds in the 37 European countries was 12%, ranging from a low of 3% in Georgia and Moldova to a high of 24% in Czechia (Table 1.12).[76] The survey's report said that "cannabis was the most widely used illicit drug in all ESPAD countries." Likewise, the prevalence of past-month marijuana use was 5%, ranging from a low of 1% in Georgia, Moldova, and Romania to a high of 10% in Liechtenstein.

The prevalence of high-risk marijuana use in the past year was 3%, ranging from a low of 0.2% in Moldova to a high of 6% in Czechia and Slovenia, with a prevalence of 1% in Faroes, Georgia, and Romania. To determine this, the survey used the Cannabis Abuse Screening Test (CAST). The CAST is a 6-item questionnaire that asks the individual whether they have smoked marijuana before midday in the past 12 months, smoked marijuana when they were alone, had memory problems when smoking marijuana, had friends or family members tell them to reduce their marijuana use, tried to reduce or stop but could not, and had problems because of their marijuana use (e.g., fights or bad grades at school).

The survey also found that students who used marijuana in the past year reported using it on an average of 10 occasions during that period, ranging from a low of 7 occasions in Lithuania to a high of 13 occasions in the Netherlands.

Table 1.12. Marijuana use among individuals aged 15–16 in 37 European countries, 2024

Country	Lifetime marijuana use	Past-month marijuana use	High-risk marijuana use	Frequency in the past year
Total	**12%**	**5%**	**3%**	**10 occasions**
Austria	17%	6%	4%	9 occasions
Bulgaria	11%	4%	3%	9 occasions
Croatia	15%	7%	5%	10 occasions
Cyprus	8%	5%	5%	12 occasions
Czechia	24%	8%	6%	10 occasions
Denmark	12%	4%	3%	8 occasions
Estonia	18%	5%	5%	11 occasions
Faroes	5%	2%	1%	9 occasions
Finland	9%	3%	3%	9 occasions
France	8%	4%	2%	11 occasions
Georgia	3%	1%	1%	9 occasions

(The table continues on the next page)

Table 1.12. Marijuana use among individuals aged 15–16 in 37 European countries, 2024 (continued)

Country	Lifetime marijuana use	Past-month marijuana use	High-risk marijuana use	Frequency in the past year
Germany	17%	7%	5%	10 occasions
Greece	11%	6%	4%	11 occasions
Hungary	15%	7%	5%	11 occasions
Iceland	8%	3%	3%	9 occasions
Ireland	12%	5%	4%	12 occasions
Italy	18%	9%	5%	10 occasions
Kosovo	6%	3%	2%	10 occasions
Latvia	16%	4%	4%	9 occasions
Liechtenstein	23%	10%	4%	8 occasions
Lithuania	11%	3%	3%	7 occasions
Malta	11%	5%	4%	11 occasions
Moldova	3%	1%	0.2%	9 occasions
Monaco	11%	4%	3%	11 occasions
Montenegro	10%	5%	4%	11 occasions
Netherlands	15%	8%	5%	13 occasions
North Macedonia	6%	3%	2%	11 occasions
Norway	10%	4%	3%	9 occasions
Poland	15%	7%	4%	8 occasions
Portugal	9%	5%	4%	11 occasions
Romania	5%	1%	1%	8 occasions
Serbia	6%	3%	2%	11 occasions
Slovakia	19%	7%	5%	9 occasions
Slovenia	18%	9%	6%	10 occasions
Spain	9%	4%	2%	10 occasions
Sweden	7%	2%	2%	10 occasions
Ukraine	10%	5%	2%	11 occasions

Chapter 2. Risk and Protective Factors Associated with Youth Marijuana Use

The Substance Abuse and Mental Health Services Administration (SAMHSA) explained that "since a community cannot change substance use-related problems directly, prevention practitioners must work through the underlying risk and protective factors that influence these problems."[1] Risk factors precede and are associated with a higher likelihood of substance use, whereas protective factors precede and are associated with a lower likelihood of substance use. Accordingly, prevention efforts often focus on reducing risk factors and strengthening protective factors.

SAMHSA pointed to four key characteristics of risk and protective factors.

1. **Risk and protective factors operate in multiple contexts.** Drawing on the social-ecological model, these factors are often organized into four levels. As summarized by Jalali et al., the individual level includes factors such as mental health, risk perceptions, and genetic susceptibility.[2] The interpersonal level includes factors such as access to substances via friends, substance use among friends, and parental influence. The community level includes factors like community norms, school programs, and access to substances, while the societal level includes factors like stigma, advertising campaigns, and government regulations.
2. **Risk and protective factors are correlated and cumulative.** SAMHSA explained that "a person who already has some risk factors is more likely than a person who does not have risk factors to experience even more risk factors—and less likely to experience protective factors."[3] Additionally, someone with multiple risk factors will be at greater risk for an outcome than someone with only one. Likewise, the presence of multiple protective factors will have a more protective effect on the individual than the presence of only one.
3. **Risk and protective factors can be associated with multiple outcomes.** For example, parental involvement is associated with lower rates of substance use, as well as better mental health, less sexual risk-taking, and a lower risk of injuries among youth.
4. **Risk and protective factors are influential across contexts and time.** SAMHSA explained that "risk and protective factors in one context, such as relationships, may also influence or be influenced by factors in another context, such as the community."[4] Additionally, risk factors in childhood can contribute to the development of issues later in life.

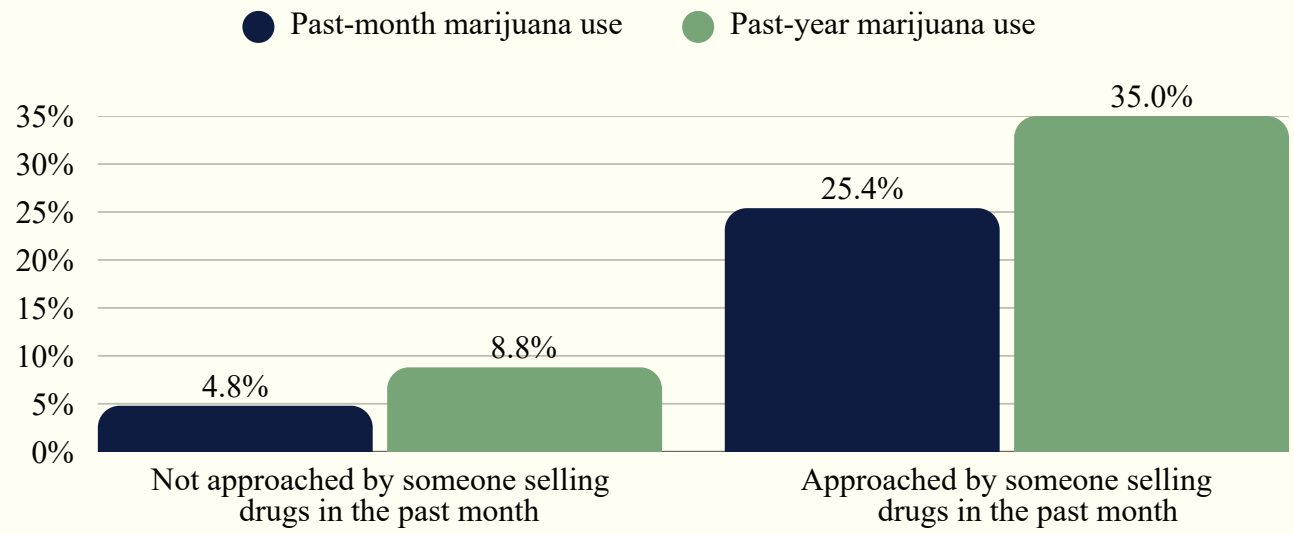
Although risk and protective factors are associated with various outcomes, they do not determine whether these outcomes will occur. The National Institute on Drug Abuse said, "even in the presence of multiple risk factors, substance use and substance use disorders are not inevitable."[5]

Youth aged 12–17 who thought that it would be fairly or very easy to obtain marijuana were 10.7 times as likely to have used marijuana in the past month than those who thought otherwise.[6] Likewise, 12–17-year-olds who thought there was not a great risk of harm associated with smoking marijuana once or twice a week were 6.5 times as likely to have used marijuana in the past month than those who did.[7] The percentage of 12th graders who thought there was a great risk of harm associated with using marijuana regularly increased from 43.3% in 1975 to a high of 78.6% in 1991 before declining to 39.0% in 2025.[8]

A. The National Survey on Drug Use and Health

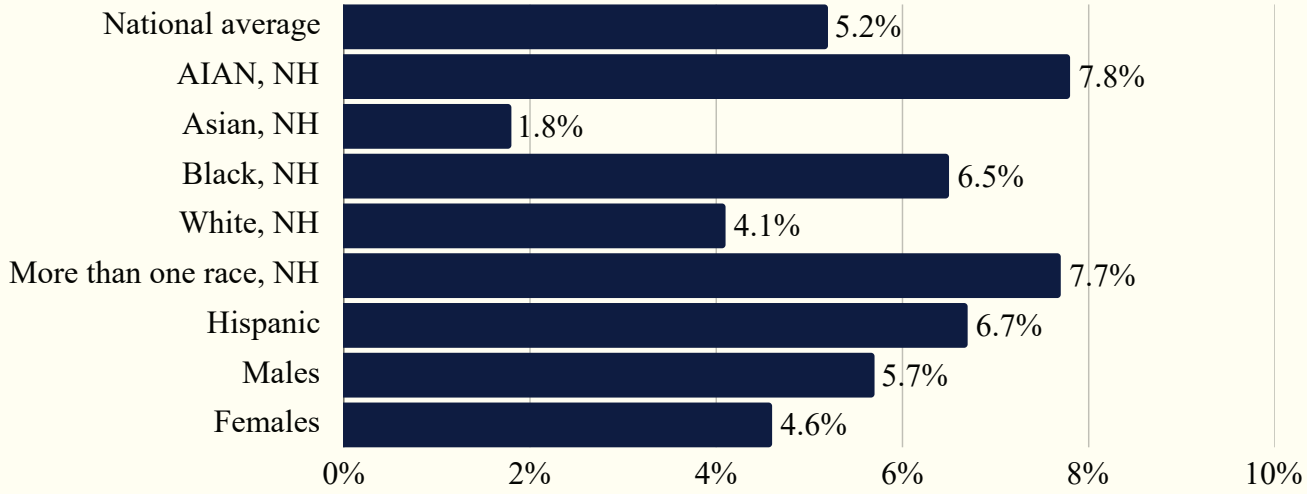
Individuals between the ages of 12 and 17 who were approached by someone selling drugs in the past month were 5.3 times as likely to have used marijuana in the past month as individuals who were not approached by someone selling drugs, according to data from the 2024 NSDUH (Figure 2.1).[9] Likewise, those who were approached by someone selling drugs in the past month were 4.0 times as likely to have used marijuana in the past year. Of note, 2024 is the most recent year for available data in SAMHSA's Data Analysis System.

Figure 2.1. Marijuana use among 12–17-year-olds by whether they were approached by someone selling drugs in the past month, 2024



In 2024, 5.2% of 12–17-year-olds were approached by someone selling drugs in the past month (Figure 2.2).[10] By race, this ranged from a low of 1.8% among Asian individuals to a high of 7.8% among American Indian or Alaska Native (AIAN) individuals. Males were more likely than females to have been approached by someone selling drugs in the past month, at 5.7% and 4.6%, respectively.

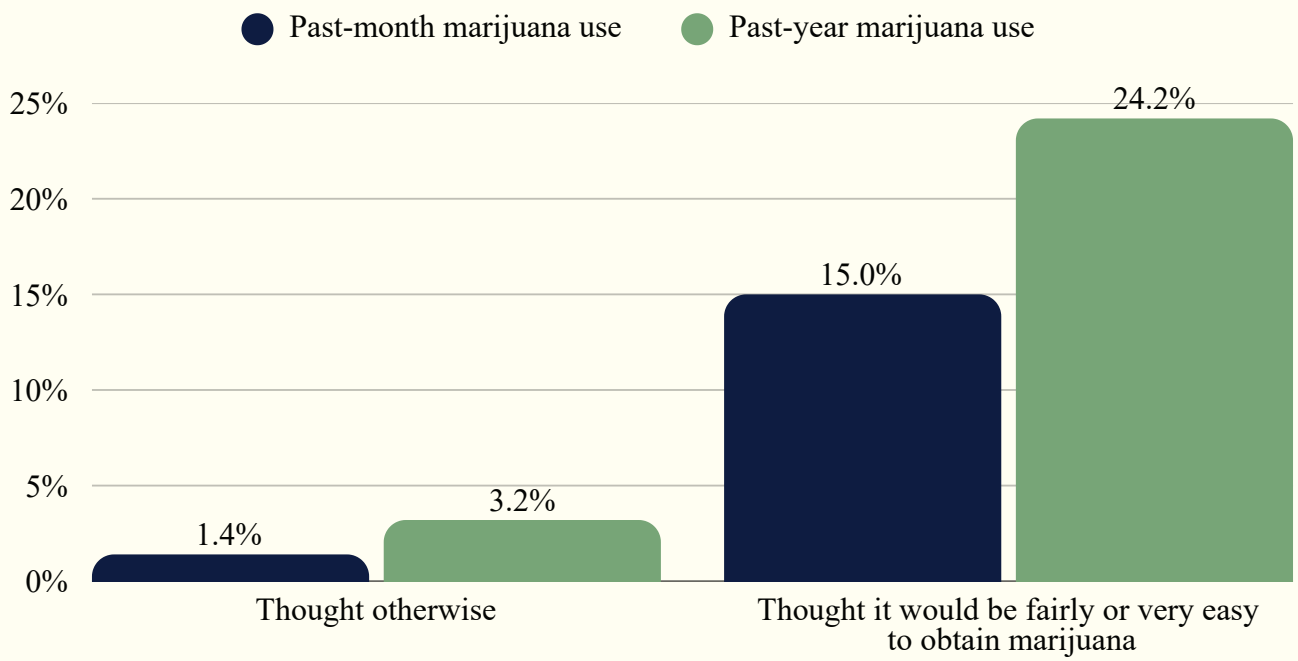
Figure 2.2. Individuals between the ages of 12 and 17 who were approached by someone selling drugs in the past month by race, Hispanic origin, and sex, 2024



Notes: NH = non-Hispanic. Data for the Native Hawaiian or Other Pacific Islander demographic were not reported by SAMHSA due to a lack of precision.

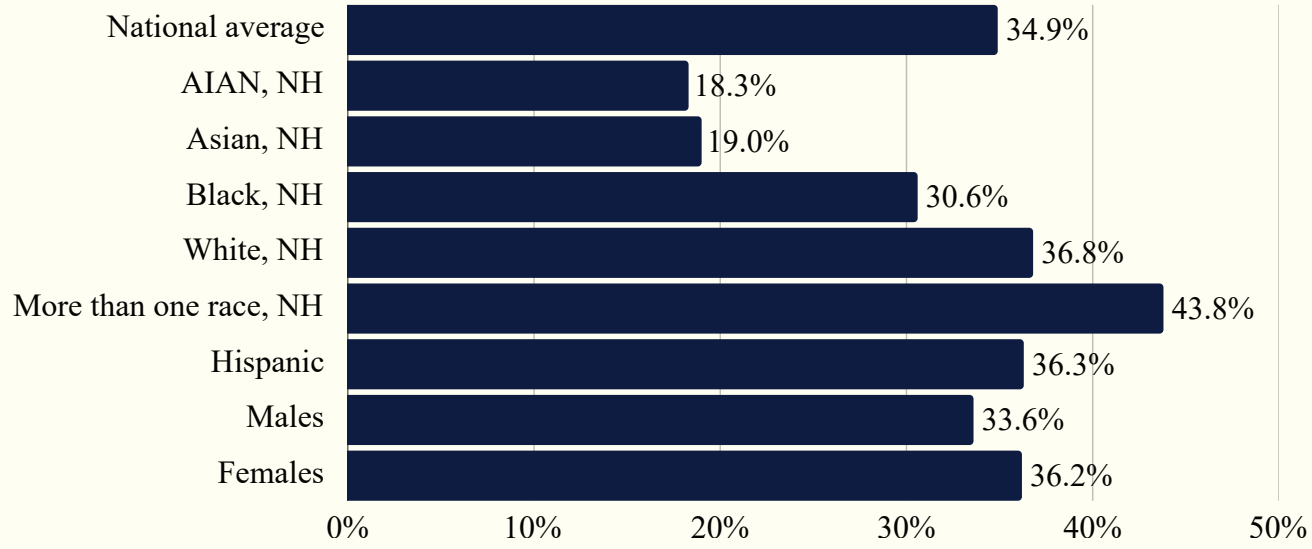
Individuals between the ages of 12 and 17 who thought that it would be fairly or very easy to obtain marijuana were 10.7 times as likely to have used marijuana in the past month as those who thought otherwise (Figure 2.3).[11] Likewise, those who thought that it would be fairly or very easy to obtain marijuana were 7.6 times as likely to have used marijuana in the past year.

Figure 2.3. Marijuana use among 12–17-year-olds by whether they thought it would be fairly or very easy to obtain, 2024



In 2024, 34.9% of 12–17-year-olds thought it would be fairly or very easy to obtain marijuana (Figure 2.4).[12] By race, this ranged from a low of 18.3% among AIAN individuals to a high of 43.8% among individuals of more than one race. Females were slightly more likely than males to have thought it would be fairly or very easy to obtain marijuana, at 36.2% and 33.6%, respectively.

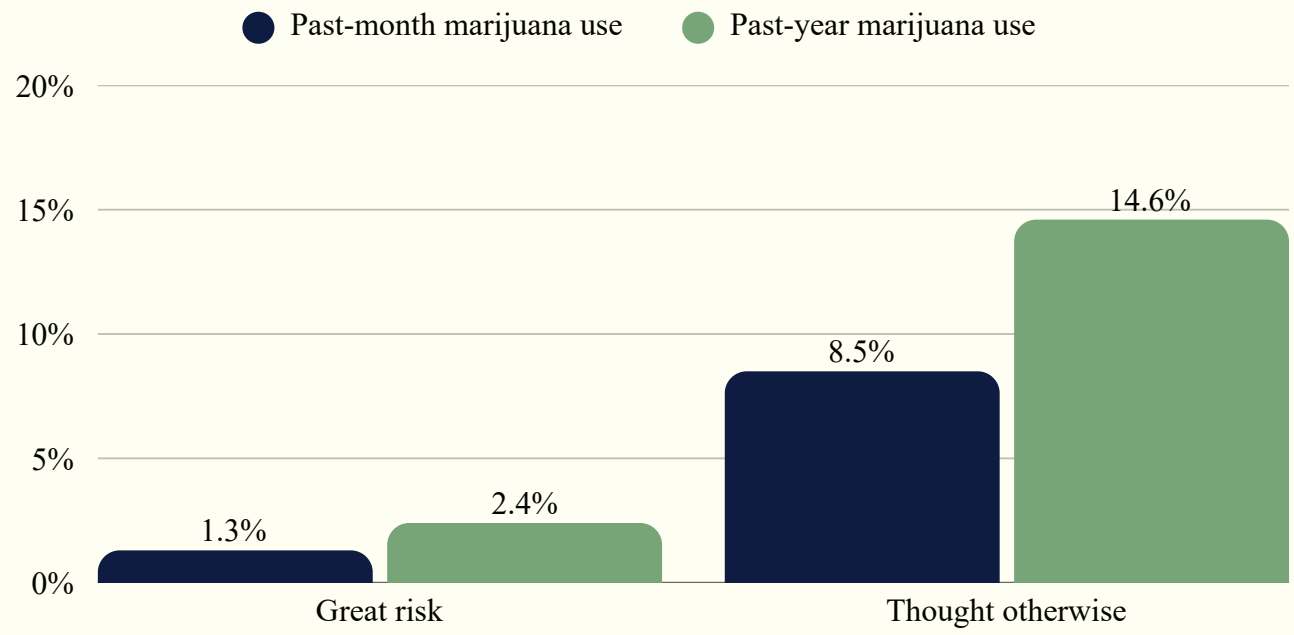
Figure 2.4. Individuals between the ages of 12 and 17 who thought it would be fairly or very easy to obtain marijuana by race, Hispanic origin, and sex, 2024



Notes: NH = non-Hispanic. Data for the Native Hawaiian or Other Pacific Islander demographic were not reported by SAMHSA due to a lack of precision.

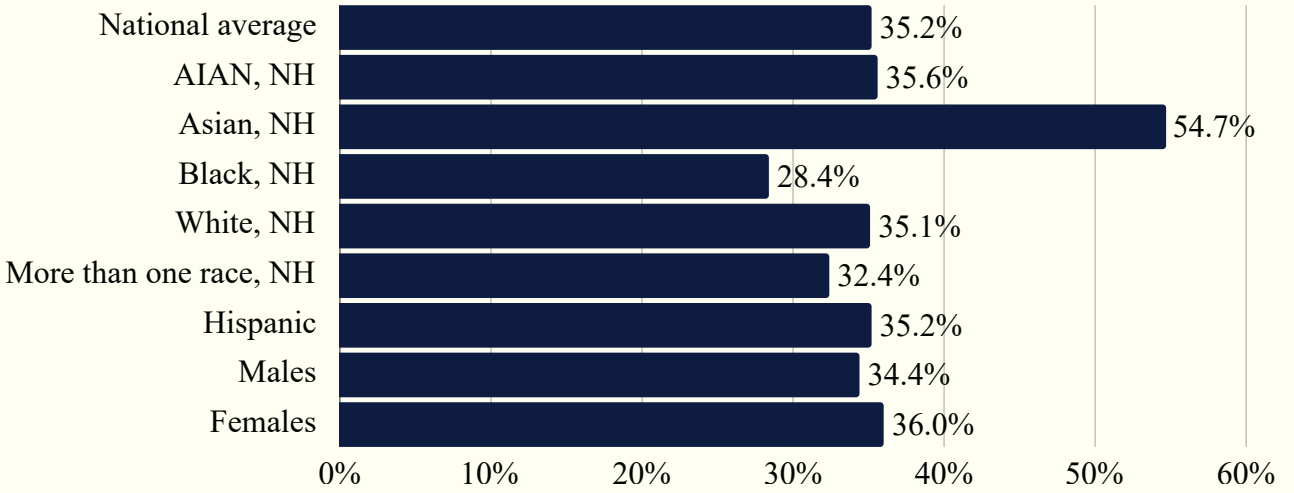
Individuals between the ages of 12 and 17 who thought that there was not a great risk of harm associated with smoking marijuana once or twice a week were 6.5 times as likely to have used marijuana in the past month as those who thought there was a great risk (Figure 2.5).[13] Likewise, those who thought that there was not a great risk of harm associated with smoking marijuana once or twice a week were 6.1 times as likely to have used marijuana in the past year.

Figure 2.5. Marijuana use among 12–17-year-olds by perceived risk of smoking marijuana once or twice a week, 2024



In 2024, 35.2% of 12–17-year-olds thought there was a great risk of harm associated with smoking marijuana once or twice a week (Figure 2.6).[14] By race, this ranged from a low of 28.4% among Black individuals to a high of 54.7% among Asian individuals. Females were slightly more likely than males to have thought there was a great risk of harm associated with smoking marijuana once or twice a week, at 36.0% and 34.4%, respectively.

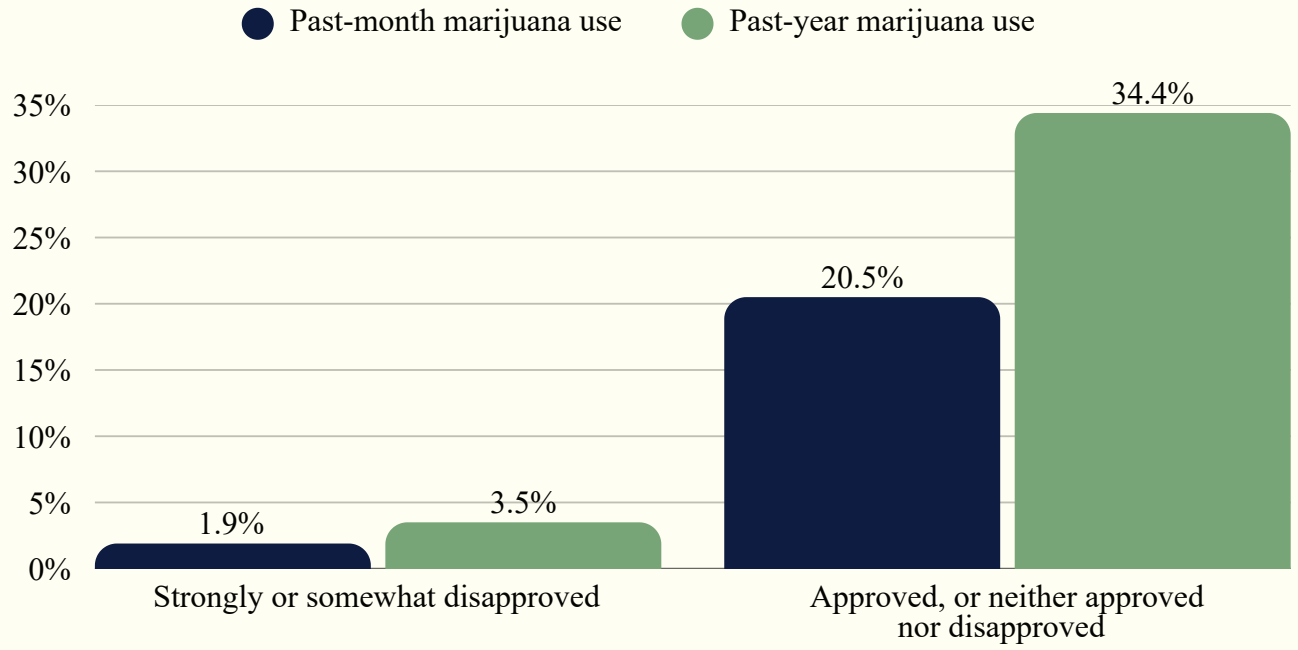
Figure 2.6. Perceived great risk of harm from smoking marijuana once or twice a week among individuals between the ages of 12 and 17 by race, Hispanic origin, and sex, 2024



Notes: NH = non-Hispanic. Data for the Native Hawaiian or Other Pacific Islander demographic were not reported by SAMHSA due to a lack of precision.

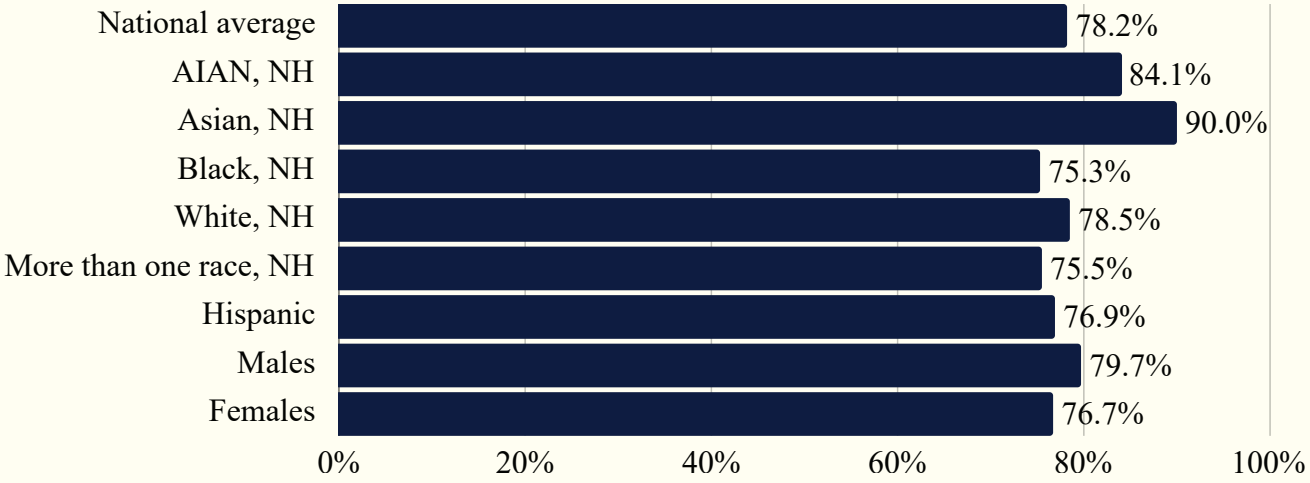
Individuals between the ages of 12 and 17 who approved of their peers using marijuana once a month or more, or neither approved nor disapproved, were 10.8 times as likely to have used marijuana in the past month as individuals who strongly or somewhat disapproved of their peers using marijuana on a monthly basis (Figure 2.7).[15] Likewise, those who approved, or neither approved nor disapproved, of their peers using marijuana once a month or more were 9.8 times as likely to have used marijuana in the past year.

Figure 2.7. Marijuana use among 12–17-year-olds by approval of peers' use of marijuana once a month or more, 2024



In 2024, 78.2% of 12–17-year-olds strongly or somewhat disapproved of their peers using marijuana once a month or more (Figure 2.8).[16] By race, this ranged from a low of 75.3% among Black individuals to a high of 90.0% among Asian individuals. Males were slightly more likely than females to strongly or somewhat disapprove, at 79.7% and 76.7%, respectively.

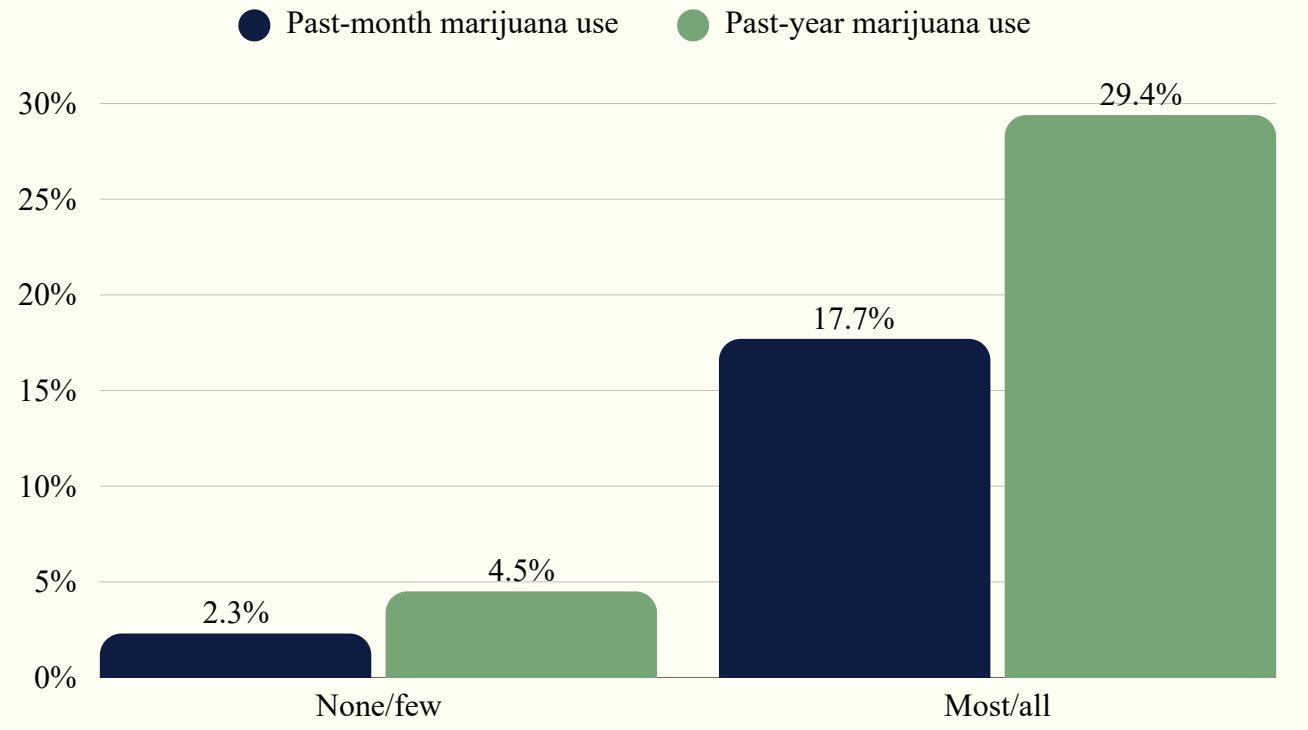
Figure 2.8. Individuals aged 12–17 who strongly or somewhat disapproved of their peers using marijuana once a month or more by race, Hispanic origin, and sex, 2024



Notes: NH = non-Hispanic. Data for the Native Hawaiian or Other Pacific Islander demographic were not reported by SAMHSA due to a lack of precision.

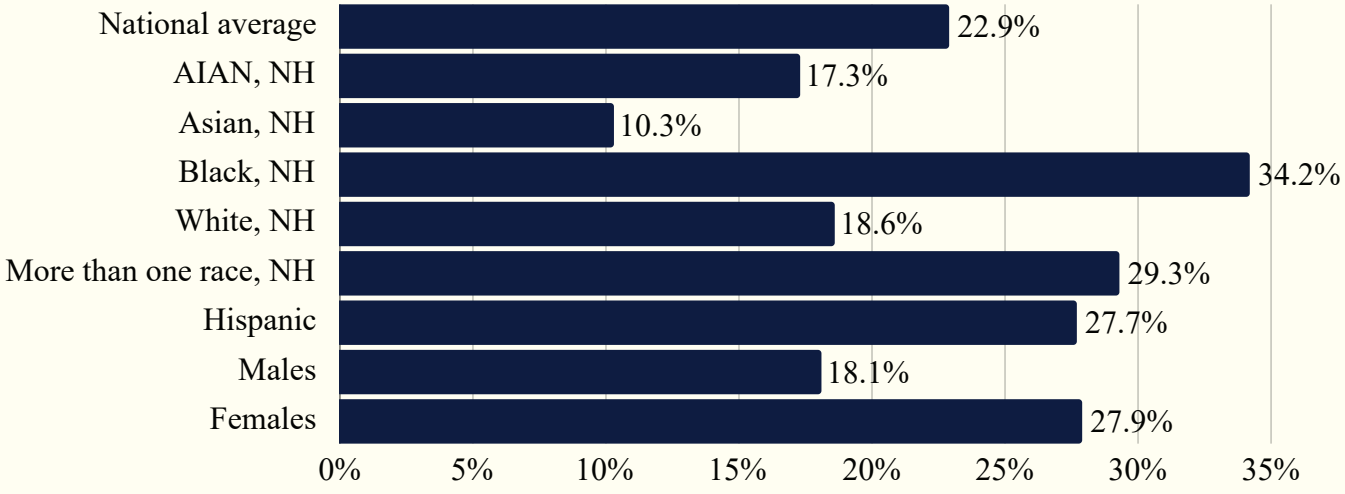
Individuals between the ages of 12 and 17 who thought that most or all of the students in their grade used marijuana were 7.7 times as likely to have used marijuana in the past month as individuals who thought that none or only a few of the students used marijuana (Figure 2.9).[17] Likewise, those who thought that most or all of the students in their grade used marijuana were 6.5 times as likely to have used marijuana in the past year.

Figure 2.9. Marijuana use among 12–17-year-olds by how many students in their grade they thought used marijuana, 2024



In 2024, 22.9% of 12–17-year-olds thought that most or all of the students in their grade used marijuana (Figure 2.10).[18] By race, this ranged from a low of 10.3% among Asian individuals to a high of 34.2% among Black individuals. Females were more likely than males to think that most or all students in their grade used marijuana, at 27.9% and 18.1%, respectively.

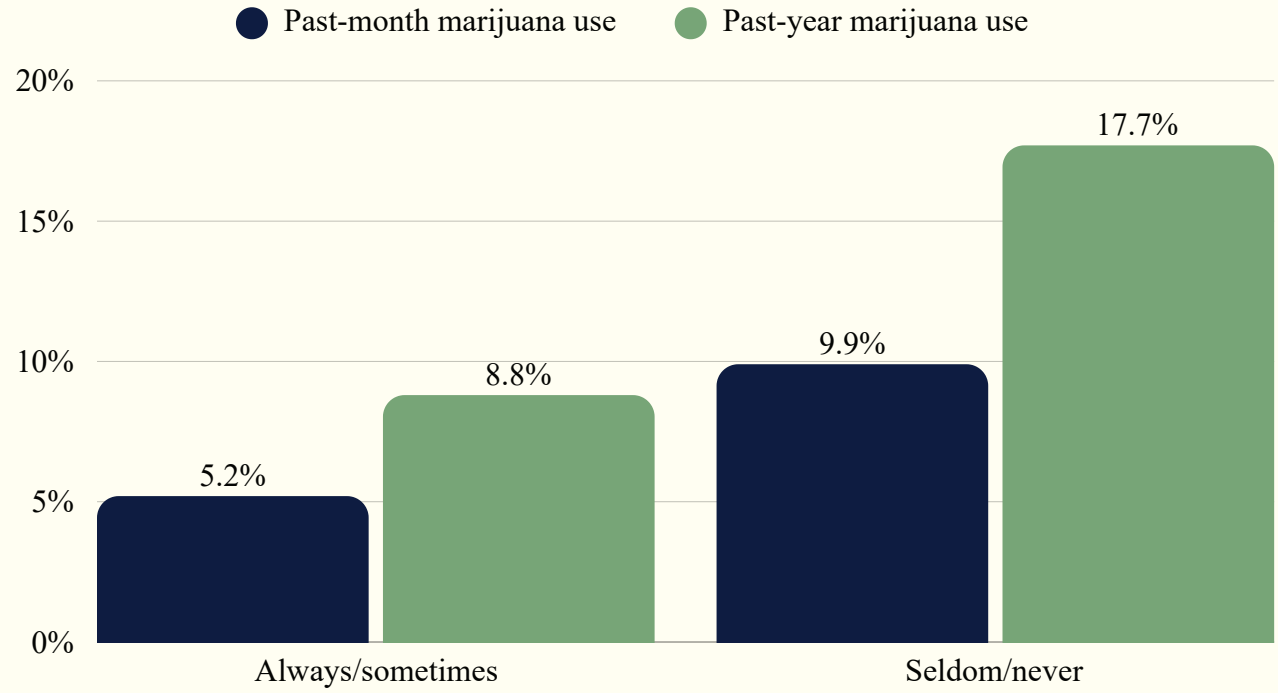
Figure 2.10. Individuals between the ages of 12 and 17 who thought that most or all of the students in their grade used marijuana by race, Hispanic origin, and sex, 2024



Notes: NH = non-Hispanic. Data for the Native Hawaiian or Other Pacific Islander demographic were not reported by SAMHSA due to a lack of precision.

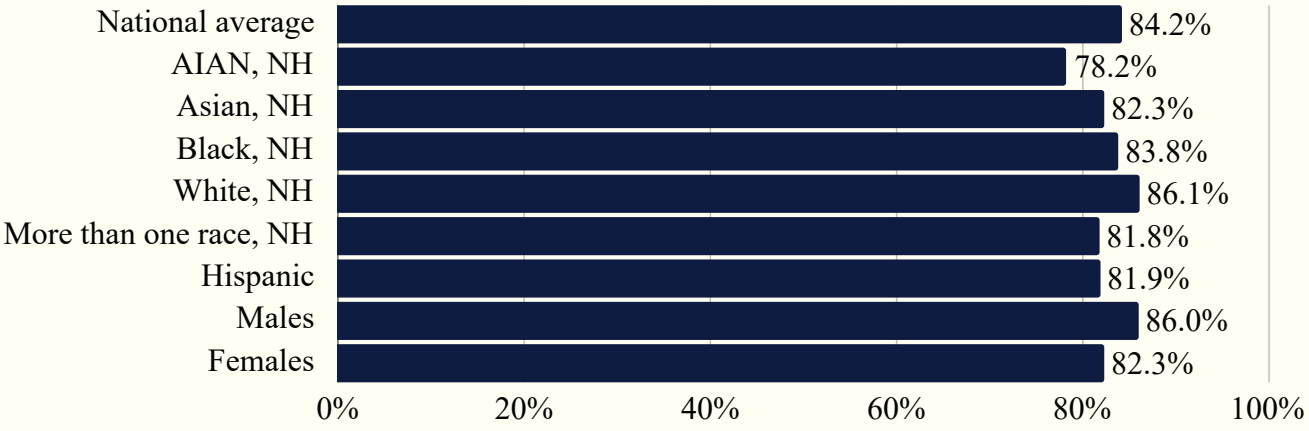
Individuals between the ages of 12 and 17 who said that their parents seldom or never told them that they did a good job in the past year were 1.9 times as likely to have used marijuana in the past month as those who said that their parents always or sometimes told them that they did a good job (Figure 2.11).[19] Likewise, those who said that their parents seldom or never told them that they did a good job in the past year were 2.0 times as likely to have used marijuana in the past year.

Figure 2.11. Marijuana use among 12–17-year-olds by parents telling them they did a good job in the past year, 2024



In 2024, 84.2% of 12–17-year-olds said that their parents always or sometimes let them know that they did a good job (Figure 2.12).[20] By race, this ranged from a low of 78.2% among AIAN individuals to a high of 86.1% among White individuals. Males were more likely than females to always or sometimes receive this positive feedback from their parents, at 86.0% and 82.3%, respectively.

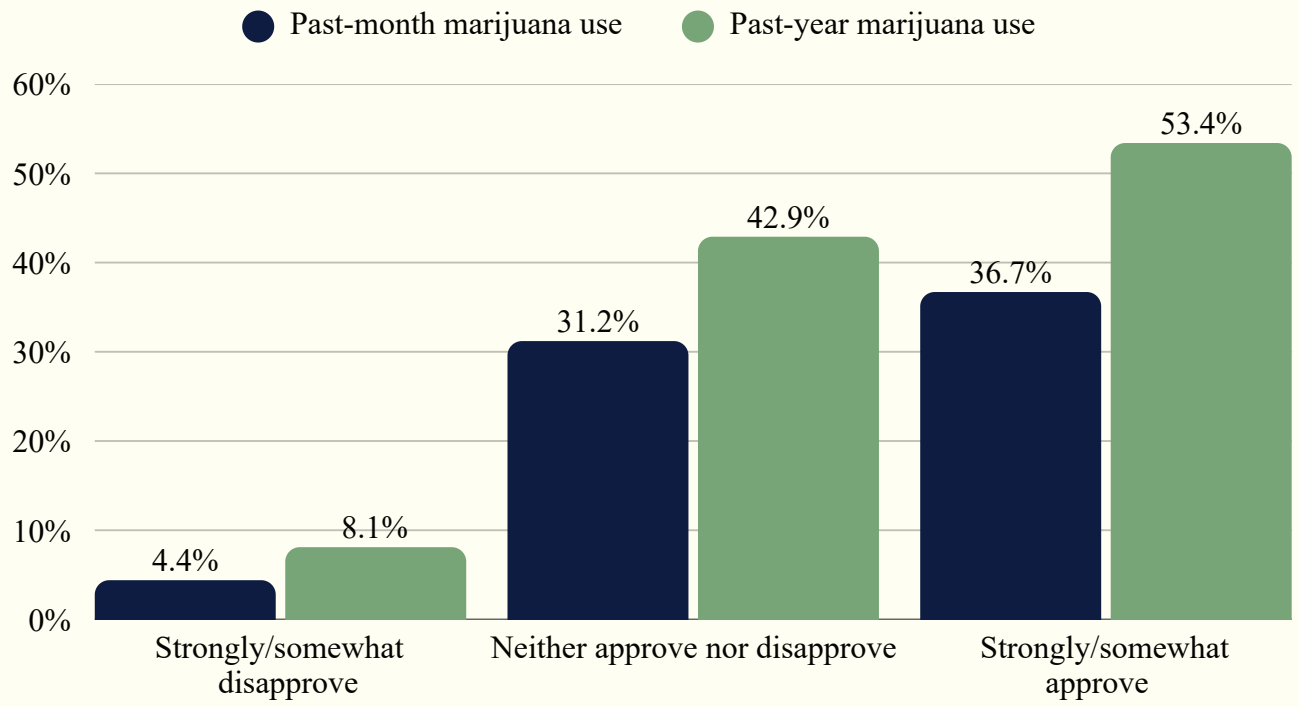
Figure 2.12. Parents always or sometimes telling 12–17-year-olds they did a good job in the past year by race, Hispanic origin, and sex, 2024



Notes: NH = non-Hispanic. Data for the Native Hawaiian or Other Pacific Islander demographic were not reported by SAMHSA due to a lack of precision.

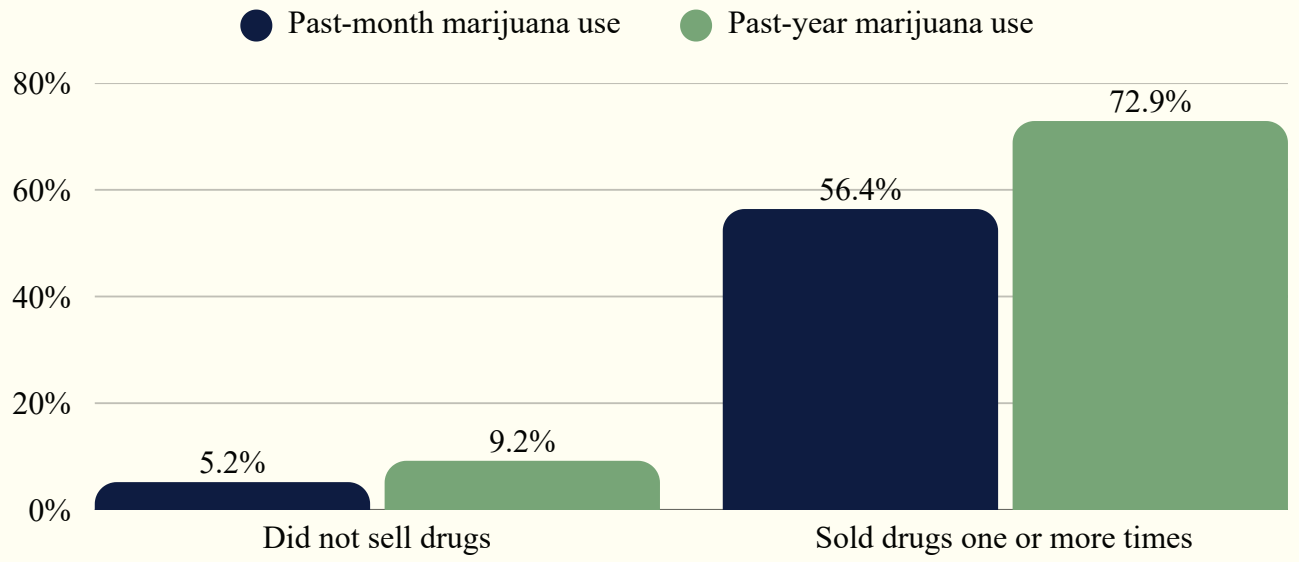
Individuals between the ages of 12 and 17 who thought that their parents would strongly or somewhat approve of them using marijuana monthly were 8.3 times as likely to have used marijuana in the past month as those who thought their parents would strongly or somewhat disapprove (Figure 2.13).[21] Likewise, those who thought that their parents would strongly or somewhat approve of them using marijuana monthly were 6.6 times as likely to have used marijuana in the past year as those who thought that their parents would strongly or somewhat disapprove.

Figure 2.13. Marijuana use among 12–17-year-olds by perceived parental approval of using marijuana monthly, 2024



In 2024, 1.4% of 12–17-year-olds reported selling illegal drugs one or more times in the past 12 months.[22] Among those who sold drugs in the past year, 56.4% used marijuana in the past month compared to 5.2% of those who did not (Figure 2.14).[23]

Figure 2.14. Marijuana use among 12–17-year-olds by having sold illegal drugs in the past year, 2024



In 2024, 16.3% of 12–17-year-olds who said that they did not like going to school very much or hated it used marijuana in the past year compared to 7.8% of those who said that they liked going a lot or kind of liked going (Figure 2.15).[24] The survey also found that 8.9% of 12–17-year-olds who argued with at least one parent 9 or fewer times in the past year used marijuana in the past year compared to 15.8% of those who argued with them 10 or more times (Figure 2.16).

That year, 8.3% of 12–17-year-olds who said that their parents always or sometimes helped them with their homework in the past year used marijuana in the past year compared to 16.4% of those who said that their parents seldom or never helped them with their homework (Figure 2.17). Similarly, 8.6% of 12–17-year-olds who said that their parents always or sometimes checked that their homework was completed in the past year used marijuana in the past year compared to 15.8% of those who said that their parents seldom or never checked that their homework was completed (Figure 2.18).

Figure 2.15. Past-year marijuana use among 12–17-year-olds by how much they liked going to school, 2024

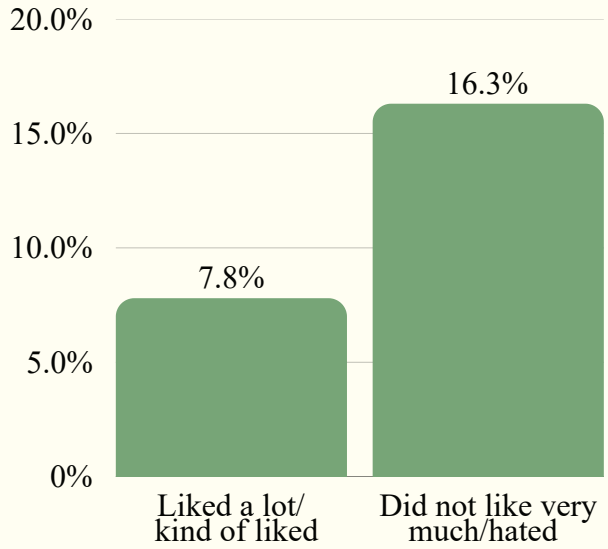


Figure 2.16. Past-year marijuana use among 12–17-year-olds by arguments with parents in the past year, 2024

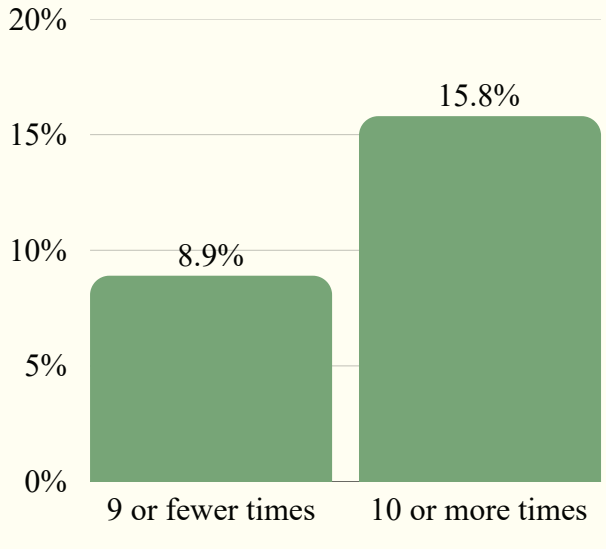


Figure 2.17. Past-year marijuana use among 12–17-year-olds by parents helping them with their homework in the past year, 2024

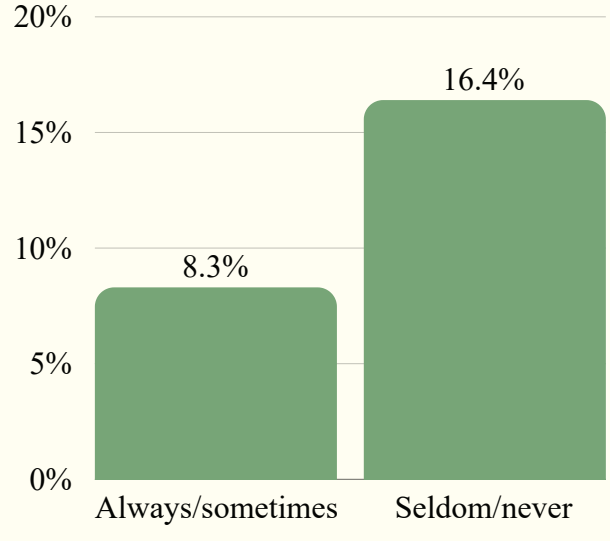
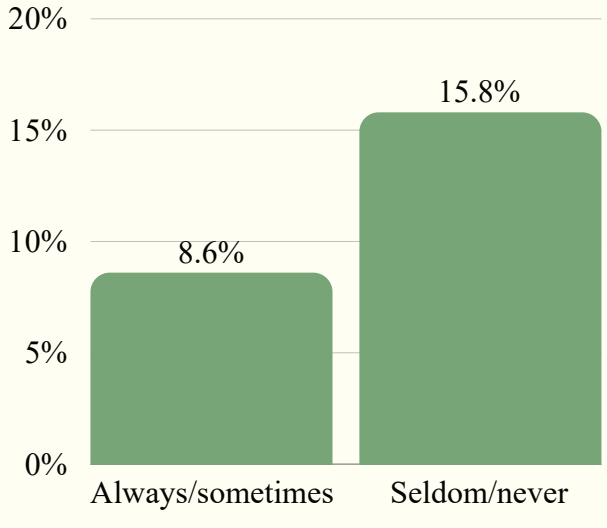


Figure 2.18. Past-year marijuana use among 12–17-year-olds by parents checking that their homework was completed in the past year, 2024



In 2024, 6.2% of 12–17-year-olds who said that their parents always or sometimes limited their time with electronics used marijuana in the past year compared to 13.9% of those who said that their parents seldom or never did so (Figure 2.19).[25] That year, 9.7% of 12–17-year-olds who said that their parents always or sometimes made them do chores around the house used marijuana in the past year compared to 13.0% of those who said that their parents seldom or never did so (Figure 2.20).

In 2024, the survey found that 17.6% of those who said that their parents seldom or never told them that they were proud of them used marijuana in the past year compared to 8.6% of those who said that their parents always or sometimes did (Figure 2.21). The survey also found that 15.9% of those who said that their teachers seldom or never told them that they did a good job with their schoolwork used marijuana in the past year compared to 8.1% of those who said that their teachers always or sometimes did (Figure 2.22).

Figure 2.19. Past-year marijuana use among 12–17-year-olds by parents limiting time with electronics, 2024

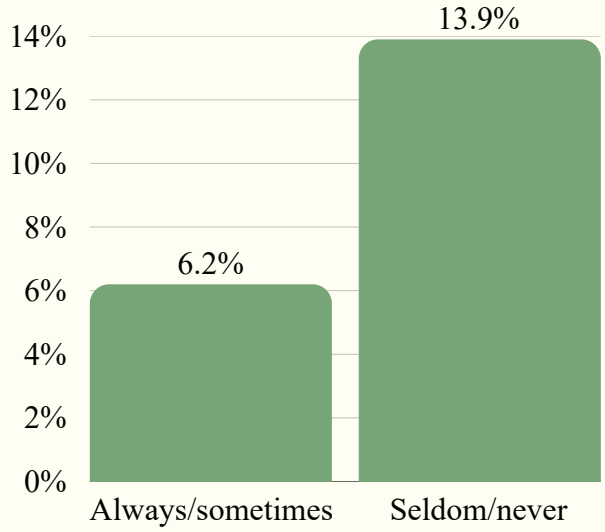


Figure 2.20. Past-year marijuana use among 12–17-year-olds by parents making them do chores around the house, 2024

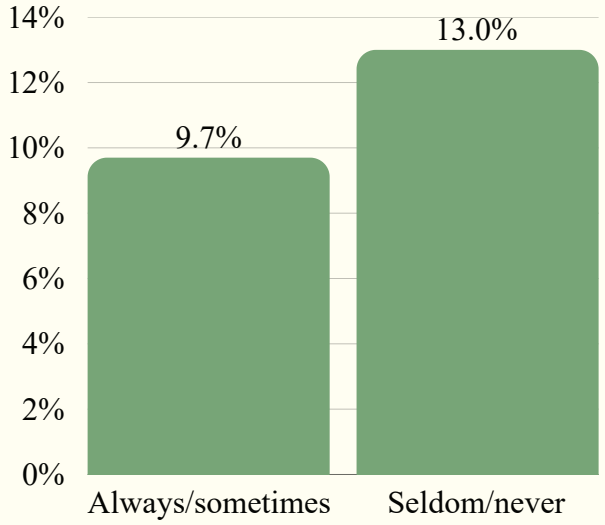


Figure 2.21. Past-year marijuana use among 12–17-year-olds by parents telling them they were proud of them, 2024

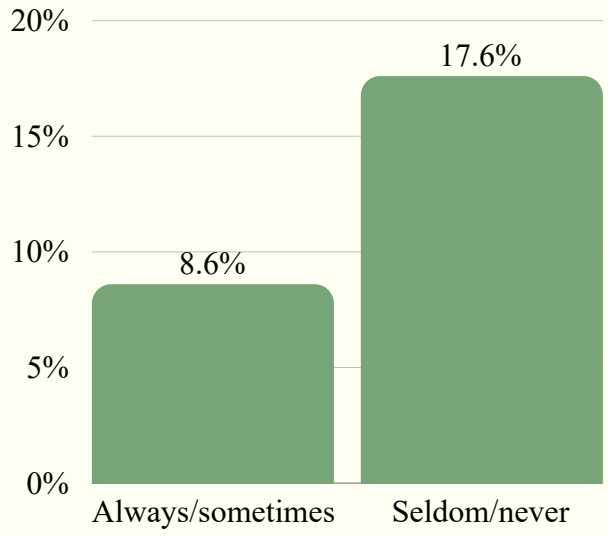
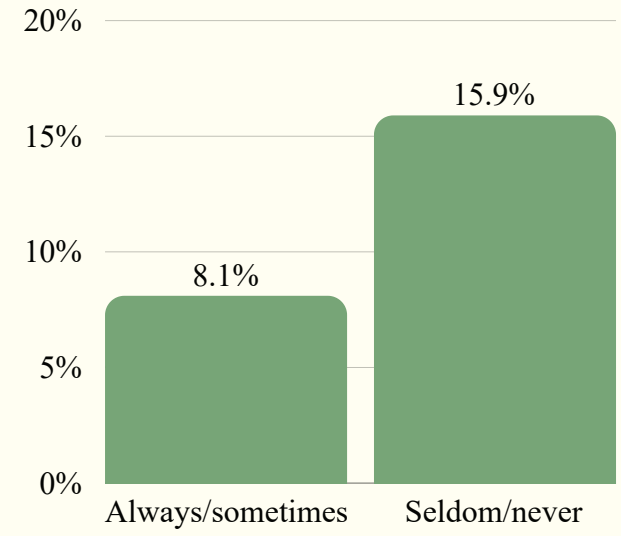


Figure 2.22. Past-year marijuana use among 12–17-year-olds by teachers telling them they did a good job, 2024



In 2024, 9.0% of 12–17-year-olds who participated in two or more youth activities (e.g., at school, in the community, or at a religious institution) in the past year used marijuana in the past year compared to 14.7% of those who participated in one or none (Figure 2.23).[26] That year, 9.6% of those who said that they had someone to talk to about serious problems used marijuana in the past year compared to 15.8% of those who said that they had no one to talk to (Figure 2.24).

The survey found that 8.2% of those who agreed or strongly agreed that religious beliefs are important in their life used marijuana in the past year compared to 13.5% of those who disagreed or strongly disagreed with it (Figure 2.25). Similarly, 7.5% of those who agreed or strongly agreed that religious beliefs influenced their life decisions used marijuana in the past year compared to 13.8% of those who disagreed or strongly disagreed with it (Figure 2.26).

Figure 2.23. Past-year marijuana use among 12–17-year-olds by participation in youth activities, 2024

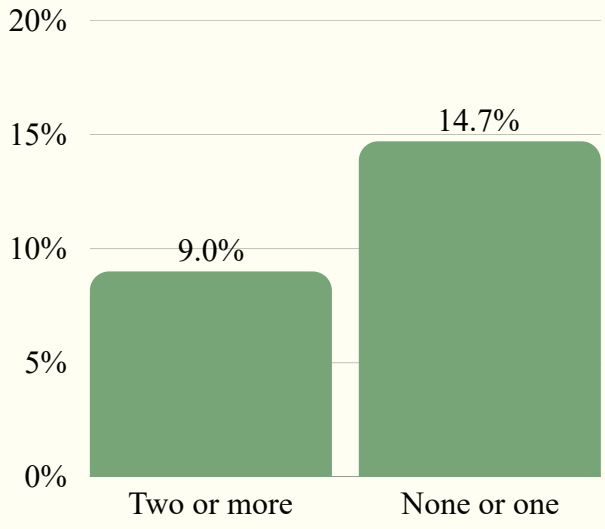


Figure 2.24. Past-year marijuana use among 12–17-year-olds by whether they had someone to talk to about serious problems, 2024

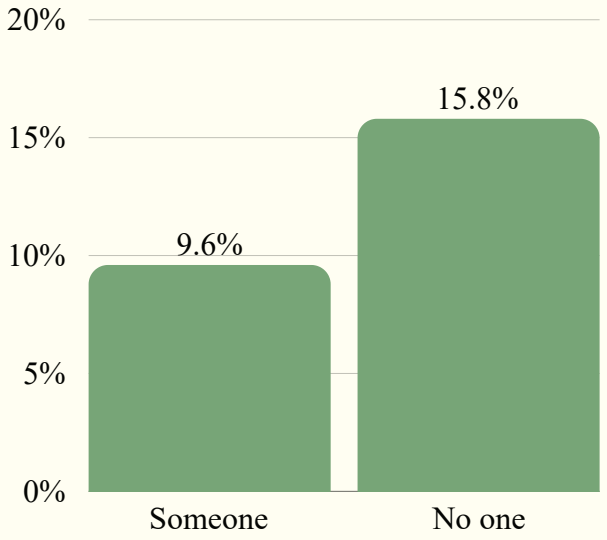


Figure 2.25. Past-year marijuana use among 12–17-year-olds by agreement that religious beliefs are important in their life, 2024

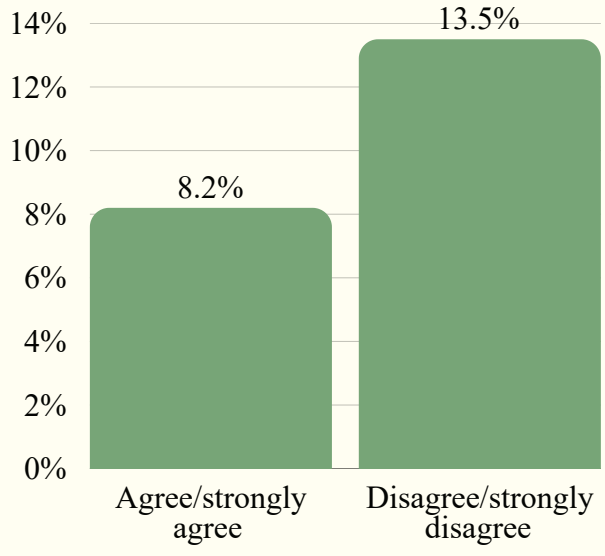


Figure 2.26. Past-year marijuana use among 12–17-year-olds by agreement that religious beliefs influenced their decisions, 2024

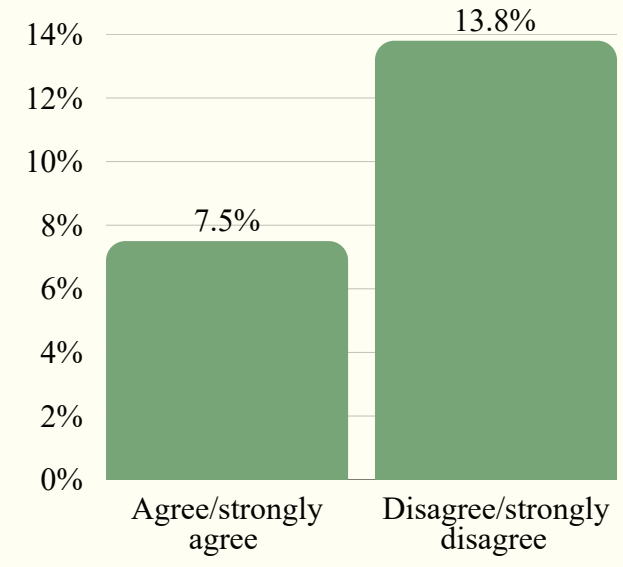


Table 2.1 includes the state-level estimates of selected risk factors among 12–17-year-olds in 2023–2024. The estimate of the perception of great risk from smoking marijuana once a month is from SAMHSA's published tables, while the estimates of thinking it would be fairly or very easy to obtain marijuana, whether they had been approached by someone selling drugs in the past month, and whether they thought most or all of the students in their grade used marijuana are from SAMHSA's Data Analysis System.[27,28]

Table 2.1. Risk factors for marijuana use among 12–17-year-olds by jurisdiction, 2023–2024

Jurisdiction	Perception of great risk from smoking marijuana once a month	Thought it would be fairly or very easy to obtain marijuana	Approached by someone selling drugs in the past month	Thought most or all of the students in their grade used marijuana
Total	**22.3%**	**36.8%**	**5.9%**	**24.2%**
Alabama	26.2%	31.9%	5.6%	20.7%
Alaska	18.8%	36.2%	3.7%	21.6%
Arizona	20.4%	37.9%	6.6%	20.3%
Arkansas	21.1%	43.8%	5.2%	26.6%
California	24.0%	40.7%	6.2%	25.8%
Colorado	15.6%	41.9%	5.2%	29.1%
Connecticut	18.5%	45.6%	5.2%	33.2%
Delaware	22.0%	40.8%	9.0%	29.1%
District of Columbia	17.3%	48.5%	7.4%	25.2%
Florida	23.5%	34.3%	5.8%	25.8%
Georgia	24.2%	33.0%	8.6%	25.7%
Hawaii	19.5%	26.3%	4.9%	20.5%
Idaho	23.5%	37.1%	4.4%	15.8%
Illinois	21.2%	38.9%	8.4%	21.8%
Indiana	20.8%	40.3%	5.8%	27.9%
Iowa	20.0%	31.6%	6.1%	16.9%
Kansas	20.5%	36.0%	5.4%	28.5%
Kentucky	22.2%	36.4%	5.3%	26.9%
Louisiana	24.1%	31.5%	5.0%	28.0%
Maine	17.9%	42.6%	6.2%	25.6%
Maryland	20.6%	46.2%	8.2%	31.4%
Massachusetts	20.3%	39.4%	5.3%	22.7%
Michigan	21.4%	35.9%	4.4%	23.5%

(The table continues on the next page)

Table 2.1. Risk factors for marijuana use among 12–17-year-olds by jurisdiction, 2023–2024 (continued)

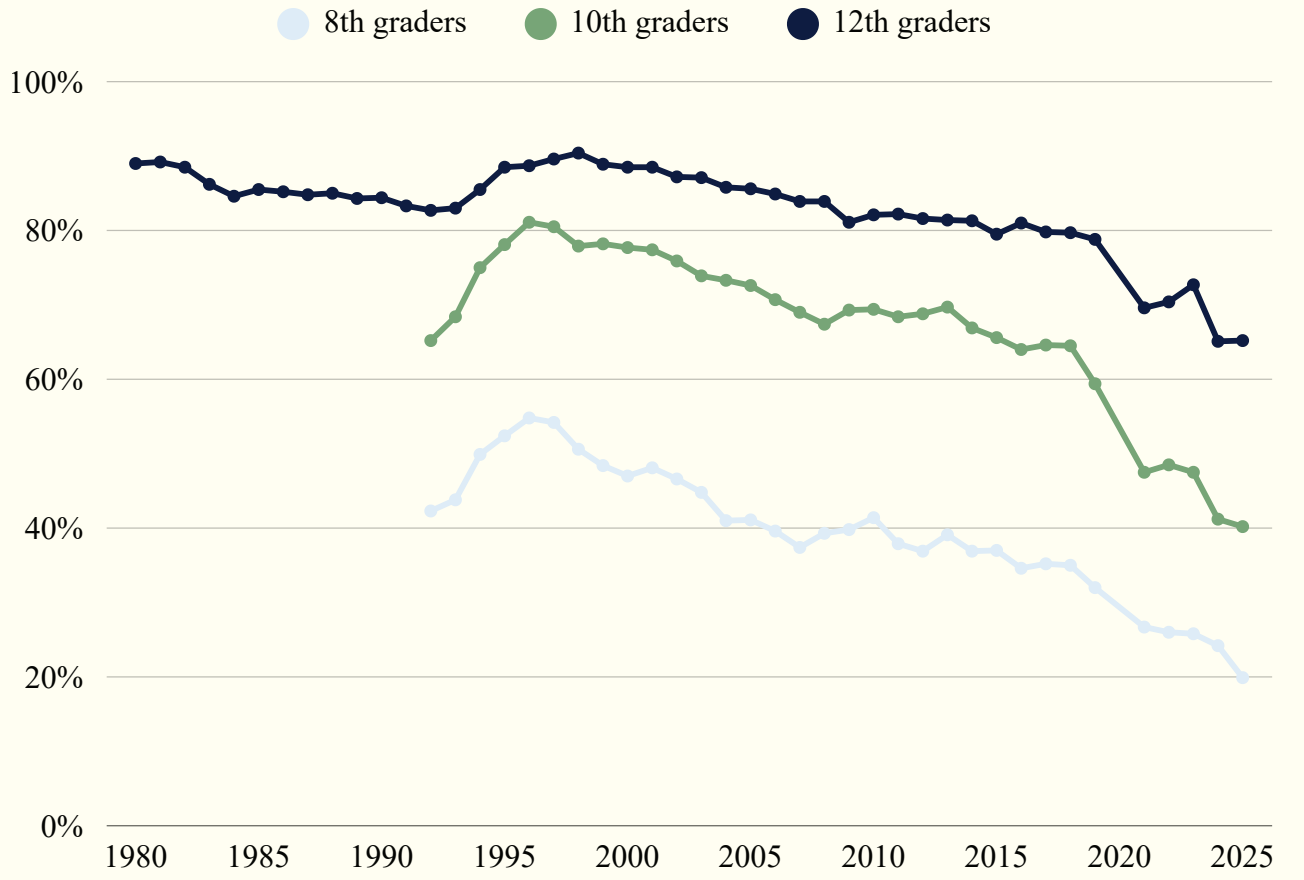
Jurisdiction	Perception of great risk from smoking marijuana once a month	Thought it would be fairly or very easy to obtain marijuana	Approached by someone selling drugs in the past month	Thought most or all of the students in their grade used marijuana
Minnesota	22.0%	34.2%	3.3%	16.5%
Mississippi	23.4%	31.4%	5.0%	31.6%
Missouri	17.7%	38.2%	5.2%	18.0%
Montana	20.2%	47.5%	5.0%	20.6%
Nebraska	23.7%	31.6%	7.8%	18.9%
Nevada	18.7%	41.1%	9.1%	32.5%
New Hampshire	14.9%	40.5%	6.9%	26.1%
New Jersey	22.3%	37.6%	4.5%	21.0%
New Mexico	19.4%	50.9%	14.8%	44.5%
New York	22.7%	46.3%	4.4%	26.8%
North Carolina	22.6%	32.5%	5.2%	25.3%
North Dakota	24.7%	30.2%	5.2%	17.1%
Ohio	18.4%	34.2%	5.7%	20.1%
Oklahoma	24.4%	42.1%	5.0%	27.8%
Oregon	16.0%	47.5%	2.9%	26.5%
Pennsylvania	23.5%	30.9%	5.1%	18.6%
Rhode Island	17.8%	41.0%	6.6%	27.3%
South Carolina	24.6%	31.7%	4.4%	26.1%
South Dakota	22.4%	29.1%	5.5%	11.0%
Tennessee	20.1%	33.5%	5.0%	23.1%
Texas	26.5%	30.1%	7.0%	24.2%
Utah	30.5%	28.3%	3.5%	8.4%
Vermont	16.3%	47.9%	4.5%	30.1%
Virginia	20.2%	38.3%	7.0%	26.4%
Washington	16.8%	42.2%	5.4%	24.7%
West Virginia	21.4%	41.1%	6.0%	27.9%
Wisconsin	19.3%	30.3%	4.4%	16.1%
Wyoming	22.4%	28.5%	5.0%	12.2%

B. The Monitoring the Future Survey

Between 1980 and 2025, the percentage of 12th graders who said that it would be "fairly easy" or "very easy" to get marijuana if they wanted it decreased from 89.0% to 65.2%, peaking at 90.4% in 1998 (Figure 2.27).[29] Among 10th graders, the percentage increased from 65.2% in 1992 to a high of 81.1% in 1996 before decreasing to 40.2% in 2025. Among 8th graders, the percentage increased from 42.3% in 1992 to a high of 54.8% in 1996 before decreasing to 19.9% in 2025.

The MTF report explained: "Until the onset of the pandemic, the availability of cannabis had remained persistently high ... In 2021—the first year measured after the pandemic onset—this level [among 12th graders] dropped nine points to 70%, which was the lowest level recorded by the survey at the time. It hovered at this level until 2024, when it dropped to a record low of 65% following a significant, eight point decline from 73% in 2023. Availability stayed at the 65% level in 2025."[30]

Figure 2.27. Perceived availability of marijuana among 8th, 10th, and 12th graders, 1980–2025



In 2025, 65.2% of 12th graders thought it would be "fairly easy" or "very easy" to get marijuana if they wanted it compared to 40.2% of 10th graders and 19.9% of 8th graders (Table 2.2).[31] Regarding alcohol, 74.7% of 12th graders, 53.6% of 10th graders, and 37.3% of 8th graders thought it would be "fairly easy" or "very easy" to get.

The MTF report explained, "in general, the more widely used drugs are reported to be available by higher proportions of the age group, as would be expected. The substances with the highest levels of use in 2025, specifically cannabis, alcohol, and vaping devices, also placed in the top three in terms of perceived availability." It continued, "cannabis appears to be readily available to the great majority of 12th graders; in 2025, 65% reported that they think it would be very easy or fairly easy to get—far higher than the proportion who reported ever having used it (35%). This suggests that only about half of those who have access chose to try this drug."

Table 2.2. Percentage of 8th, 10th, and 12th graders reporting fairly or very easy access to substances, 2025

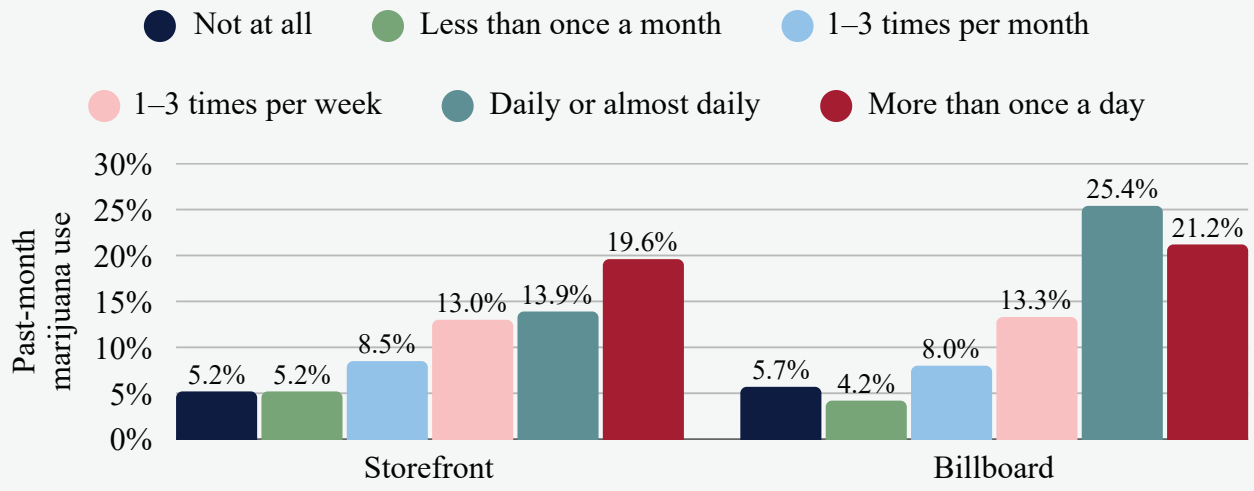
Substance	8th graders	10th graders	12th graders
Marijuana	19.9%	40.2%	65.2%
LSD	3.5%	6.9%	16.6%
Some other hallucinogen	N/A	N/A	27.2%
MDMA	4.1%	7.3%	15.0%
Cocaine powder	5.3%	7.2%	9.7%
Crack	5.1%	7.3%	8.6%
Heroin	3.5%	5.2%	9.2%
Stimulant medications	10.7%	16.8%	34.3%
Opioid medications	5.7%	7.9%	14.2%
Crystal methamphetamine (ice)	3.7%	5.8%	6.2%
Sleeping medications	20.0%	23.4%	42.9%
Alcohol	37.3%	53.6%	74.7%
Cigarettes	28.7%	43.8%	56.4%
Vaping device	30.8%	49.9%	68.2%
E-liquid with nicotine (for vaping)	26.0%	44.9%	64.4%
Flavored e-liquid with nicotine (for vaping)	24.8%	43.5%	64.5%
E-liquid for marijuana vaping	18.5%	37.6%	57.9%
Steroids	8.0%	11.4%	14.5%

The association between youth marijuana use and exposure to marijuana advertisements

MTF data illustrate the association between marijuana use among 8th and 10th graders and exposure to marijuana advertisements.

In 2024, those who reported seeing advertisements for marijuana on storefronts more than once a day were nearly four times as likely as those who never saw them to have used marijuana in the past month, at 19.6% and 5.2%, respectively (Figure 2.28).[32] Likewise, those who reported seeing advertisements for marijuana on billboards more than once a day were nearly four times as likely as those who never saw them to have used marijuana in the past month, at 21.2% and 5.7%.

Figure 2.28. Past-month marijuana use among 8th and 10th graders by exposure to storefront and billboard advertisements for marijuana, 2024



In 2024, 22.8% of 8th and 10th graders who saw advertisements for marijuana on a screen (e.g., on their phone or computer) more than once a day used marijuana in the past month compared to 4.8% of those who never saw them (Figure 2.29). Likewise, 19.1% of those who heard advertisements for marijuana on the radio more than once a day used marijuana in the past month compared to 5.9% of those who never heard them.

Figure 2.29. Past-month marijuana use among 8th and 10th graders by exposure to screen-based and radio advertisements for marijuana, 2024

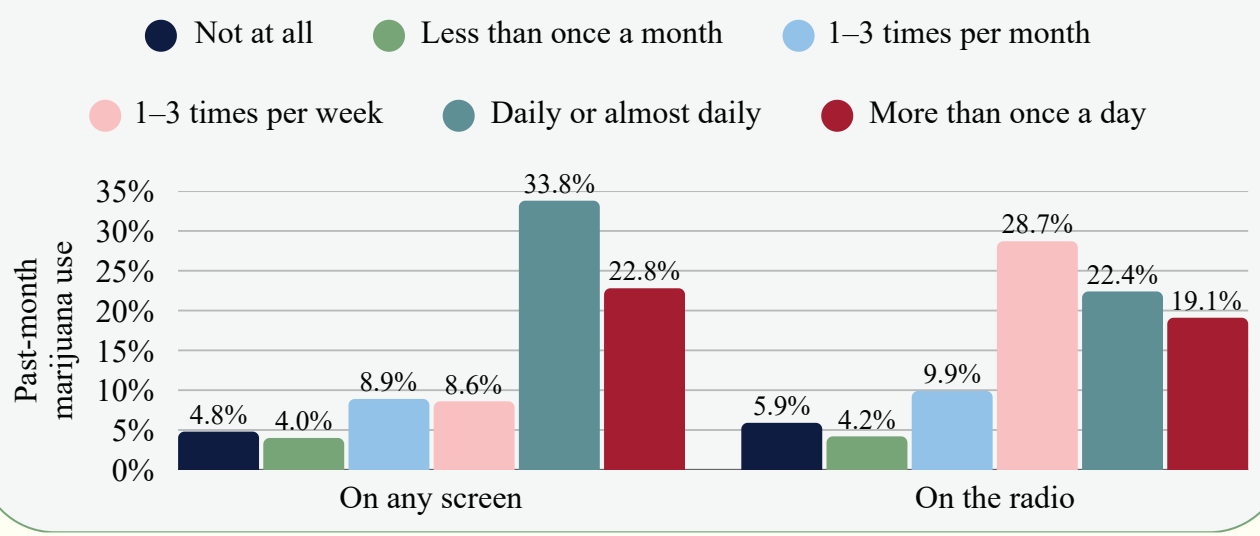


Table 2.3 shows the percentage of students who said they disapproved or strongly disapproved of people using substances. In 2025, 79.9% of 8th graders, 78.4% of 10th graders, and 72.3% of 12th graders said they disapproved or strongly disapproved of people using marijuana regularly.[33]

The MTF report said, "disapproval of cannabis by 12th graders is substantially higher for more regular levels of use. In 2025, 43% disapproved of experimental use, 52% of occasional use, and 72% of regular use." It added that "cannabis use shows the greatest grade related difference in disapproval—the lower the grade, the higher the level of disapproval. Specifically, in 2025, 68% of the 8th graders said they disapprove of trying cannabis, compared to 60% of 10th graders and 43% of 12th graders."

Table 2.3. Disapproval of substance use among 8th, 10th, and 12th graders, 2025

Substance use	8th graders	10th graders	12th graders
Trying marijuana once or twice	68.3%	59.6%	43.0%
Using marijuana occasionally	74.5%	68.5%	51.9%
Using marijuana regularly	79.9%	78.4%	72.3%
Vaping marijuana occasionally	76.0%	72.8%	63.4%
Vaping marijuana regularly	81.6%	79.8%	77.2%
Trying LSD once or twice	45.3%	60.9%	79.0%
Using LSD regularly	47.2%	65.4%	94.8%
Trying ecstasy (MDMA) once or twice	55.8%	70.3%	91.3%
Trying cocaine once or twice	81.5%	86.5%	90.7%
Using cocaine occasionally	85.4%	89.7%	N/A
Trying heroin once or twice without using a needle	78.2%	86.4%	95.5%
Using heroin occasionally without using a needle	78.9%	86.7%	95.8%
Using heroin regularly	N/A	N/A	97.1%
Trying stimulant medications once or twice	N/A	N/A	88.0%
Using stimulant medications regularly	N/A	N/A	93.4%
Trying one or two drinks of an alcoholic beverage	51.9%	47.1%	31.9%
Having one or two drinks nearly every day	79.3%	83.5%	81.0%
Having four or five drinks nearly every day	N/A	N/A	93.8%
Having five or more drinks once or twice each weekend	82.1%	83.0%	74.9%
Smoking one or more packs of cigarettes per day	84.3%	87.6%	90.5%
Vaping an e-liquid with nicotine occasionally	76.1%	76.2%	74.7%
Vaping an e-liquid with nicotine regularly	82.1%	83.7%	83.8%
Taking steroids	N/A	N/A	84.9%

The percentage of 12th graders who disapproved or strongly disapproved of individuals using marijuana regularly increased from 71.9% in 1975 to a high of 91.0% in 1990 before dropping to 72.3% in 2025 (Figure 2.30).[34] Between 1991 and 2025, the percentage of 10th graders who disapproved or strongly disapproved decreased from 90.4% to 78.4%, while the percentage of 8th graders decreased from 92.1% to 79.9%.

The MTF report explained that "disapproval tends to rise in the same year that use falls and tends to fall in the same year that use rises. We have hypothesized that this is due in part to both disapproval and use being influenced by perceived risk, for which the inflection point often occurs a year earlier." It continued, "in 2025, levels of disapproval for cannabis use increased significantly for experimental, occasional, and regular use, continuing and furthering significant increases that took place last year ... These increases marked a sustained rebound from the significant drop that occurred in 2021 after the onset of the COVID-19 pandemic."

Figure 2.30. Disapproval of regular marijuana use among 8th, 10th, and 12th graders, 1975–2025

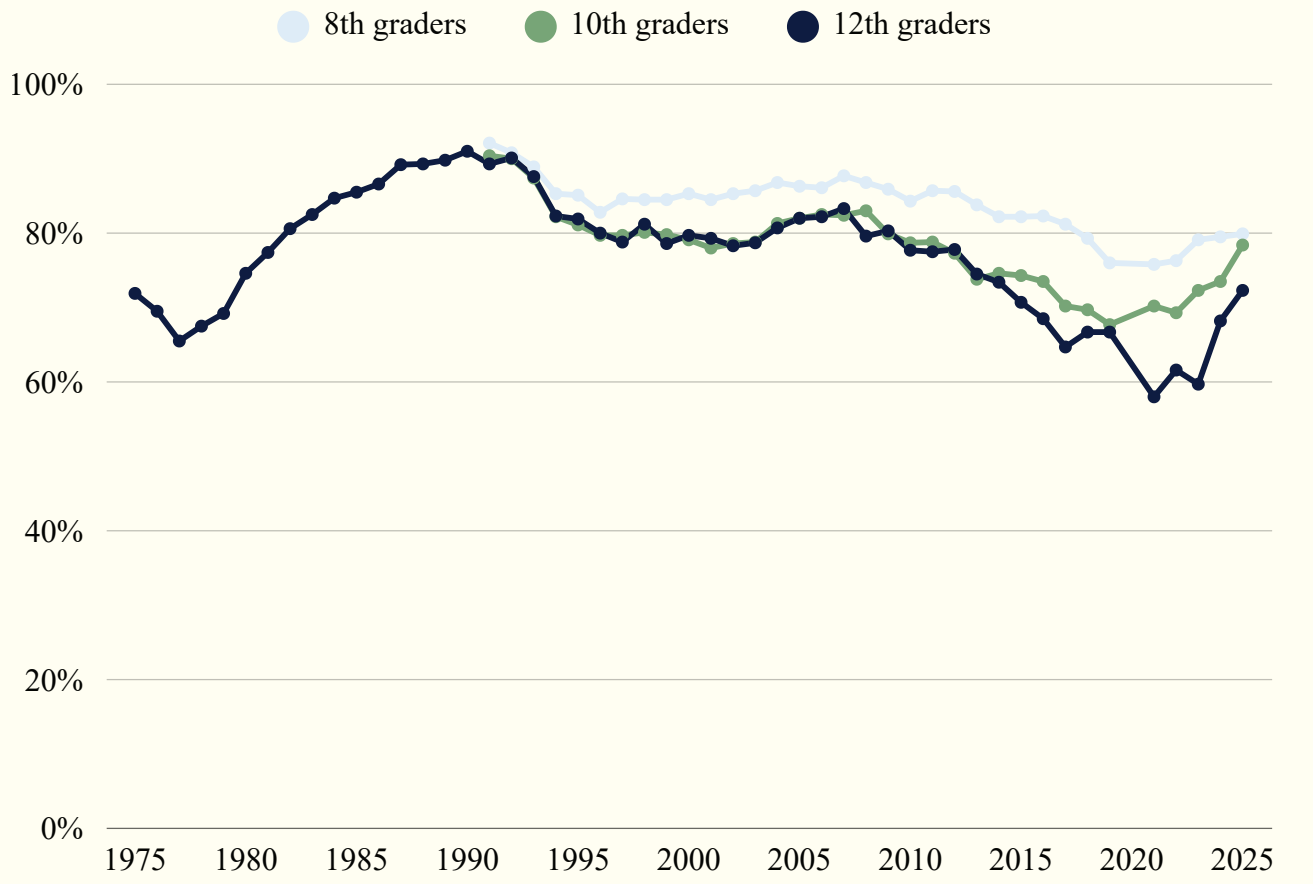


Table 2.4 shows the percentage of students in 2025 who said there would be a "great risk" of harm to themselves if they used various substances. In 2025, 39.0% of 12th graders thought there would be a great risk of harm associated with using marijuana regularly compared to 55.3% of 10th graders and 59.3% of 8th graders.[35]

The MTF report noted that "far fewer respondents believed that a person runs a great risk of harm by trying a drug once or twice."

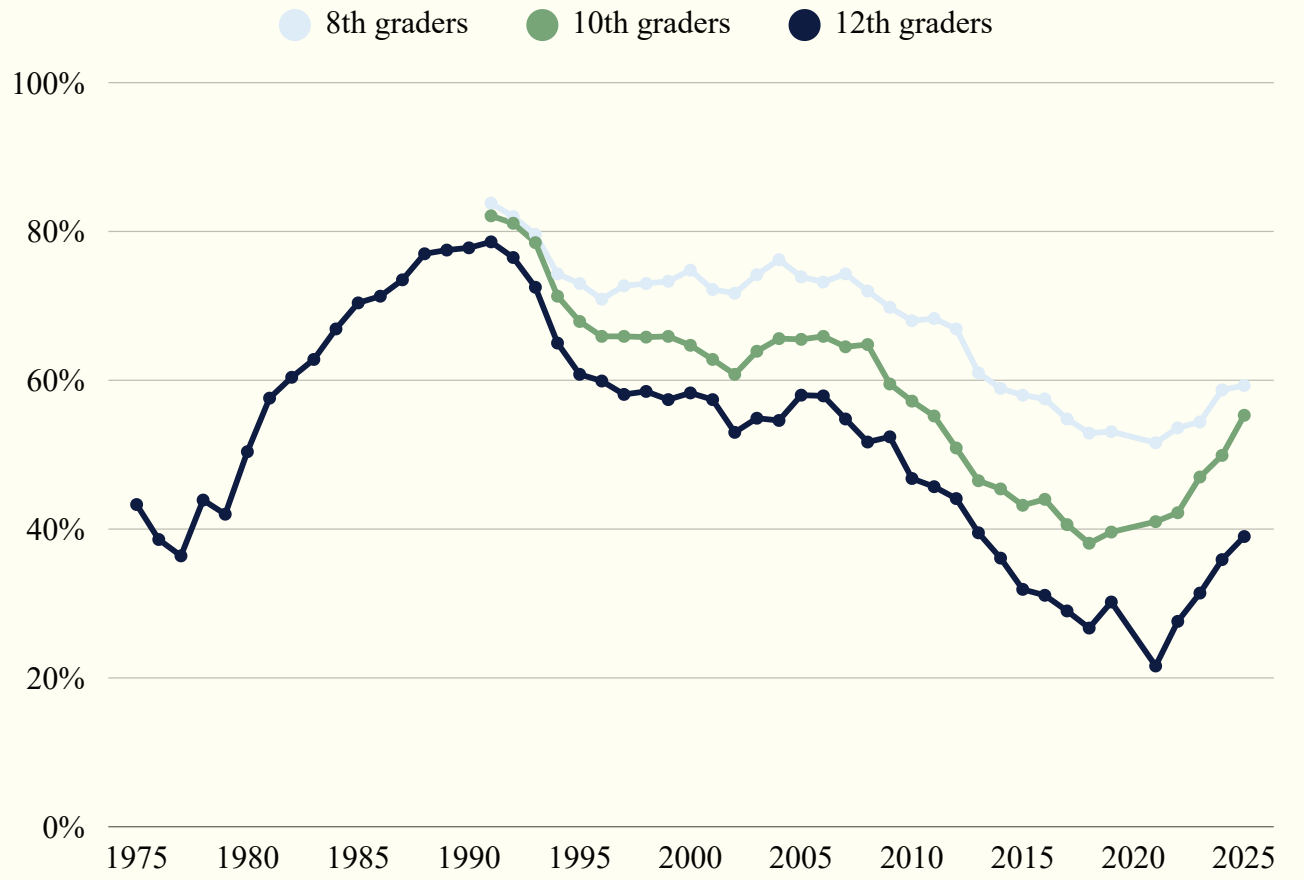
Table 2.4. Perceived great risk of using substances among 8th, 10th, and 12th graders, 2025

Substance use	8th graders	10th graders	12th graders
Trying marijuana once or twice	24.8%	22.7%	14.8%
Using marijuana occasionally	35.9%	31.5%	16.2%
Using marijuana regularly	59.3%	55.3%	39.0%
Vaping marijuana occasionally	41.2%	40.5%	27.5%
Vaping marijuana regularly	58.4%	56.5%	50.3%
Trying LSD once or twice	14.4%	26.9%	26.2%
Using LSD regularly	26.7%	46.1%	56.9%
Trying PCP once or twice	N/A	N/A	49.7%
Trying ecstasy (MDMA) once or twice	37.4%	52.7%	46.6%
Trying cocaine once or twice	49.0%	58.9%	47.0%
Using cocaine occasionally	61.7%	72.4%	66.2%
Using cocaine regularly	N/A	N/A	78.0%
Trying heroin once or twice without using a needle	51.6%	68.7%	61.5%
Using heroin occasionally without using a needle	62.6%	77.5%	72.2%
Using heroin regularly	N/A	N/A	84.4%
Trying stimulant medications once or twice	N/A	N/A	34.7%
Using stimulant medications regularly	N/A	N/A	42.6%
Trying Adderall once or twice	23.4%	27.8%	30.8%
Using Adderall occasionally	28.3%	34.6%	38.5%
Trying crystal methamphetamine (ice) once or twice	N/A	N/A	67.2%
Trying sleeping medications once or twice	N/A	N/A	17.3%
Using sleeping medications regularly	N/A	N/A	34.5%
Using xylazine	N/A	N/A	50.3%
Trying one or two drinks of an alcoholic beverage	15.7%	15.8%	10.6%
Having one or two drinks nearly every day	34.9%	41.0%	25.6%
Having four or five drinks nearly every day	N/A	N/A	70.8%
Having five or more drinks once or twice each weekend	57.0%	60.9%	41.7%
Smoking one or more packs of cigarettes per day	60.0%	70.0%	67.7%
Vaping an e-liquid with nicotine occasionally	29.0%	28.9%	31.5%
Vaping an e-liquid with nicotine regularly	57.0%	60.8%	55.8%
Taking steroids	N/A	N/A	48.6%

The percentage of 12th graders who thought there was a great risk of harm associated with using marijuana regularly increased from 43.3% in 1975 to a high of 78.6% in 1991 before declining to 39.0% in 2025 (Figure 2.31).[36] Between 1991 and 2025, the percentage among 10th graders decreased from 82.1% to 55.3%, while the percentage among 8th graders decreased from 83.8% to 59.3%.

The MTF report explained, "since 2000, perceived risk of regular cannabis use [among 12th graders] has dropped substantially from 58% in 2000 down to 39% in 2025, while levels of cannabis use largely hovered until 2020 and then declined in 2021 and later years after the pandemic onset. Lack of a strong connection between perceived risk and levels of cannabis use contrasts sharply with the time period from 1975 to 2000, when the two closely mirrored each other in an inverse relationship ... One possibility is that the substantial decrease in perceived risk after 2000 would have led to increases in cannabis prevalence were it not for the substantial decreases that took place in cigarette smoking, which is a strong predictor of cannabis use."

Figure 2.31. 8th, 10th, and 12th graders who thought there was a great risk associated with using marijuana regularly, 1975–2025



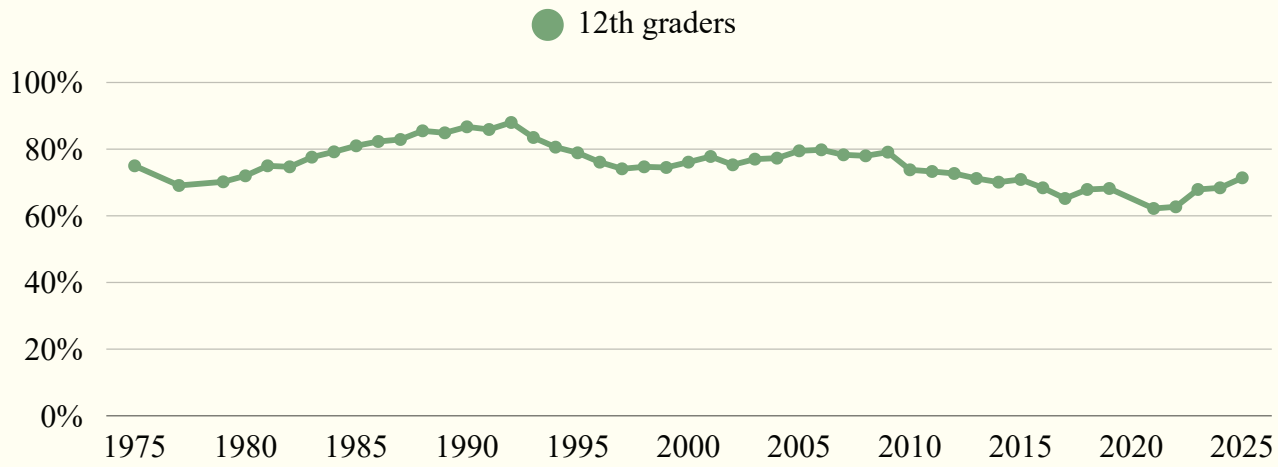
In 2025, 71.4% of 12th graders thought their close friends would disapprove of their regular marijuana use, while 57.6% thought they would disapprove of occasional use and 51.7% thought they would disapprove of them trying marijuana once or twice (Table 2.5).[37] The MTF report said, "the converse is that a substantial proportion, almost 30%, of 12th grade students do not believe their close friends would disapprove of their regular cannabis use."

Table 2.5. Percentage of 12th graders who thought their close friends would disapprove of their substance use, 2025

Substance use	12th graders
Trying marijuana once or twice	51.7%
Using marijuana occasionally	57.6%
Using marijuana regularly	71.4%
Trying LSD once or twice	81.5%
Trying cocaine once or twice	88.5%
Using cocaine occasionally	91.7%
Trying an amphetamine once or twice	85.4%
Having one or two drinks nearly every day	82.3%
Having four or five drinks nearly every day	91.0%
Having five or more drinks once or twice each weekend	75.9%
Smoking one or more packs of cigarettes per day	85.4%
Vaping an e-liquid with nicotine occasionally	69.8%
Vaping an e-liquid with nicotine regularly	77.0%

Between 1975 and 2025, the percentage of 12th graders who thought their close friends would disapprove of them using marijuana regularly decreased from 75.0% to 71.4%, peaking at 88.0% in 1992 (Figure 2.32).[38] The MTF report said, "clearly, social norms regarding cannabis use among adolescents have relaxed across the decades."

Figure 2.32. Percentage of 12th graders who thought their close friends would disapprove of them using marijuana regularly, 1975–2025



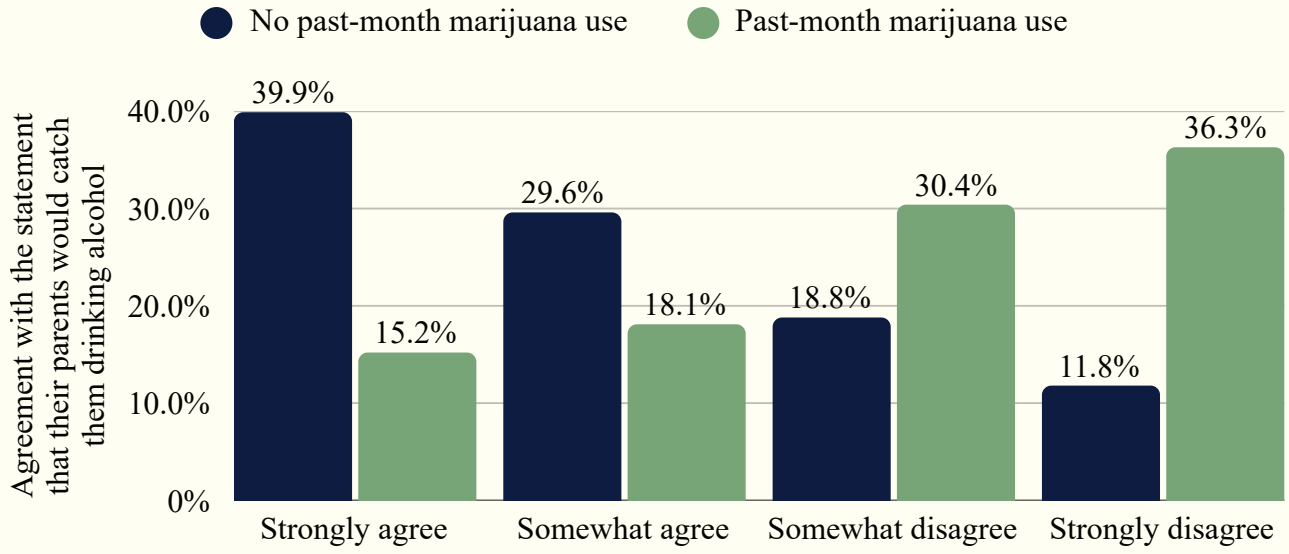
C. State-Level Estimates

Washington Healthy Youth Survey

The Washington Healthy Youth Survey is conducted every two years through a partnership between multiple state agencies and includes approximately 200,000 students in grades 6, 8, 10, and 12.[39]

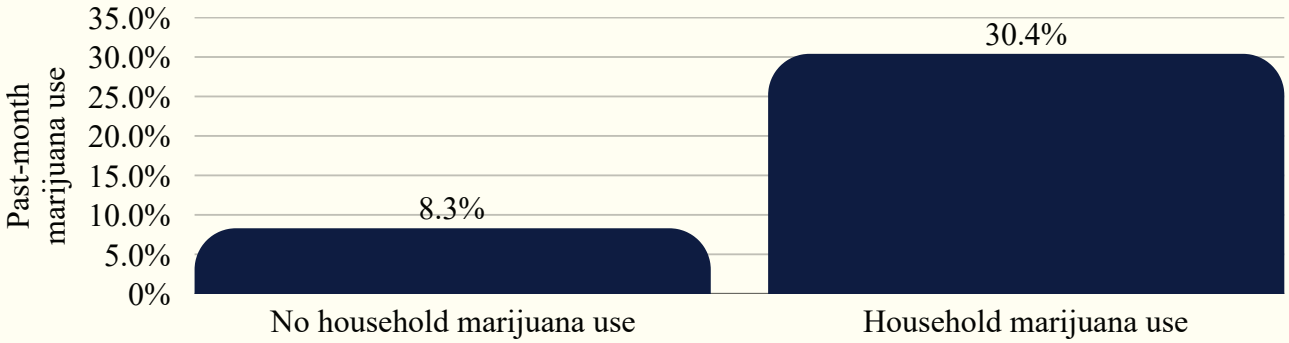
The survey asked, "If you drank some beer, wine, or liquor without your parent's or caregiver's permission, would you be caught by them?" which likely correlates with whether the student thinks their parent would catch them for using marijuana. Among 12th graders in Washington state who used marijuana in the past month, 33.3% somewhat or strongly agreed that their parents or caregivers would catch them (Figure 2.33). In comparison, 69.5% of 12th graders who did not use marijuana in the past month somewhat or strongly agreed that their parents or caregivers would catch them.

Figure 2.33. Agreement that parents would catch them drinking alcohol among 12th graders in Washington by past-month marijuana use, 2025



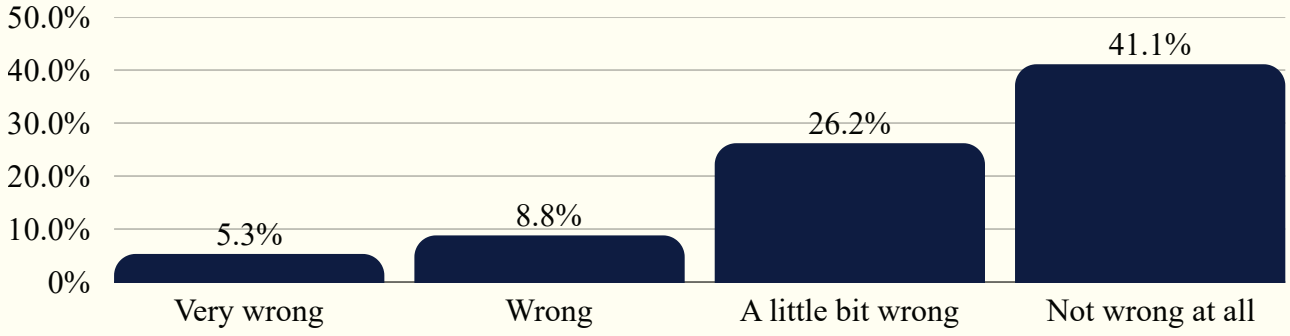
When asked, "Does anyone who lives with you now use marijuana?" 30.4% of 12th graders who said "yes" used marijuana in the past month compared to 8.3% of those who said "no" (Figure 2.34).

Figure 2.34. Past-month marijuana use among 12th graders in Washington by household marijuana use, 2025



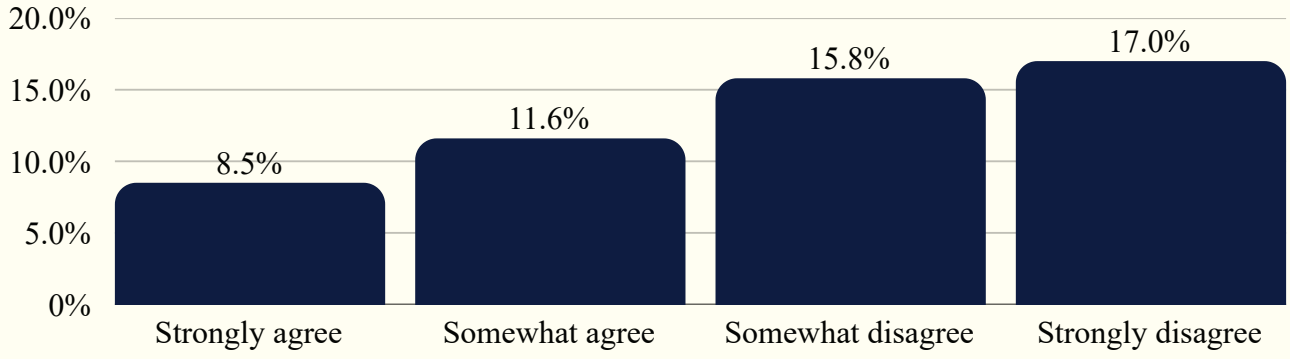
When asked, “How wrong would most adults in your neighborhood or community think it was for kids your age to use marijuana?” 5.3% of 12th graders who answered “very wrong” used marijuana in the past month compared to 41.1% of those who answered “not wrong at all” (Figure 2.35).

Figure 2.35. Past-month marijuana use among 12th graders in Washington by neighborhood perception of youth marijuana use, 2025



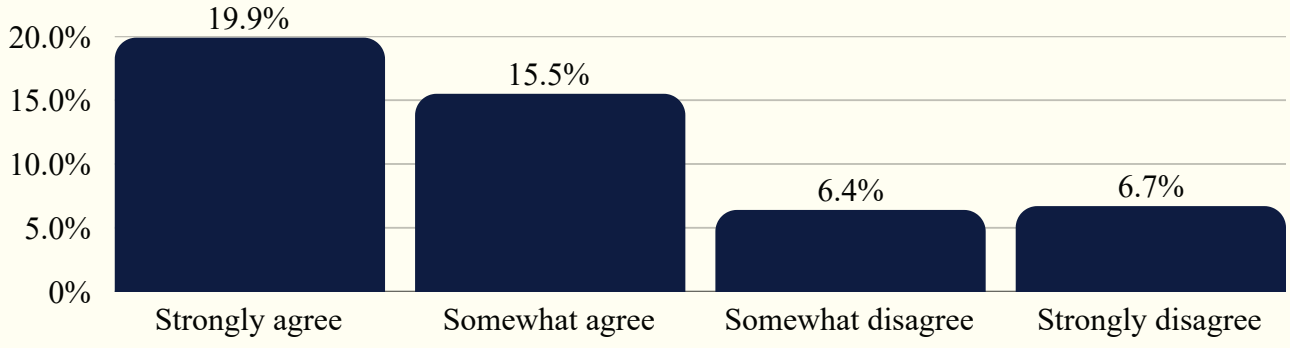
When asked to rate how much they agreed with the statement, “I like my neighborhood or community,” 8.5% of 12th graders who answered “strongly agree” used marijuana in the past month compared to 17.0% of those who answered “strongly disagree” (Figure 2.36).

Figure 2.36. Past-month marijuana use among 12th graders in Washington by fondness for their neighborhood, 2025



When asked to rate how much they agreed with the statement, “I would like to get out of my neighborhood or community,” 19.9% of 12th graders who answered “strongly agree” used marijuana in the past month compared to 6.7% of those who answered “strongly disagree” (Figure 2.37).

Figure 2.37. Past-month marijuana use among 12th graders in Washington by desire to leave neighborhood, 2025



When asked whether "sports teams and recreation" are available in their neighborhood or community for people their age, 14.3% of 12th graders who said these activities were not available used marijuana in the past month compared to 11.5% of those who said they were available (Table 2.6).

Table 2.6. Past-month marijuana use among 12th graders in Washington by the availability of activities, 2025

Activities in community	Past-month marijuana use
Sports teams and recreation	
These activities were available	11.5%
These activities were not available	14.3%
Scouts, Camp Fire, 4-H Clubs, cultural activities, or other service clubs	
These activities were available	11.6%
These activities were not available	13.5%
Boys and Girls Club, YMCA, or other activity clubs	
These activities were available	11.9%
These activities were not available	12.6%

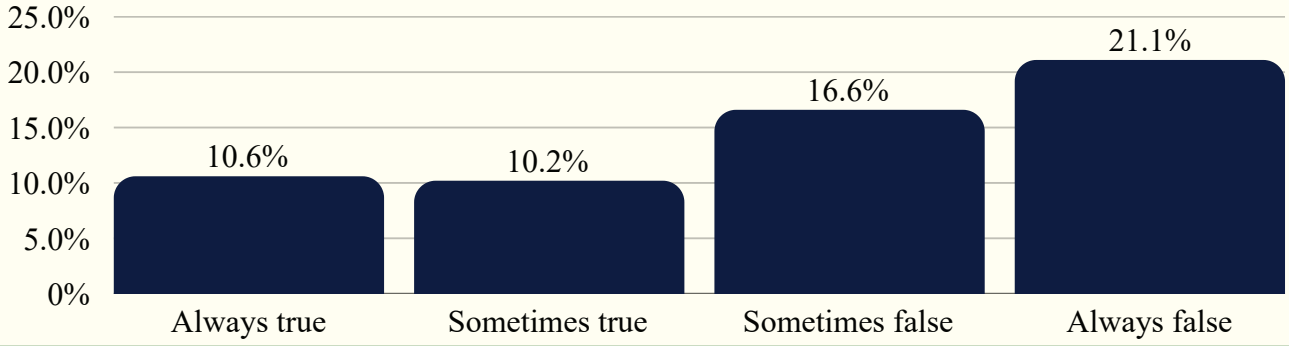
When asked how much they agree with the statement, "there are lots of chances for students in my school to get involved in sports, clubs, and other school activities outside of class," 21.4% of 12th graders who strongly disagreed with it used marijuana in the past month compared to 9.1% of those who strongly agreed with it (Table 2.7).

Table 2.7. Past-month marijuana use among 12th graders in Washington by opportunities for engagement at school, 2025

Opportunities to engage at school	Past-month marijuana use
There are lots of chances for students in my school to get involved in sports, clubs, and other school activities outside of class	
Strongly agree	9.1%
Somewhat agree	10.9%
Somewhat disagree	16.7%
Strongly disagree	21.4%
There are lots of chances for students in my school to talk with a teacher one-on-one	
Strongly agree	7.7%
Somewhat agree	12.0%
Somewhat disagree	15.2%
Strongly disagree	14.6%

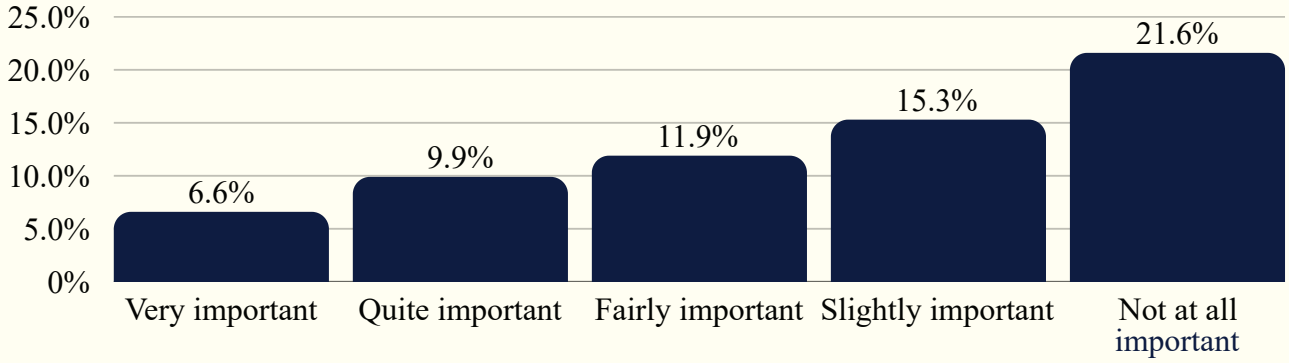
When asked about the statement, "I feel safe during school," 10.6% of 12th graders who answered that it is "always true" used marijuana in the past month compared to 21.1% of those who answered that it is "always false" (Figure 2.38).

Figure 2.38. Past-month marijuana use among 12th graders in Washington by perception of safety of school, 2025



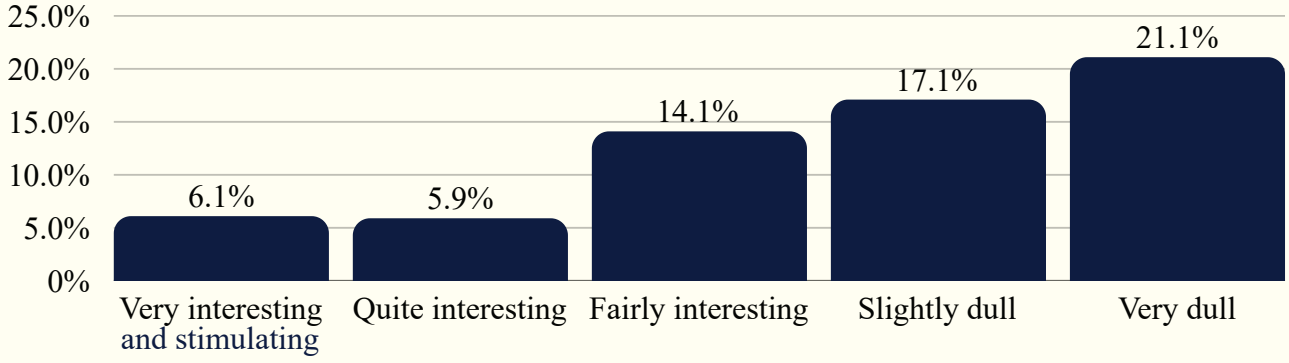
When asked, "How important do you think the things you are learning in school are going to be for you later in life?" 6.6% of 12th graders who said they are "very important" used marijuana in the past month compared to 21.6% of those who said they are "not at all important" (Figure 2.39).

Figure 2.39. Past-month marijuana use among 12th graders in Washington by the perceived importance of education in school, 2025



When asked, "How interesting are most of your courses to you?" 6.1% of 12th graders who said that their courses are "very interesting and stimulating" used marijuana in the past month compared to 21.1% of those who said their courses are "very dull" (Figure 2.40).

Figure 2.40. Past-month marijuana use among 12th graders in Washington by interest in school courses, 2025



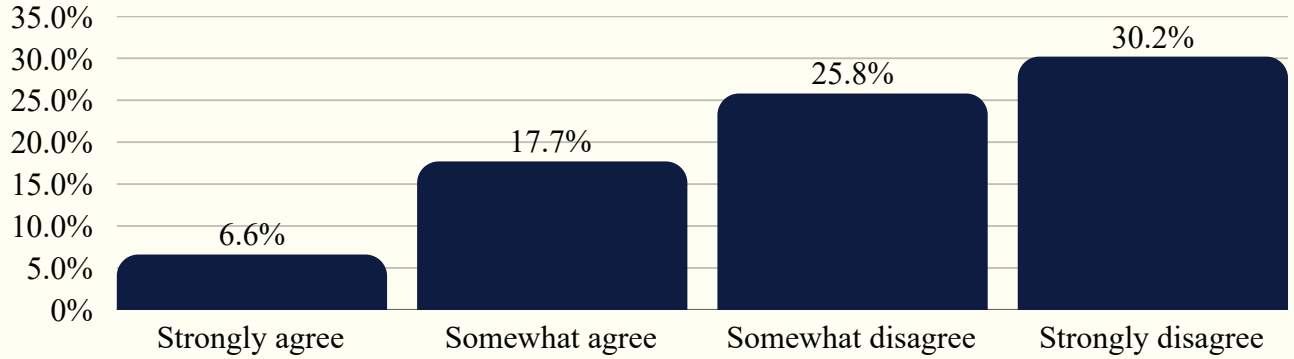
When asked how much they agree with the statement, "my parent(s) or caregiver(s) give me lots of chances to do fun things with them," 23.5% of those who strongly disagreed with it used marijuana in the past month compared to 8.7% of those who strongly agreed with it (Table 2.8).

Table 2.8. Past-month marijuana use among 12th graders in Washington by parental support and involvement, 2025

Parental support and involvement	Past-month marijuana use
If I had a personal problem, I could ask my parent(s) or caregiver(s) for help	
Strongly agree	9.2%
Somewhat agree	11.2%
Somewhat disagree	16.0%
Strongly disagree	19.1%
My parent(s) or caregiver(s) give me lots of chances to do fun things with them	
Strongly agree	8.7%
Somewhat agree	10.2%
Somewhat disagree	20.5%
Strongly disagree	23.5%
My parent(s) or caregiver(s) ask me what I think before most family decisions affecting me are made	
Strongly agree	8.5%
Somewhat agree	9.5%
Somewhat disagree	17.0%
Strongly disagree	18.3%

When asked to rate how much they agreed with the statement, "my family has clear rules about alcohol and drug use," 6.6% of 12th graders who said they "strongly agree" used marijuana in the past month compared to 30.2% of those who said they "strongly disagree" (Figure 2.41).

Figure 2.41. Past-month marijuana use among 12th graders in Washington by whether the family has clear rules about alcohol and drug use, 2025



When asked where they lived most of the time in the past 30 days, 11.2% of 12th graders in Washington who said "in my family's home" used marijuana in the past month compared to 18.2% of those who said, "another place" (Table 2.9).

Table 2.9. Past-month marijuana use among 12th graders in Washington by housing and financial insecurity, 2025

Housing and financial insecurity	Past-month marijuana use
Where did you live most of the time in the last 30 days	
In my family's home	11.2%
Another place	18.2%
Who did you live with most of the time in the last 30 days	
Parent(s), step-parent(s), or legal guardian	11.2%
Not Parent(s), step-parent(s), or legal guardian	21.0%
Are your current living arrangements the result of losing your home because your family cannot afford housing	
No	11.3%
Yes	21.5%
Not sure	12.2%
Have you or your family moved in the past 3 years to another school district for temporary or seasonal work in agriculture, dairy, or fishing	
No	11.6%
Yes	15.3%
I do not know	7.4%
During your last school year, how many times did you change schools for reasons other than moving up a grade	
I did not change schools	10.9%
One or more times	18.8%
Do you receive free or reduced price lunches at school	
No	12.3%
Yes	13.9%
Not sure	9.7%
How often in the past 12 months did you or your family have to cut meal size or skip meals because there wasn't enough money for food	
Did not have to skip or cut the size of meals	10.6%
1–2 months or more often	21.0%

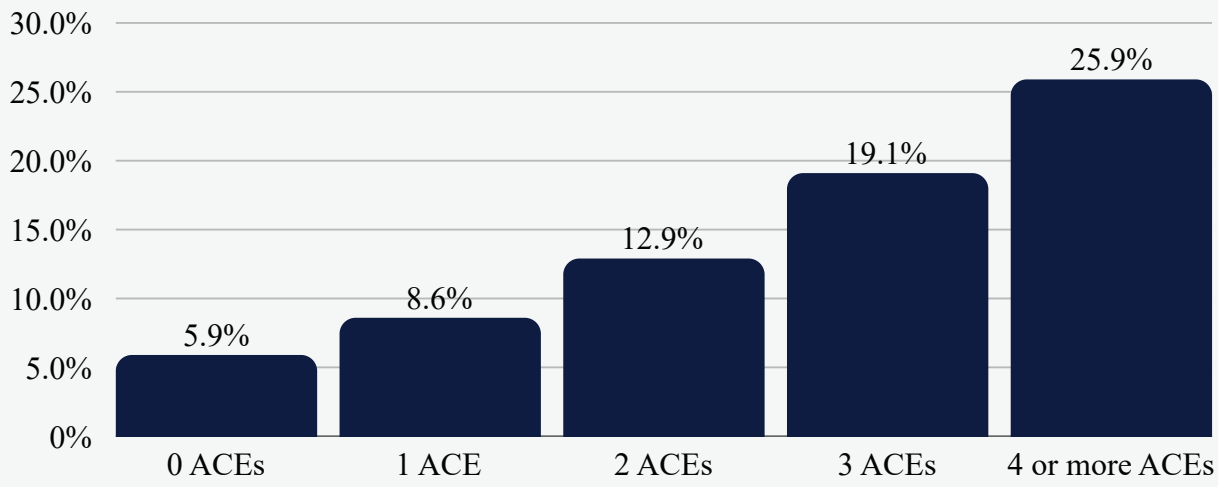
Adverse childhood experiences (ACEs)

The Centers for Disease Control and Prevention stated that "Adverse Childhood Experiences, or ACEs, are potentially traumatic events that occur in childhood (0-17 years) such as experiencing violence, abuse, or neglect; witnessing violence in the home; and having a family member attempt or die by suicide," adding that "traumatic events in childhood can be emotionally painful or distressing and can have effects that persist for years."[40] ACEs are associated with an increased risk of injury, substance use, overdose, suicide, sexually transmitted infections, involvement in sex trafficking, chronic disease, and maternal and child health problems (e.g., pregnancy complications), among other outcomes.[41]

The Washington Healthy Youth Survey included 11 questions that it identified as ACEs, including whether the student felt safe during school, whether an adult had ever physically hurt them on purpose, and whether they or their family had to cut meal size or skip meals because they did not have enough money for food.[42]

The prevalence of past-month marijuana use among 12th graders in Washington increased as they experienced more ACEs, rising from 5.9% among those who did not experience any ACEs to 12.9% among those who experienced 2 ACEs and 25.9% among those who experienced 4 or more ACEs (Figure 2.42).[43]

Figure 2.42. Past-month marijuana use among 12th graders in Washington by adverse childhood experiences, 2025



The Cleveland Clinic noted that the signs of ACEs in a child include fear of other people, difficulty sleeping, frequent nightmares, bedwetting, changes to their mood, difficulty showing affection, avoiding situations that relate to a traumatic event, and difficulty learning in school.[44]

The White House's 2022 National Drug Control Strategy explained, "as communities seek opportunities to implement data driven prevention strategies that focus on the broader physical, social, cultural and institutional factors that contribute to local substance use, a greater focus on ACEs provides youth within these communities an environment that promotes their overall health and safety."[45]

Pennsylvania Youth Survey

The Pennsylvania Youth Survey, funded by multiple state agencies, is conducted every two years and included more than 250,000 6th, 8th, 10th, and 12th graders.[46]

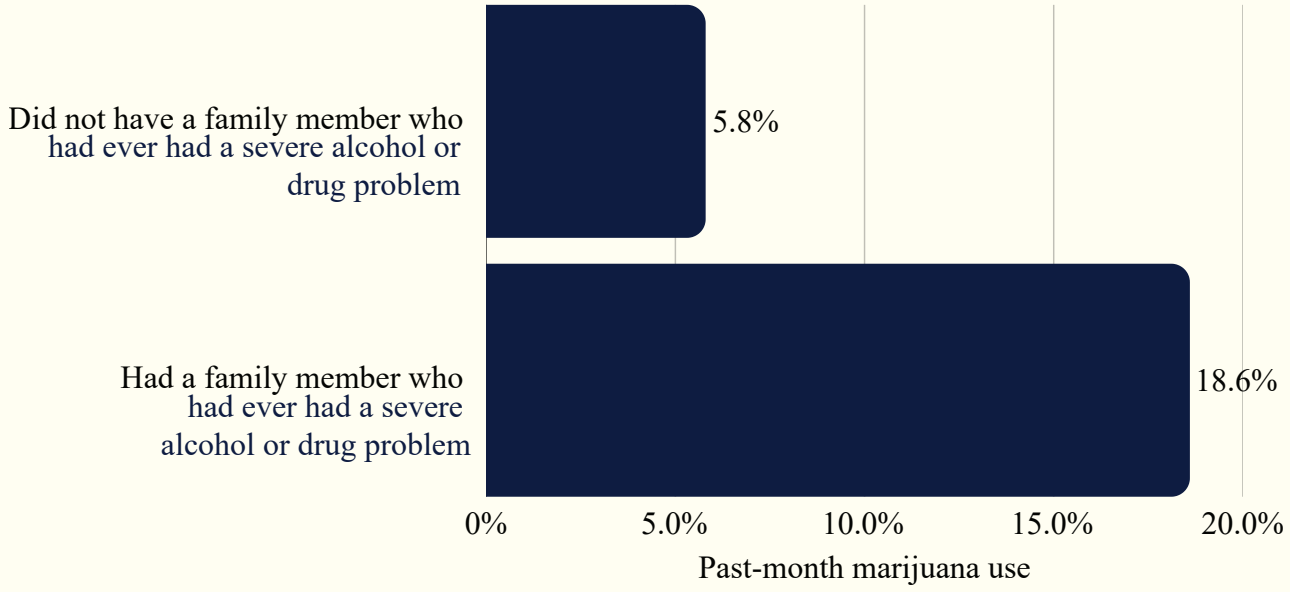
Beyond the topics of perceived availability and risks, the Pennsylvania Youth Survey directly asks students about their willingness to use marijuana. The question asked students how willing they are to try marijuana before age 21, with answers ranging from "I would never try it" to "I would try it any chance I got." Among 12th graders who answered "I would never try it," 99.3% did not use marijuana in the past month (Table 2.10). Among those who answered, "I would try it any chance I got," 24.7% used it more than once a day and 16.9% used it about once a day.

Table 2.10. Past-month marijuana use among 12th graders in Pennsylvania by willingness to try marijuana, 2025

Willingness to try marijuana	Never	Once or twice	Once or twice per week	About once a day	More than once a day
I would never try it	99.3%	0.6%	0.1%	0.0%	0.0%
I probably wouldn't try it	95.3%	3.6%	0.6%	0.5%	0.0%
I'm not sure whether or not I would try it	77.5%	17.1%	3.3%	0.8%	1.3%
I would like to try it	54.4%	26.8%	9.2%	6.6%	3.1%
I would try it any chance I got	22.4%	18.3%	17.8%	16.9%	24.7%

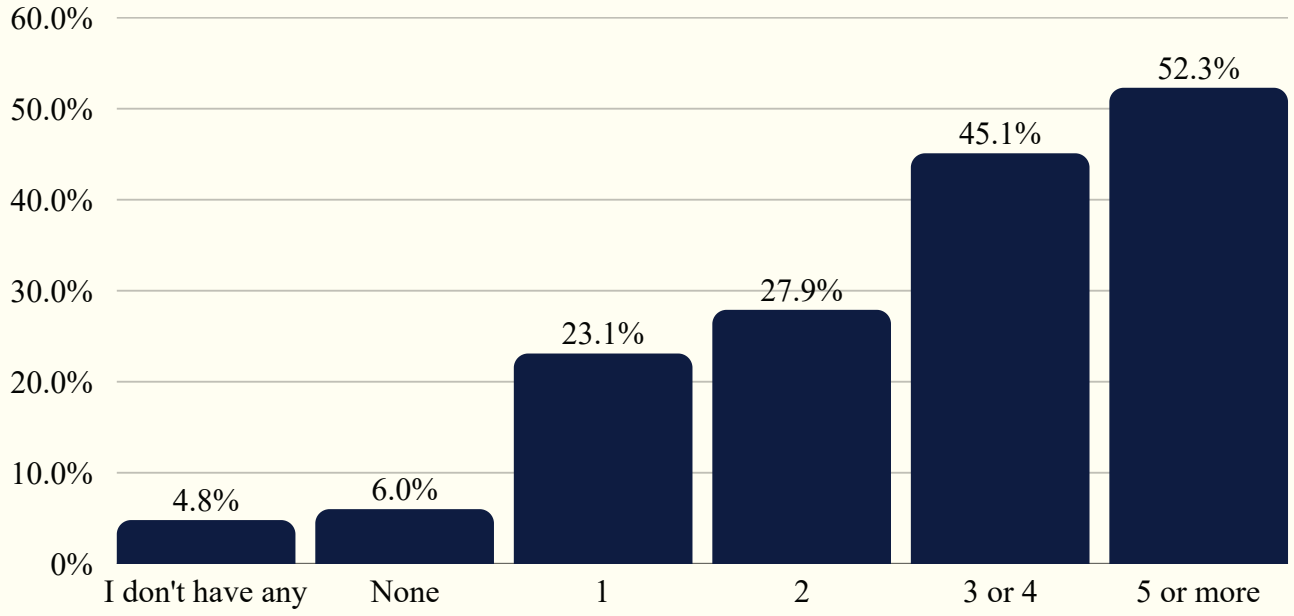
When asked, "Has anyone in your family ever had a severe alcohol or drug problem?" 18.6% of 12th graders who said "yes" used marijuana in the past month compared to 5.8% of those who said "no" (Figure 2.43). Additionally, 5.3% of those who said "yes" used marijuana about once a day or more than once a day compared to 1.2% of those who said "no."

Figure 2.43. Past-month marijuana use among 12th graders in Pennsylvania by whether a family member ever had a severe alcohol or drug problem, 2025



The percentage of 12th graders who used marijuana in the past month increased from 6.0% among those who had siblings but said that none had ever used marijuana to 52.3% of those who said they had 5 or more siblings who had ever used marijuana (Figure 2.44).

Figure 2.44. Past-month marijuana use among 12th graders in Pennsylvania by how many of their siblings had ever used marijuana, 2025



When asked, "About how many adults (over 21) have you known personally who in the past year have: Used marijuana, crack, cocaine, or other drugs?" 4.8% of 12th graders who said "none" used marijuana in the past month compared to 32.8% of those who said 5 or more. Additionally, among those who said "5 or more," 3.0% used marijuana about once a day, while 7.8% said that they used marijuana more than once a day (Table 2.11).

Table 2.11. Past-month marijuana use among 12th graders in Pennsylvania by how many adults they personally knew who used drugs in the past year, 2025

Adults who used drugs in the past year	Never	Once or twice	Once or twice per week	About once a day	More than once a day
None	95.2%	3.1%	0.6%	0.7%	0.5%
1	82.6%	10.6%	2.3%	2.3%	2.1%
2	78.1%	14.2%	3.6%	2.2%	1.9%
3 or 4	73.6%	10.9%	7.4%	4.2%	3.9%
5 or more	67.2%	13.4%	8.6%	3.0%	7.8%

When asked whether their family has clear rules about alcohol and drug use—with answers on a 4-point scale (No!, No, Yes, and Yes!)—14.8% of those who answered "No!" used marijuana in the past month compared to 5.5% of those who answered "Yes!" (Table 2.12).

Table 2.12. Past-month marijuana use among 12th graders in Pennsylvania by whether their family has clear rules about alcohol and drug use, 2025

Family has clear rules about alcohol and drug use	Never	Once or twice	Once or twice per week	About once a day	More than once a day
No!	85.2%	7.1%	3.8%	1.9%	1.9%
No	81.6%	9.9%	3.6%	2.2%	2.6%
Yes	87.8%	7.1%	2.2%	1.3%	1.6%
Yes!	94.5%	3.2%	0.7%	0.8%	0.7%

When asked, "What are the chances you would be seen as cool if you used marijuana?" 5.5% of 12th graders who said there would be "no or very little chance" used marijuana in the past month compared to 26.7% of those who said there would be a "very good chance." The survey also found that 11.3% of those who answered that there would be a "very good chance" used marijuana more than once a day (Table 2.13).

Table 2.13. Past-month marijuana use among 12th graders in Pennsylvania by the chances of being seen as cool for using marijuana, 2025

Chances of being seen as cool for using marijuana	Never	Once or twice	Once or twice per week	About once a day	More than once a day
No or very little chance	94.5%	3.4%	0.8%	0.7%	0.6%
Little chance	85.6%	9.6%	2.2%	1.3%	1.3%
Some chance	78.3%	11.3%	4.9%	3.1%	2.4%
Pretty good chance	78.9%	10.9%	4.8%	3.1%	2.4%
Very good chance	73.3%	8.0%	4.7%	2.7%	11.3%

When asked, "In the past 12 months, did you ever live away from your parents/caregivers because you were kicked out, ran away, or were abandoned?" 9.3% of 12th graders who said "no" used marijuana in the past month compared to 23.1% of those who said "yes." The survey also found that 5.7% of those who answered "yes" used marijuana more than once a day (Table 2.14).

Table 2.14. Past-month marijuana use among 12th graders in Pennsylvania by whether they had lived away from their parents or caregivers in the past year, 2025

Lived away from parents/caregivers	Never	Once or twice	Once or twice per week	About once a day	More than once a day
No	90.7%	5.5%	1.5%	1.2%	1.1%
Yes	76.9%	9.6%	5.2%	2.6%	5.7%

When asked, "In the past 12 months, have any of your friends or family members close to you died?" 12.4% of 12th graders who said "yes" used marijuana in the past month compared to 8.9% of those who said "no." The survey also found that 2.1% of those who answered "yes" used marijuana more than once a day (Table 2.15).

Table 2.15. Past-month marijuana use among 12th graders in Pennsylvania by whether a friend or family member died in the past year, 2025

Friend or family member died	Never	Once or twice	Once or twice per week	About once a day	More than once a day
No	91.1%	5.5%	1.3%	1.0%	1.0%
Yes	87.6%	6.0%	2.4%	2.0%	2.1%

When asked how often in the past 12 months they have "been offered, given or sold alcohol, tobacco product or other drug on school property," 7.7% of 12th graders who said "never" used marijuana in the past month compared to 41.0% of those who said "often." The survey also found that 19.7% of those who answered "often" used marijuana more than once a day (Table 2.16).

Table 2.16. Past-month marijuana use among 12th graders in Pennsylvania by whether they had been offered, given, or sold substances on school property in the past year, 2025

Substances on school property	Never	Once or twice	Once or twice per week	About once a day	More than once a day
Never	92.3%	5.0%	1.1%	0.9%	0.8%
Once or twice	74.1%	11.1%	6.8%	4.3%	3.7%
Several times	54.8%	17.3%	10.6%	8.7%	8.7%
Often	59.0%	9.8%	6.6%	4.9%	19.7%

When asked, "How often do you attend religious services or activities?" 12.5% of 12th graders who said "never" used marijuana in the past month compared to 5.1% of those who said "once a week or more." The survey also found that 1.9% of those who answered "never" used marijuana more than once a day (Table 2.17).

Table 2.17. Past-month marijuana use among 12th graders in Pennsylvania by the frequency of their attendance at religious services, 2025

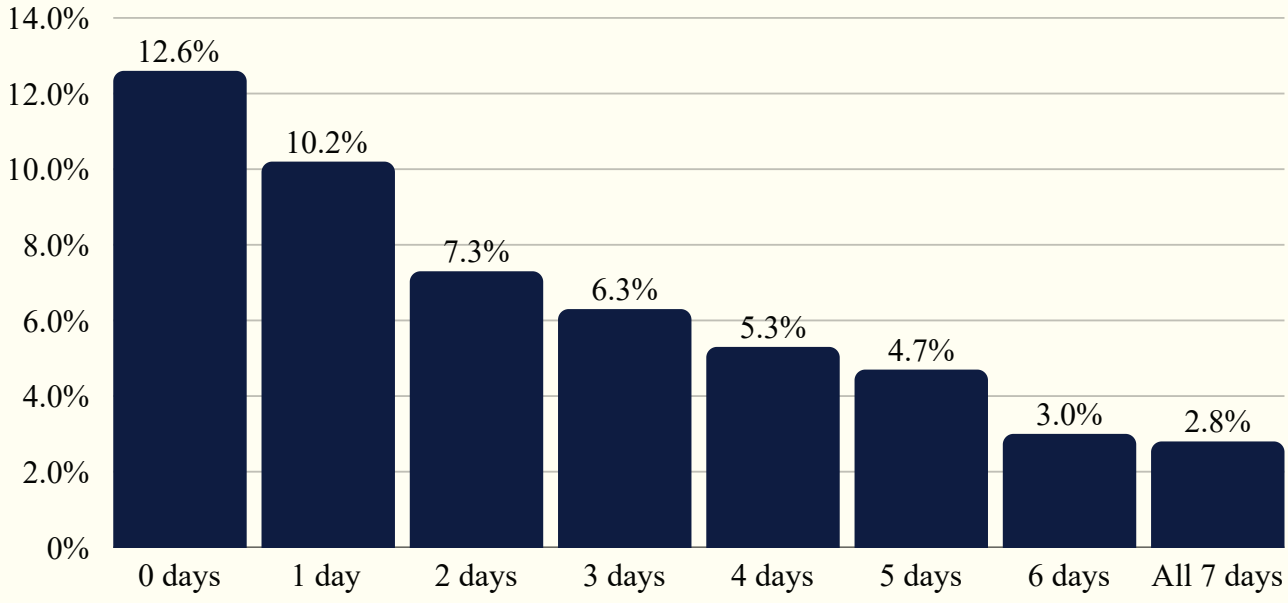
Attendance at religious services	Never	Once or twice	Once or twice per week	About once a day	More than once a day
Never	87.5%	7.0%	2.0%	1.6%	1.9%
Rarely	89.9%	5.8%	1.8%	1.1%	1.4%
1–2 times a month	91.4%	4.4%	1.6%	1.9%	0.7%
Once a week or more	94.9%	3.4%	1.2%	0.3%	0.3%

Utah Student Health and Risk Prevention Survey

The Utah Student Health and Risk Prevention (SHARP) Survey, led by the Utah Department of Health and Human Services, is conducted every two years. The 2025 survey included nearly 80,000 students in 6th, 8th, 10th, and 12th grade.

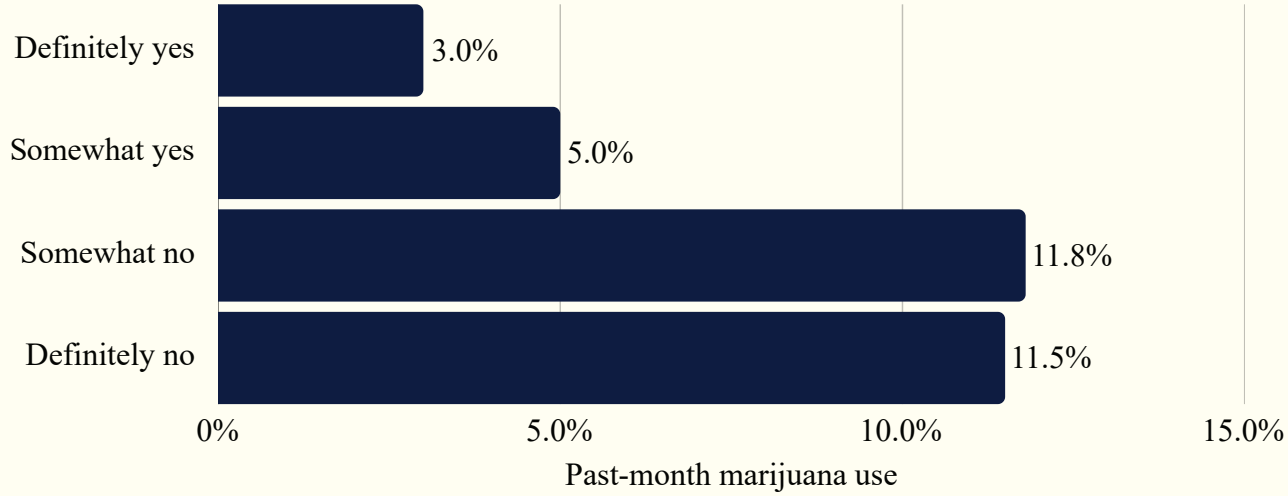
When asked, "During a typical week, how many days do all or most of your family eat at least one meal together?" 12.6% of 12th graders who said 0 days used marijuana in the past month compared to 5.3% of those who said 4 days and 2.8% of those who said all 7 days (Figure 2.45).[47]

Figure 2.45. Past-month marijuana use among 12th graders in Utah by the frequency of eating meals with their family, 2025



When asked about the statement, "my parents/caregivers expect me to eat dinner at home with my family," 11.5% of 12th graders who said "definitely no" used marijuana in the past month compared to 3.0% of those who said "definitely yes" (Figure 2.46).

Figure 2.46. Past-month marijuana use among 12th graders in Utah by whether their parents or caregivers expect them to eat dinner at home with their family, 2025



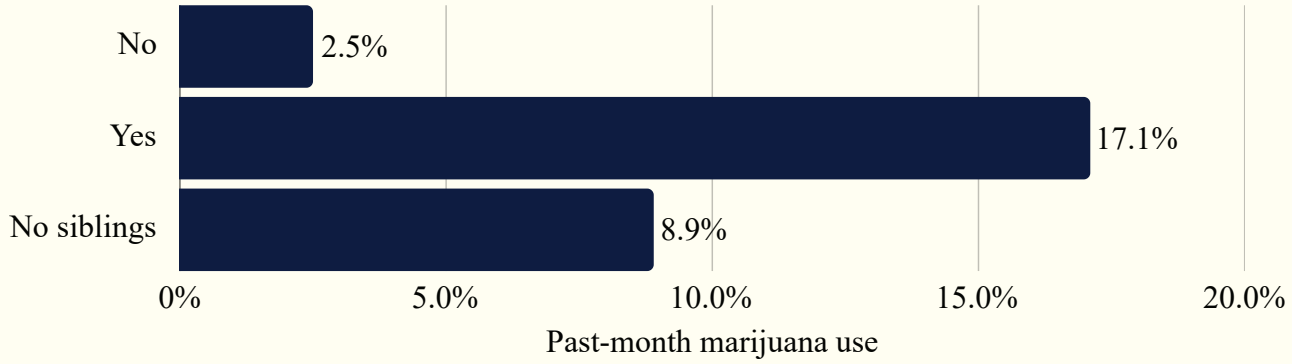
When asked about the statement, "we argue about the same things in my family over and over," 3.9% of 12th graders who said, "definitely no," used marijuana in the past month compared to 12.4% of those who said, "definitely yes" (Table 2.18).

Table 2.18. Past-month marijuana use among 12th graders in Utah by family conflict and rules about substance use, 2025

Agreement with statements	Past-month marijuana use
My parents/caregivers have set clear rules and expectations with me about not drinking any alcohol	
Definitely yes	2.7%
Somewhat yes	9.7%
Somewhat no	15.5%
Definitely no	12.8%
My family has clear rules about alcohol and drug use	
Definitely yes	3.3%
Probably yes	11.1%
Probably no	16.3%
Definitely no	12.3%
People in my family have serious arguments	
Definitely yes	11.3%
Somewhat yes	9.2%
Somewhat no	6.1%
Definitely no	3.8%
We argue about the same things in my family over and over	
Definitely yes	12.4%
Somewhat yes	7.7%
Somewhat no	4.8%
Definitely no	3.9%
People in my family often insult or yell at each other	
Definitely yes	12.0%
Somewhat yes	9.9%
Somewhat no	4.9%
Definitely no	4.1%

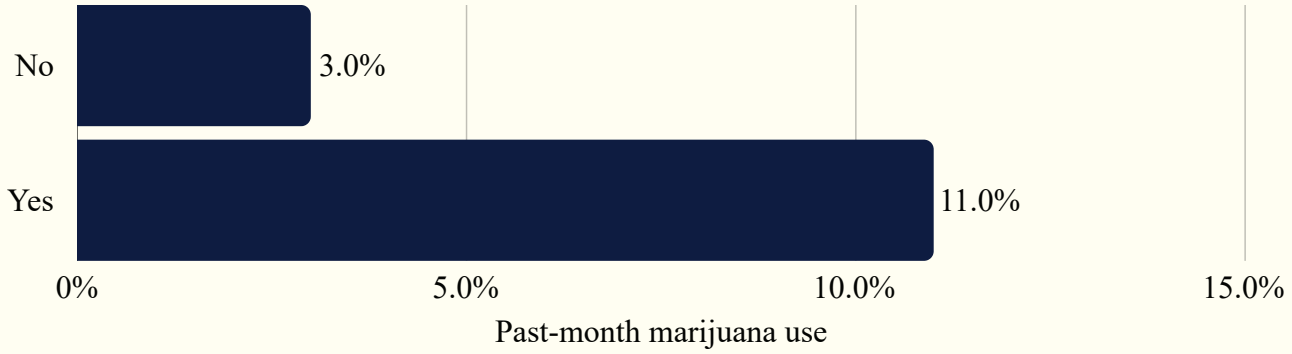
When asked, “Have any of your brothers or sisters ever smoked marijuana?” 17.1% of 12th graders who answered “yes” used marijuana in the past month compared to 2.5% of those who answered “no” (Figure 2.47).

Figure 2.47. Past-month marijuana use among 12th graders in Utah by whether any of their siblings had ever smoked marijuana, 2025



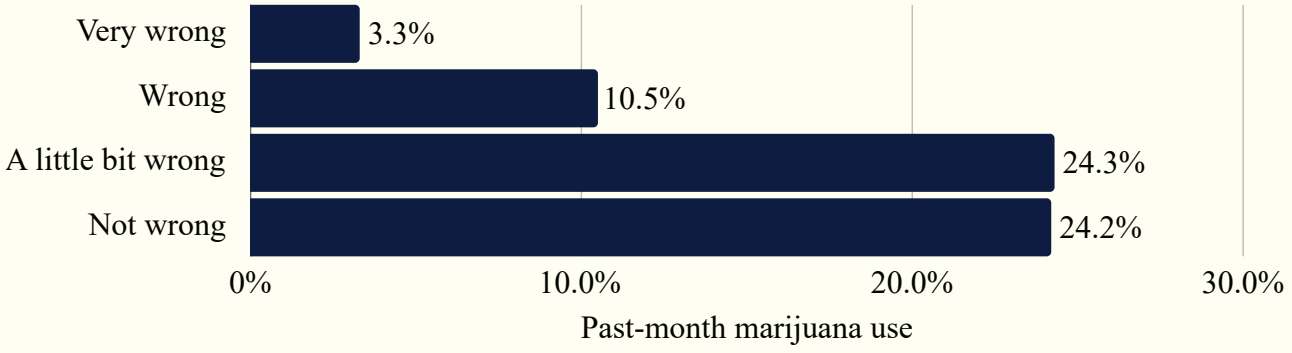
When asked, “Has anyone in your family ever had severe alcohol or drug problems?” 11.0% of 12th graders who answered “yes” used marijuana in the past month compared to 3.0% of those who answered “no” (Figure 2.48).

Figure 2.48. Past-month marijuana use among 12th graders in Utah by whether anyone in their family ever had a severe alcohol or drug problem, 2025



When asked, “How wrong would most adults (over 21) in your neighborhood think it is for kids your age to use marijuana?” 3.3% of 12th graders who answered “very wrong” used marijuana in the past month compared to 24.2% of those who answered “not wrong” (Figure 2.49).

Figure 2.49. Past-month marijuana use among 12th graders in Utah by neighborhood approval of marijuana use, 2025



When asked whether they had to skip one or more meals in the past year because their family did not have enough money to buy food, 14.1% of 12th graders who said yes used marijuana in the past month compared to 5.2% of those who said no (Table 2.19).

Table 2.19. Past-month marijuana use among 12th graders in Utah by social drivers of health, 2025

Social drivers of health		Past-month marijuana use
This past year, did one or more people living in your home lose their job?		
	No	5.1%
	Yes	9.3%
This past year, did you move or change homes?		
	No	5.1%
	Yes	9.7%
This past year, did you skip one or more meals because your family did not have enough money to buy food?		
	No	5.2%
	Yes	14.1%
This past year, did you have difficulty keeping up with school work because you did not have access to a reliable computer or internet service?		
	No	5.3%
	Yes	9.6%
This past year, did you not have a quiet place at home to study?		
	No	5.2%
	Yes	8.3%

Risk factors identified by the ABCD Study

A 2023 study in *JAMA Pediatrics*, using data from the Adolescent Brain Cognitive Development (ABCD) Study, identified prospective risk factors associated with the initiation of marijuana use by early adolescence. The study found that the greatest predictor of the initiation of marijuana use was the initiation of alcohol and tobacco use, followed by prenatal marijuana exposure. It also pointed to factors including "ease of obtaining, positive expectancies, number of friends using, and greater peer tolerance," adding that "greater externalizing symptomatology, depressed mood, and anhedonia at baseline were also significantly prospectively associated with cannabis use initiation."[48]

Risk and protective factors

The Indiana Family and Social Services Administration, through its Division of Mental Health and Addiction, compiled a list of risk and protective factors for substance use, though it may not cover every potential factor.[49] It explained that "not everyone who experiences a risk factor will use alcohol or drugs. The goal in prevention is to reduce risk factors and strengthen protective factors."

Its list of risk factors referenced:

- Engaging in alcohol or drug use at a young age
- Early and persistent problem behavior
- Rebelliousness
- Positive attitudes towards alcohol or drug use, low perception of risk
- Genetic susceptibility
- Family management problems (lack of clear parental expectations, lack of supervision, excessively harsh or inconsistent punishment)
- Family conflict, abuse or neglect
- Favorable parental attitudes or approval of substance use
- Family history of substance use/misuse
- Poor grades in school, lack of commitment to school
- High availability of substances
- Normalization of alcohol and drug use in the community
- Low socioeconomic status

Its list of protective factors referenced:

- Resiliency (being able to adapt to change and stressful events)
- Strong bonds with family, school, community
- Spirituality
- High self-esteem and problem-solving skills
- Parent involvement
- Opportunities for positive social involvement
- Recognition for positive behavior and achievements
- Clear and consistent expectations from family, school and community about not using alcohol and drugs

Chapter 3. The Correlates of Youth Marijuana Use

Beyond its associations with risk and protective factors, marijuana use is associated with a range of health, social, and academic outcomes. Of note, while marijuana use is associated with many adverse outcomes, readers should not assume that marijuana caused them. For example, adolescents who use marijuana are more likely to also use hallucinogens, just as those who use hallucinogens are more likely to use marijuana, but these two behaviors may share underlying risk and protective factors.

Adolescent marijuana use is associated with various health, social, and academic outcomes:

1. **Marijuana use is associated with the use of other substances.** In 2024, 70.0% of 12–17-year-olds who used marijuana in the past year also drank alcohol in the past year compared to 10.2% of those who did not use marijuana in the past year.[1] That year, 53.6% of 12–17-year-olds who used marijuana in the past year also had a substance use disorder—for marijuana, alcohol, or another drug—compared to 2.6% of those who did not use marijuana in the past year.[2]
2. **Marijuana use is associated with worse mental health.** In 2024, 29.8% of 12–17-year-olds who used marijuana in the past year seriously thought about suicide in the past year compared to 7.8% of those who did not use marijuana in the past year.[3] That year, 55.4% of 8th and 10th graders who used marijuana in the past month agreed or mostly agreed with the statement "I often feel anxious" compared to 42.4% of those who did not use marijuana in the past month.[4]
3. **Marijuana use is associated with worse physical health.** In 2024, 48.3% of 8th and 10th graders who were daily users of marijuana in the past month missed 2 or more days of school in the past month because of an "illness" compared to 33.3% of those who did not use marijuana in the past month.[5] That year, 31.3% of 8th and 10th graders who were daily users of marijuana in the past month had ever been diagnosed with a concussion compared to 17.9% of those who did not use marijuana in the past month.[6]
4. **Marijuana use is associated with poorer academic performance.** In 2024, 22.7% of 8th and 10th graders who did not use marijuana in the past month said that their average grade in school was an A compared to 9.3% of those who used marijuana in the past month.[7] Conversely, 8.8% of those who used marijuana in the past month said that their average grade was a D (69% or lower) compared to 2.9% of those who did not use marijuana.[8]
5. **Marijuana use is associated with antisocial behavior.** In 2023, 34.5% of high school students who used marijuana in the past month were in a physical fight in the past year compared to 15.5% of those who did not use marijuana in the past month.[9] In 2024, 10.1% of 8th and 10th graders who used marijuana in the past month carried a weapon to school in the past month compared to 1.4% of those who did not use marijuana in the past month.[10]

Notably, many of these outcomes increase with the frequency of marijuana use. For example, in 2024, the percentage of 8th and 10th graders who said that they never participate in community affairs or volunteer work increased from 34.0% among those who did not use marijuana in the past month to 42.0% among those who used marijuana in the past month—and further to 53.8% among those who were daily marijuana users in the past month.[11]

A. The National Survey on Drug Use and Health

Table 3.1 summarizes the associations between marijuana use and various health-related outcomes in 2024. According to SAMHSA's Data Analysis System, 5.2% of those aged 12–17 who did not use marijuana in the past year used an illicit drug other than marijuana in the past year compared to 24.2% of past-year marijuana users and 51.6% of those who were daily or almost daily users of marijuana, defined as individuals who used marijuana on 300 or more days in the past year.[12]

Table 3.1. Health-related outcomes among 12–17-year-olds by past-year marijuana use, 2024

Outcomes among 12–17-year-olds	No past-year marijuana use	Past-year marijuana use	Daily or almost daily marijuana use in the past year
Alcohol use			
Past-year alcohol use	10.2%	70.0%	88.4%
Past-month binge drinking	1.3%	21.9%	48.4%
Past-month heavy alcohol use	0.1%	2.9%	13.1%
Nicotine and tobacco use			
Past-year use of a nicotine vape	6.0%	65.1%	87.1%
Past-year use of any tobacco	1.7%	31.3%	62.1%
Past-year cigarette use	1.1%	20.1%	40.9%
Past-year cigar use	0.3%	14.8%	32.9%
Drug use			
Past-year use of any illicit drug other than marijuana	5.2%	24.2%	51.6%
Past-year hallucinogen use	0.1%	14.8%	41.7%
Past-year psilocybin use	0.1%	11.8%	32.5%
Past-year heroin use	<0.1%	0.2%	<0.1%
Past-year methamphetamine use	0.2%	0.6%	0.9%
Past-year cocaine use	<0.1%	2.2%	9.8%
Past-year kratom use	0.2%	0.9%	2.7%
Past-year inhalant use	3.5%	5.6%	3.0%
Past-year ketamine use	<0.1%	0.6%	0.1%
Past-year misuse of fentanyl products, including illegally made fentanyl	0.1%	0.7%	2.1%

Notes: Binge drinking was defined for females as drinking four or more drinks on the same occasion and for males as drinking five or more drinks on the same occasion on at least 1 day in the past 30 days. Heavy alcohol use was defined for males as drinking five or more drinks on the same occasion and for females as drinking four or more drinks on the same occasion on each of 5 or more days in the past 30 days.

(The table continues on the next page)

Table 3.1. Health-related outcomes among 12–17-year-olds by past-year marijuana use, 2024 (continued)

Outcomes among 12–17-year-olds	No past-year marijuana use	Past-year marijuana use	Daily or almost daily marijuana use in the past year
Past-year use of synthetic marijuana	0.1%	4.4%	4.4%
Past-year use of synthetic stimulants	0.1%	1.1%	2.1%
Past-year misuse of benzodiazepines	0.1%	2.7%	7.9%
Past-year misuse of cough or cold medicines	0.4%	4.4%	6.4%
Past-year misuse of prescription pain relievers	1.2%	5.8%	9.9%
Past-year misuse of prescription sedatives	0.2%	0.6%	0.8%
Past-year misuse of prescription stimulants	0.4%	3.3%	8.2%
Past-year misuse of prescription opioids	1.0%	5.8%	9.9%
Past-year misuse of prescription tranquilizers	0.2%	2.7%	7.7%
Substance use disorder			
Past-year substance use disorder (includes marijuana, alcohol, and other drugs)	2.6%	53.6%	94.2%
Past-year severe substance use disorder	0.1%	20.2%	48.1%
Past-year moderate substance use disorder	0.4%	13.9%	30.9%
Past-year mild substance use disorder	2.1%	19.6%	15.1%
Past-year drug use disorder (includes marijuana)	1.9%	48.6%	87.4%
Past-year alcohol use disorder	0.7%	22.1%	42.1%
Mental health			
Seriously thought about suicide in the past year	7.8%	29.8%	30.9%
Made suicide plans in the past year	3.4%	15.9%	19.9%
Had a major depressive episode in the past year	12.2%	38.0%	37.3%
Had a major depressive episode with severe role impairment in the past year	8.8%	30.5%	28.7%
Had mild or worse symptoms of a generalized anxiety disorder in the past two weeks	39.0%	62.5%	58.6%
Had severe symptoms of a generalized anxiety disorder in the past two weeks	6.8%	15.4%	17.0%
Had moderate symptoms of a generalized anxiety disorder in the past two weeks	9.7%	15.8%	10.8%
Had mild symptoms of a generalized anxiety disorder in the past two weeks	22.5%	31.3%	30.9%

Figures 3.1 and 3.2 help to visualize some of the key points in Table 3.1.

Figure 3.1. Substance use among 12–17-year-olds by past-year marijuana use, 2024

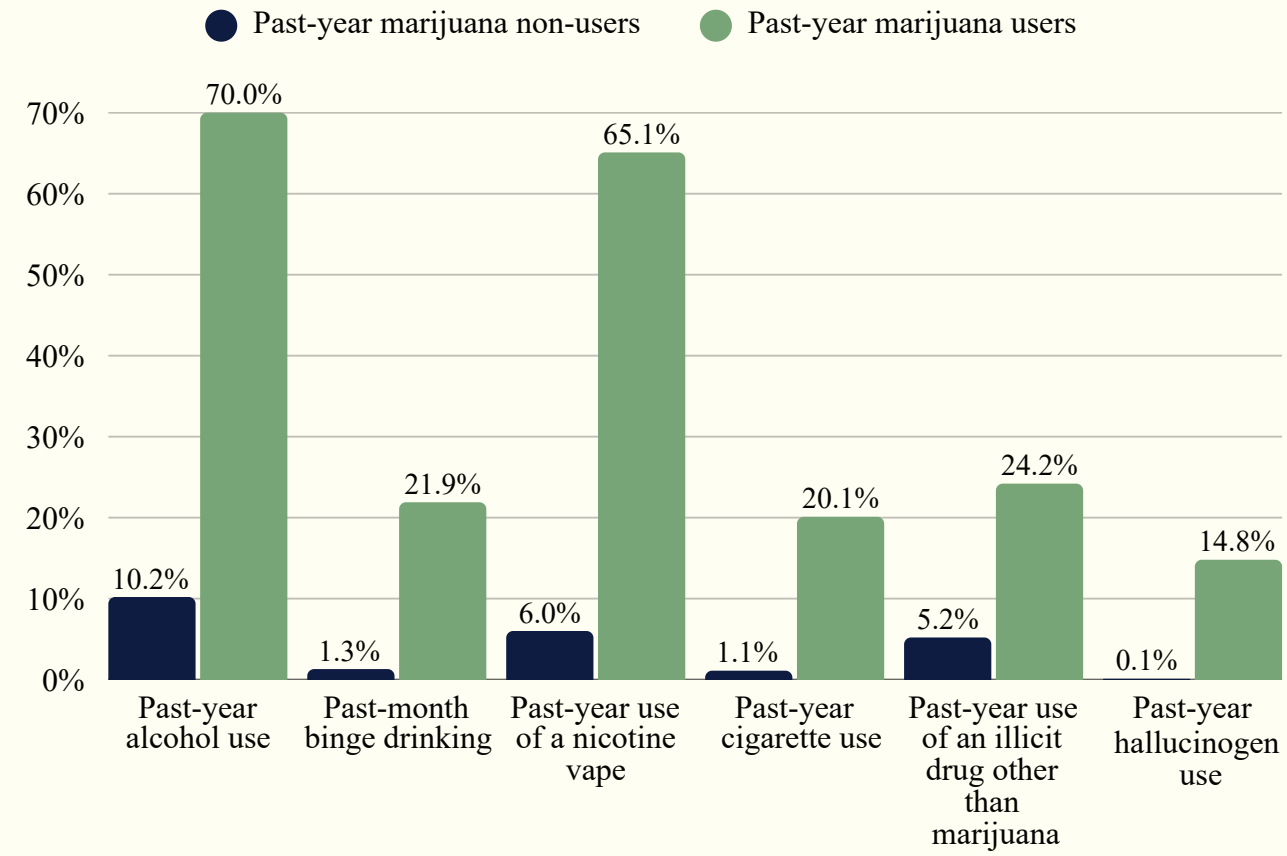


Figure 3.2. Health conditions among 12–17-year-olds by past-year marijuana use, 2024

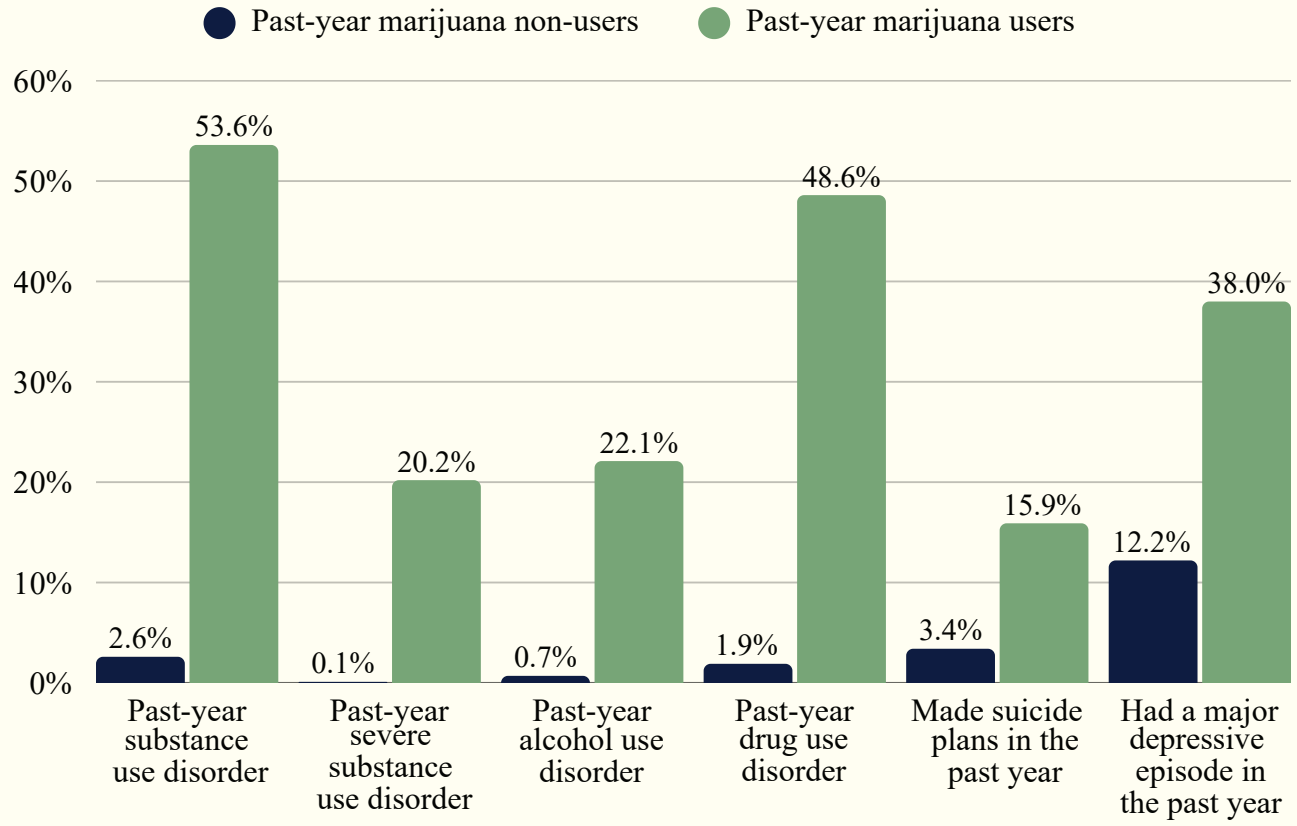


Table 3.2 summarizes the answers to the questions underlying the NSDUH's estimate of the prevalence of cannabis use disorder among 12–17-year-olds. The analysis pooled data from 2023 and 2024 to increase the sample size. Of note, these questions were asked only of respondents who said that they had used marijuana on 6 or more days in the past year, so the results are not fully representative of all past-year marijuana users aged 12–17.

To be classified as having cannabis use disorder, respondents needed to meet 2 or more of the 11 criteria (e.g., if a respondent met only the criterion for marijuana causing serious problems at school, they would not have been classified as having cannabis use disorder). To meet the withdrawal criterion (criterion 11), individuals needed to experience 3 or more of the withdrawal symptoms or needed to use the same or a similar substance to avoid experiencing the symptoms.

Among 12–17-year-olds who used marijuana on 6 or more days in the past year in 2023–2024, 38.2% said that they used marijuana in larger amounts or for longer than they meant to, while 33.1% said that they had a strong urge to use marijuana.[13] Additionally, 14.2% said that they spent less time doing important activities because of their marijuana use, while 33.7% said that they had trouble sleeping as a symptom of marijuana withdrawal.

Table 3.2. The criteria for cannabis use disorder among 12–17-year-olds who used marijuana on 6 or more days in the past year, 2023–2024

Cannabis use disorder criteria	Yes
Individuals aged 12–17	
Criterion 1	
Did you use marijuana in larger amounts or for longer than you meant to?	38.2%
Criterion 2	
Did you try to cut down or stop using marijuana?	53.0%
If yes: were you unable to cut down or stop using marijuana?	33.4%
If no: did you often wish you could cut down or stop using marijuana?	11.1%
Criterion 3	
Did you spend a great deal of time using or feeling the effects of marijuana? (or)	43.7%
Did you spend a great deal of time getting or trying to get marijuana?	5.7%
Criterion 4	
Was there a time that you wanted to use marijuana so badly that you couldn't think of anything else? (or)	24.5%
Did you have a strong urge to use marijuana?	33.1%
Criterion 5	
Did your marijuana use cause serious problems at home, work, or school?	13.6%
Criterion 6	
Did your marijuana use cause arguments or problems with family and friends?	16.5%
Among those who answered yes: Did you continue using marijuana despite it causing arguments or problems with family and friends?	81.1%
Criterion 7	
Did you spend less time doing important activities (e.g., participating in hobbies or spending time with friends) because of your marijuana use?	14.2%

(The table continues on the next page)

Table 3.2. The criteria for cannabis use disorder among 12–17-year-olds who used marijuana on 6 or more days in the past year, 2023–2024 (continued)

Cannabis use disorder criteria	Yes
Criterion 8	
Did marijuana use repeatedly increase your chance of getting hurt?	6.7%
Criterion 9	
Were any of your emotional or mental health problems caused or made worse by your marijuana use?	12.2%
Among those who answered yes: Did you continue using marijuana despite it causing or worsening emotional/mental health problems? (or)	69.6%
Did you have any long-lasting physical problems that were caused or worsened by your marijuana use?	7.2%
Among those who answered yes: Did you continue using marijuana despite it causing or worsening physical health problems?	73.6%
Criterion 10	
Do you need a lot more marijuana to get the feeling you want? (or)	25.8%
Has using the same amount of marijuana had less of an effect than it used to?	18.4%
Criterion 11	
Did you experience feeling irritable or angry as a symptom of marijuana withdrawal?	28.5%
Did you experience feeling anxious or nervous as a symptom of marijuana withdrawal?	32.6%
Did you experience trouble sleeping as a symptom of marijuana withdrawal?	33.7%
Did you experience losing appetite or weight as a symptom of marijuana withdrawal?	28.3%
Did you experience not being able to sit still as a symptom of marijuana withdrawal?	25.4%
Did you experience feeling depressed as a symptom of marijuana withdrawal?	27.9%
Did you experience a stomachache as a symptom of marijuana withdrawal?	15.8%
Did you experience shaking or tremors as a symptom of marijuana withdrawal?	9.6%
Did you experience sweating as a symptom of marijuana withdrawal?	12.0%
Did you experience a fever as a symptom of marijuana withdrawal?	3.5%
Did you experience chills as a symptom of marijuana withdrawal?	10.4%
Did you experience a headache as a symptom of marijuana withdrawal?	23.3%
Did you use marijuana or drugs to get over or avoid marijuana withdrawal?	10.8%
Among those who answered yes: Did you use marijuana to get over or avoid marijuana withdrawal?	85.3%

The NSDUH assesses the symptoms of generalized anxiety disorder through the seven-item GAD-7 questionnaire, which was added to the survey in 2024. The NSDUH report noted that "although the GAD-7 captures recent symptoms, it does not estimate the prevalence of GAD because diagnostic criteria for GAD require a longer pattern of symptoms and impairment."[14] Each question is given a score from 0 to 3, with 0 indicating that the respondent answered "not at all" and 3 indicating that the respondent answered "nearly every day." A total score of 0–4 meant that the respondent was classified as having no or minimal symptoms of generalized anxiety disorder; 5–9 meant that they had mild symptoms; 10–14 meant that they had moderate symptoms; and 15–21 meant they had severe symptoms.

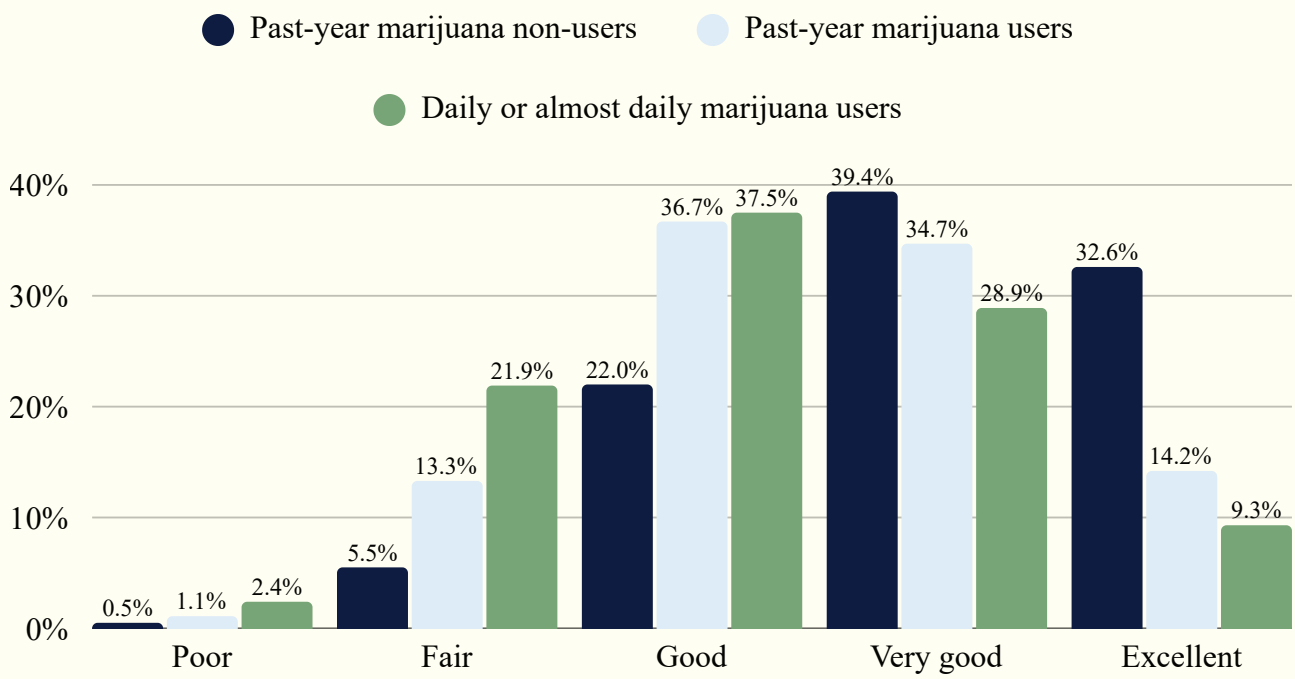
Among past-year marijuana users aged 12–17, 60.0% said that they had trouble relaxing on at least several days in the past two weeks, with 14.2% answering that they had this problem nearly every day (Table 3.3).[15] In comparison, among 12–17-year-olds who did not use marijuana in the past year, 38.1% said that they had trouble relaxing on at least several days in the past two weeks, with 6.0% answering that they had this problem nearly every day.

Table 3.3. The symptoms of generalized anxiety disorder in the past two weeks among 12–17-year-olds by past-year marijuana use, 2024

Generalized anxiety disorder symptoms in the past two weeks	Not at all	Several days	More than half the days	Nearly every day
Did you feel nervous, anxious, or on edge?				
Past-year marijuana non-users	44.9%	35.6%	10.7%	8.9%
Past-year marijuana users	28.6%	39.7%	16.1%	15.6%
Was it hard for you to sit still because you were restless?				
Past-year marijuana non-users	66.0%	19.7%	7.1%	7.2%
Past-year marijuana users	46.6%	30.9%	11.4%	11.1%
Were you afraid that something awful might happen?				
Past-year marijuana non-users	65.8%	21.7%	6.3%	6.2%
Past-year marijuana users	50.9%	25.7%	11.3%	12.2%
Were you easily annoyed or irritable?				
Past-year marijuana non-users	45.2%	33.4%	11.7%	9.7%
Past-year marijuana users	26.5%	34.9%	19.1%	19.5%
Have you had trouble relaxing?				
Past-year marijuana non-users	61.9%	24.4%	7.7%	6.0%
Past-year marijuana users	40.0%	31.3%	14.5%	14.2%
Did you worry too much about different things?				
Past-year marijuana non-users	52.0%	30.1%	9.8%	8.2%
Past-year marijuana users	33.0%	36.1%	14.5%	16.4%
Were you unable to stop or control your worrying?				
Past-year marijuana non-users	63.6%	22.0%	8.1%	6.3%
Past-year marijuana users	38.7%	33.6%	13.4%	14.3%

When 12–17-year-olds were asked to rate their overall health, 32.6% of those who did not use marijuana in the past year said that it was excellent compared to 14.2% of those who used marijuana in the past year and 9.3% of those who were daily or almost daily users of marijuana in the past year (Figure 3.3).[16] Additionally, 6.0% of those who did not use marijuana in the past year said that their overall health was fair or poor compared to 14.4% of adolescents who used marijuana in the past year and 24.3% of those who were daily or almost daily users of marijuana in the past year.

Figure 3.3. Self-rated overall health among 12–17-year-olds by past-year marijuana use, 2024



Youth marijuana use to manage physical and mental health

The Massachusetts component of the International Cannabis Policy Study, which focused on respondents aged 16–65 during 2019–2023, found that 69% of 16–20-year-olds and 66% of 21–25-year-olds who had ever used marijuana said that they had used it to manage their mental health.[17] It also found that 58% of 16–20-year-olds and 68% of 21–25-year-olds who had ever used marijuana said that they had used it to manage their physical health.

Among those in Massachusetts who identified as students and had used marijuana in their lifetime, 65% said they had used marijuana to manage their mental health and 64% said they had used it to manage their physical health. In comparison, among those who did not identify as students, 39% said they had used it to manage their mental health and 49% said they had used it to manage their physical health.

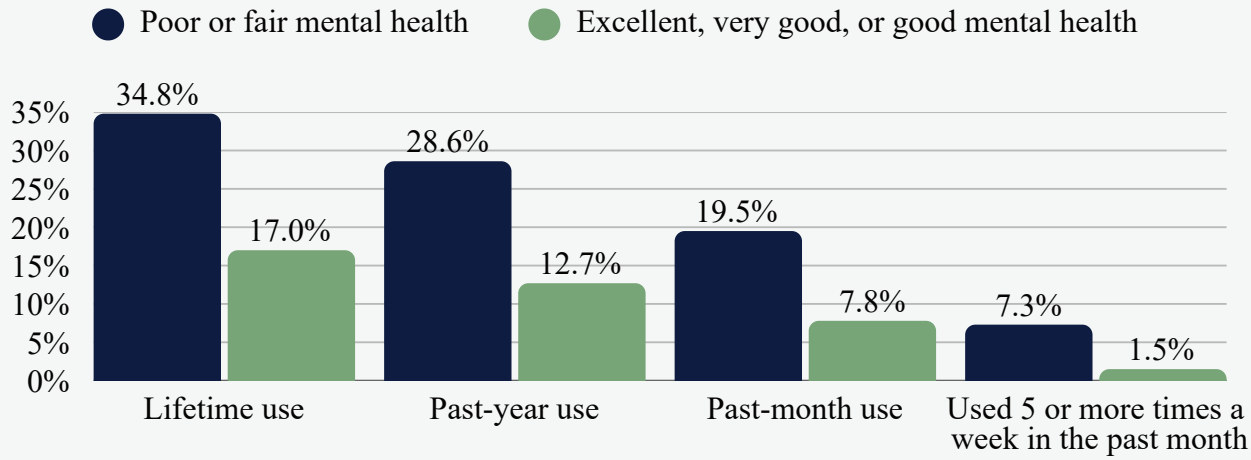
The Canadian Postsecondary Education Alcohol and Drug Use Survey, which featured respondents aged 17–25 who were enrolled in college, asked those who used marijuana in the past year for medical reasons what the specific reasons were.[18] During the 2024–2025 school year, 77.6% said they used it for sleep disorders or mental health; 49.3% said they used it for pain management; 18.2% said they used it for gastrointestinal issues or nausea; 17.7% said they used it for neurological or neurodevelopmental conditions; and 6.9% said they used it for diabetes, cancer, or "other."

The association between youth marijuana use and self-rated health in Canada

The Canadian Student Alcohol and Drugs Survey found that students in grades 7–12 who rated their mental or physical health as poor or fair were more likely to have used marijuana across various measures of use during the 2023–2024 school year than students who self-rated their mental and physical health as excellent, very good, or good.

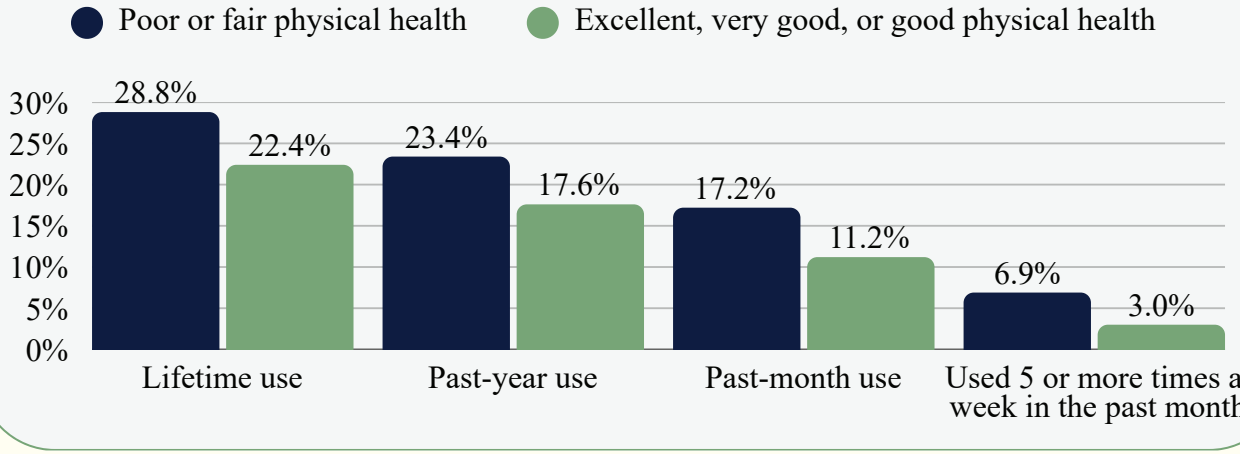
Among students who rated their mental health as poor or fair, 28.6% used marijuana in the past year, whereas 12.7% of those who rated their mental health as excellent, very good, or good used marijuana in the past year (Figure 3.4).[19] Students who rated their mental health as poor or fair were nearly 5 times as likely as students who rated their mental health as excellent, very good, or good to have used marijuana 5 or more times a week in the past month, at 7.3% and 1.5%, respectively.

Figure 3.4. Marijuana use among Canadians in grades 7–12 by mental health, 2023–2024



Likewise, the survey found a similar association between self-rated physical health and marijuana use. Among students who rated their physical health as poor or fair, 28.8% used marijuana in their lifetime, whereas 22.4% of those who rated their physical health as excellent, very good, or good used marijuana in their lifetime (Figure 3.5). Students who rated their physical health as poor or fair were more than 2 times as likely as students who did not to have used marijuana 5 or more times a week in the past month, at 6.9% and 3.0%, respectively.

Figure 3.5. Marijuana use among Canadians in grades 7–12 by physical health, 2023–2024



B. The Youth Risk Behavior Survey

The YRBS helps to identify associations between youth marijuana use and various risk behaviors. Compared with high school students who did not use marijuana in the past 30 days, those who did reported higher rates of physical fighting, recent sexual intercourse, and serious consideration of a suicide attempt.[20] They were less likely to describe their grades as mostly A's or B's. They also reported higher rates of electronic bullying, unstable housing, and separation from a parent or guardian because of incarceration or detention (Table 3.4).

Table 3.4. Risk behaviors among high school students by past-month marijuana use, 2023

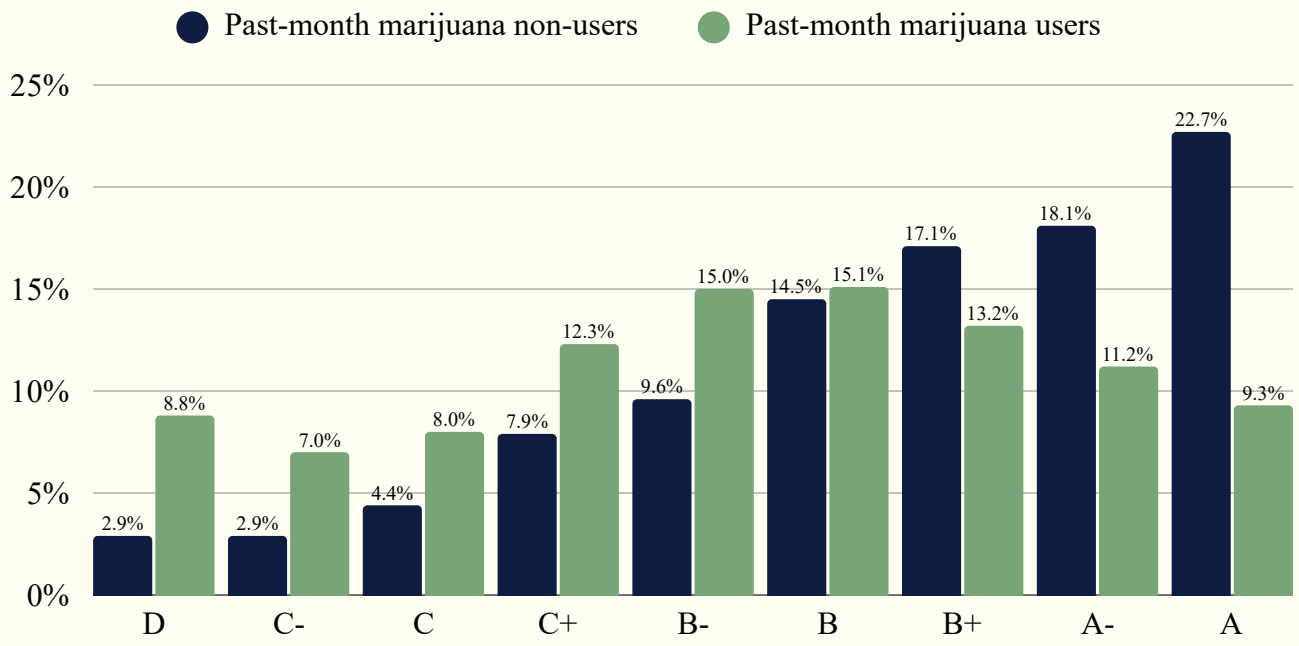
Outcome	Past-month marijuana use	No past-month marijuana use
Texted or emailed while driving in the past 30 days	57.7%	37.6%
Were in a physical fight in the past 12 months	34.5%	15.5%
Carried a weapon on school property in the past 30 days	10.0%	2.8%
Carried a gun in the past 12 months*	8.0%	2.2%
Were electronically bullied in the past 12 months	26.7%	13.9%
Experienced sexual violence by anyone in the past 12 months	23.1%	8.5%
Seriously considered attempting suicide in the past 12 months	36.4%	16.7%
Had sexual intercourse in the past 3 months	48.2%	15.3%
Did not eat breakfast on one or more of the past 7 days	22.6%	16.8%
Did not eat any vegetables in the past 7 days	6.3%	6.9%
Were not physically active at least 60 minutes per day on 5 or more of the past 7 days	57.4%	52.6%
Were ≥ 95th percentile for body mass index (obesity)	15.9%	15.9%
Experienced unstable housing in the past 30 days	6.0%	2.2%
Had ever been separated from a parent/guardian because the parent/guardian went to a jail, prison, or a detention center	25.2%	12.0%
Used social media at least several times a day	88.8%	75.2%
Described their grades in school as mostly A's or B's	59.6%	75.2%

* = Not counting the days when they carried a gun only for hunting or a sport (e.g., target shooting).

C. The Monitoring the Future Survey

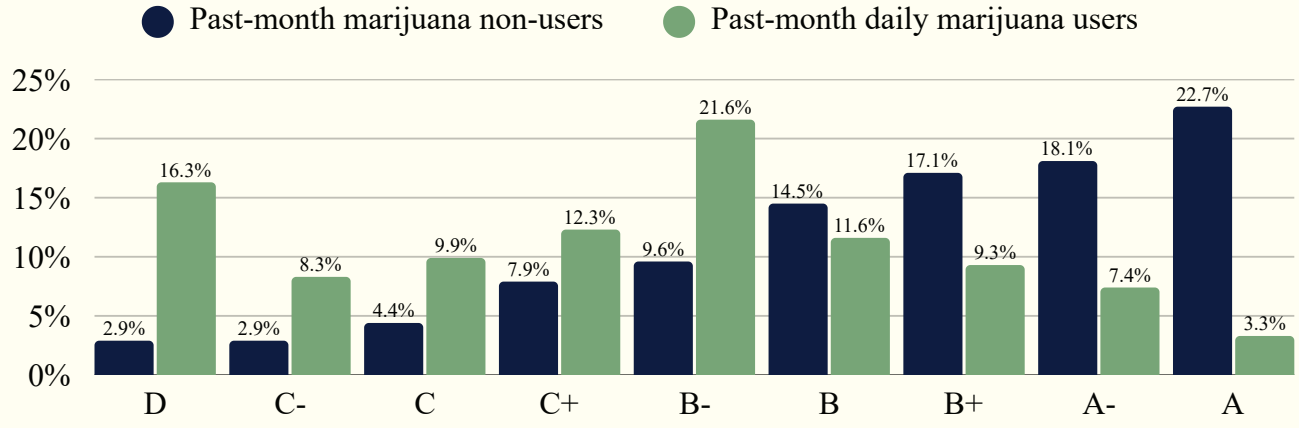
The MTF survey helps to illustrate how past-month marijuana use is associated with poorer grades in school. In 2024, among 8th and 10th graders who did not use marijuana in the past month, 22.7% said that their average grade during the school year was an A compared to 9.3% of those who used marijuana in the past month (Figure 3.6).[21] Conversely, 2.9% of those who did not use marijuana in the past month said that their average grade was a D (69% or lower) compared to 8.8% of those who used marijuana in the past month.

Figure 3.6. Average school grades among 8th and 10th graders during the year by past-month marijuana use, 2024



Among 8th and 10th graders who used marijuana on a daily basis—using the survey's definition of use on 20 or more occasions in the past month—3.3% said that their average grade was an A compared to 16.3% who said their average grade was a D (Figure 3.7). Of note, those who were daily users in the past month were also included in the estimate of past-month marijuana users.

Figure 3.7. Average school grades among 8th and 10th graders during the year by daily marijuana use, 2024



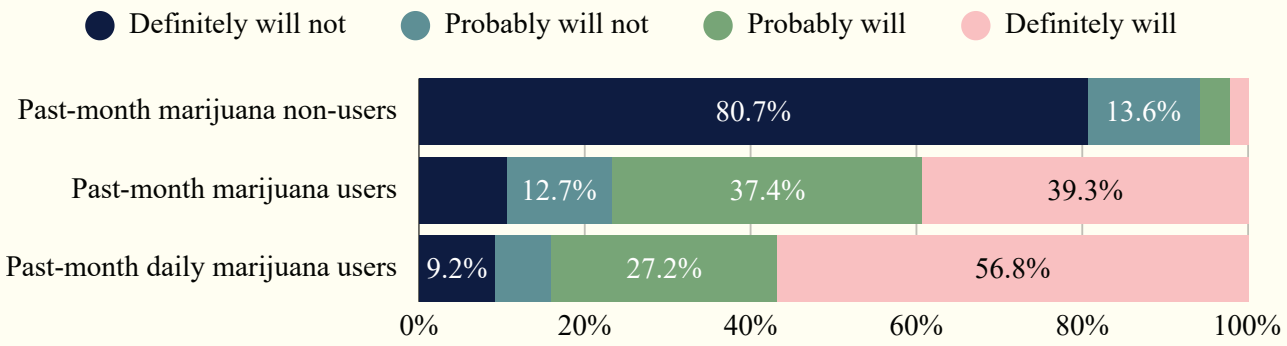
The MTF asked: "Here are some reasons people give for not using marijuana or for stopping use. How important is each of the following as a reason for you not using marijuana?" In 2024, the top three answers that were rated as "very important" by 8th and 10th graders who did not use marijuana in the past year were that their parents would disapprove (65.6%), that they thought it might lead to the use of stronger drugs (62.5%), and that they were concerned about the loss of control (61.3%) (Table 3.5).

Table 3.5. Reasons for not using marijuana among 8th and 10th graders who did not use marijuana in the past year, 2024

Reason for not using marijuana	Not at all important	Somewhat important	Very important
Concerned about possible psychological damage	29.4%	13.4%	57.3%
Concerned about possible physical damage	29.5%	13.0%	57.6%
Concerned about getting arrested	30.8%	16.5%	52.7%
Concerned about becoming addicted	29.3%	10.3%	60.4%
It's against my beliefs	39.6%	17.3%	43.1%
Concerned about the loss of energy or ambition	32.1%	17.9%	50.0%
Concerned about the loss of control of myself	26.3%	12.4%	61.3%
It might lead to stronger drugs	26.9%	10.6%	62.5%
Not enjoyable, I wouldn't like it	29.8%	18.2%	52.1%
My parents would disapprove	23.6%	10.8%	65.6%
My boyfriend/girlfriend would disapprove	38.1%	13.3%	48.6%
I wouldn't like being with the people who use it	28.6%	14.7%	56.7%
My friends don't use it	41.2%	19.2%	39.5%
It was too expensive	48.2%	17.0%	34.7%
It was not available	50.3%	15.5%	34.2%
Don't feel like getting high	33.3%	13.6%	53.2%

The survey also asked, "How likely is it that you will use marijuana in the next 12 months?" Among 8th and 10th graders who did not use marijuana in the past month, 80.7% said that they definitely won't use marijuana in the next year, whereas 2.1% said that they definitely will (Figure 3.8). In comparison, among those who used marijuana in the past month, 39.3% said that they definitely will use it. The corresponding percentage was 56.8% among those who were daily users in the past month.

Figure 3.8. Likelihood of future marijuana use among 8th and 10th graders by past-month marijuana use, 2024



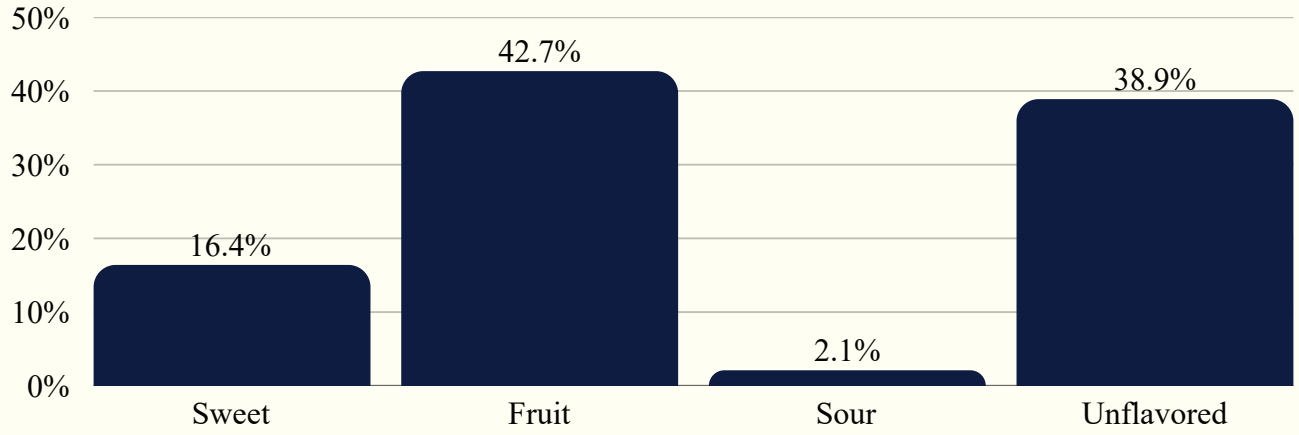
The MTF asked students: "What have been the most important reasons for you to vape marijuana? (Select all that apply)." The top three answers among 8th and 10th graders who vaped marijuana in the past year were that they wanted to feel good or get high (63.7%), they wanted to relax or relieve tension (59.5%), and they wanted to have a good time with friends (48.8%) (Table 3.6).

Table 3.6. Reasons for vaping marijuana among 8th and 10th graders who vaped marijuana in the past year, 2024

Reason for vaping marijuana	Marked
To experiment—to see what it's like	47.1%
To relax or relieve tension	59.5%
To feel good or get high	63.7%
To seek deeper insights and understanding	26.0%
To have a good time with friends	48.8%
To fit in with a group I like	7.8%
To get away from my problems or troubles	44.1%
To avoid getting caught smoking marijuana	9.6%
Because of boredom, nothing else to do	30.5%
Because of anger and frustration	33.6%
To get through the day	30.2%
To increase the effects of some other drug(s)	4.7%
To decrease (offset) the effects of some other drug(s)	1.3%
Because I am "hooked"—I have to have it	6.5%
To get to sleep	38.8%

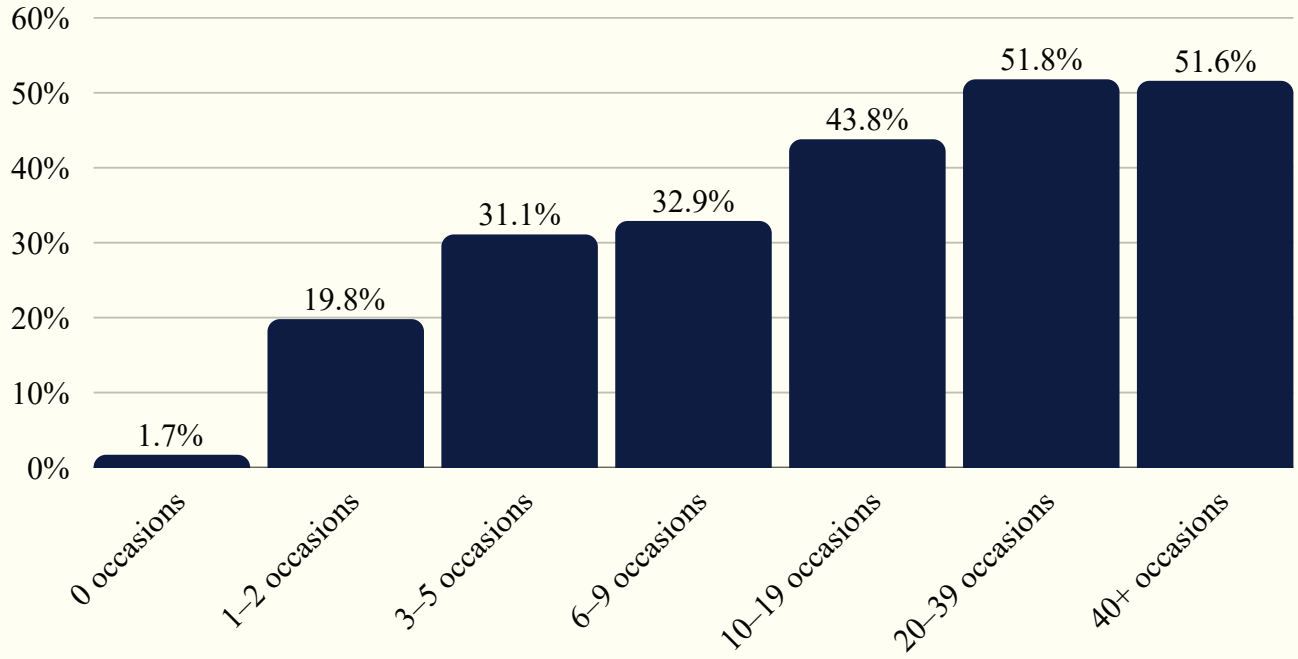
When asked, "When you vape marijuana, which type of flavor do you use most often?" 38.9% of 8th and 10th graders who vaped marijuana in the past year said unflavored options, while 42.7% said fruit-flavored options (Figure 3.9).

Figure 3.9. Most frequently used marijuana vape flavor among 8th and 10th graders who vaped marijuana in the past year, 2024



When asked, "Was there ever a time in your life when you tried to quit or reduce your use [of marijuana] and had difficulty doing so?" 51.6% of 8th and 10th graders who used marijuana on 40 or more occasions in the past month and 51.8% of those who used it on 20–39 occasions in the past month said yes (Figure 3.10). Of note, this question is similar to one of the diagnostic criteria for cannabis use disorder.

Figure 3.10. Lifetime difficulty quitting or reducing marijuana use among 8th and 10th graders by the frequency of past-month marijuana use, 2024



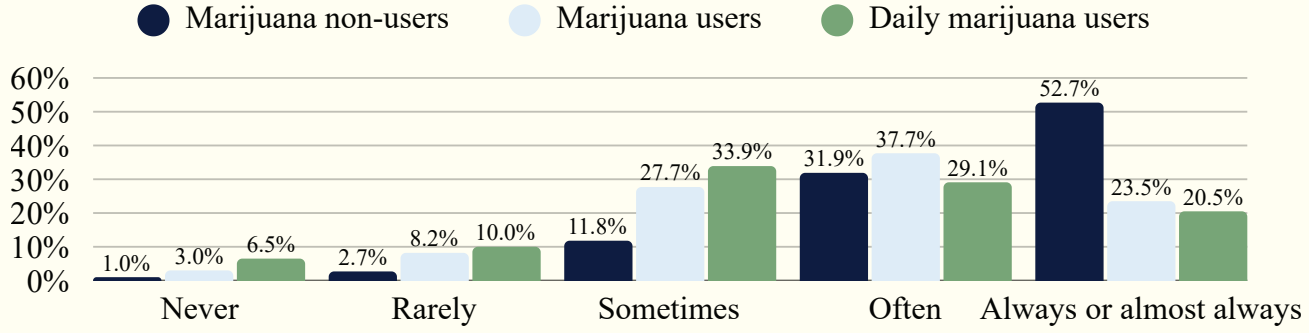
When asked about the addictiveness of "using marijuana regularly," 8.7% of 8th and 10th graders who did not use marijuana in the past month said that it is not at all addictive, while 32.8% said that it is very addictive (Table 3.7). In comparison, among those who used marijuana on 40 or more occasions in the past month, 25.4% said that it is very addictive, while 12.2% said that it is not at all addictive.

Table 3.7. Perceived addictiveness of marijuana among 8th and 10th graders by past-month marijuana use, 2024

Perception	0 occasions	1–2 occasions	3–5 occasions	6–9 occasions	10–19 occasions	20–39 occasions	40+ occasions
Not at all addictive	8.7%	28.7%	29.4%	24.7%	22.9%	25.3%	12.2%
A little addictive	6.4%	18.8%	25.5%	31.3%	20.1%	32.3%	25.9%
Somewhat addictive	12.9%	15.5%	12.3%	9.6%	30.8%	22.1%	17.6%
Very addictive	32.8%	16.1%	20.8%	17.8%	19.5%	19.2%	25.4%
Don't know	39.1%	20.9%	12.0%	16.5%	6.7%	1.1%	18.8%

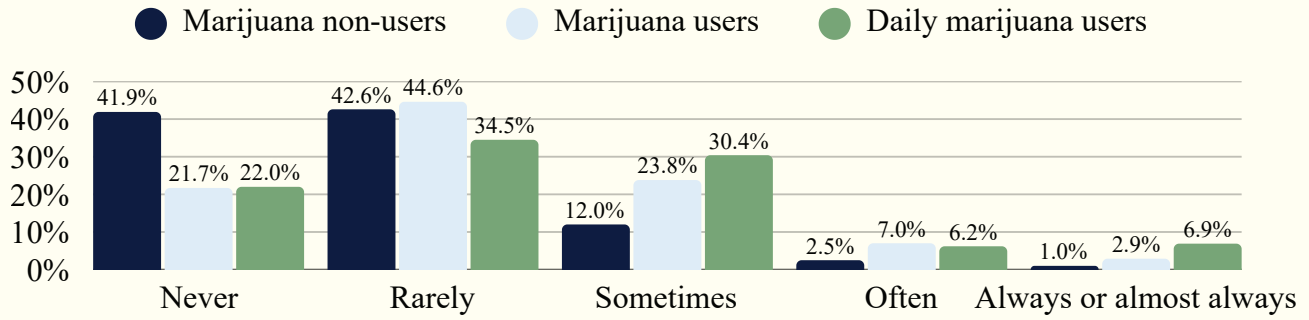
When 8th and 10th graders were asked how often they followed the rules in school over the past year, 52.7% of those who did not use marijuana in the past month said that they "always or almost always" did so compared to 23.5% of those who used marijuana in the past month—this further declined to 20.5% among those who were daily users in the past month (Figure 3.11).

Figure 3.11. Following the rules at school over the past year among 8th and 10th graders by past-month marijuana use, 2024



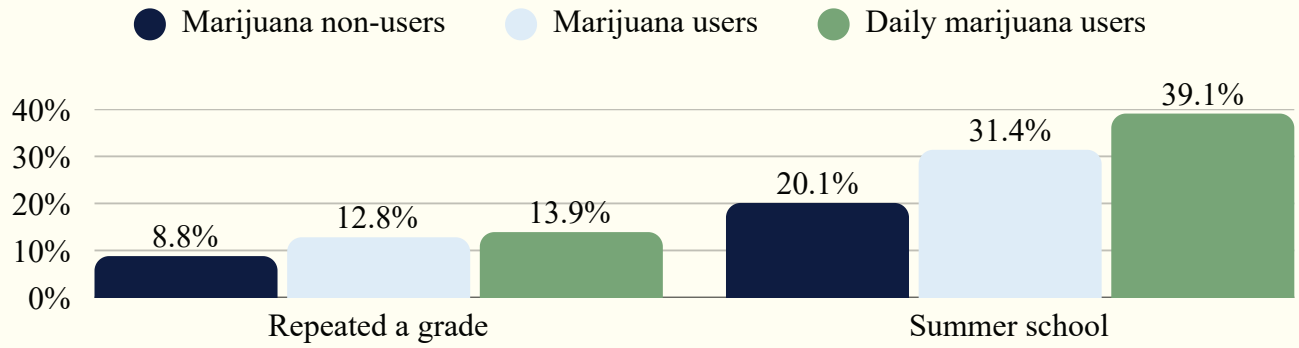
When 8th and 10th graders were asked how often they had gotten in trouble at school in the last year, 3.5% of those who did not use marijuana in the past month either answered "often" or "always or almost always," compared to 9.9% of those who used marijuana in the past month—this further increased to 13.1% of those who were daily users in the past month (Figure 3.12).

Figure 3.12. Getting in trouble at school over the past year among 8th and 10th graders by past-month marijuana use, 2024



In 2024, 8th and 10th graders were asked whether they had ever repeated a grade in school and whether they ever had to "attend summer school to make up for poor grades or to keep from being held back?" That year, 8.8% of those who had not used marijuana in the past month had ever been held back compared to 12.8% of those who had used marijuana in the past month (Figure 3.13). Likewise, 20.1% of those who had not used marijuana in the past month had ever attended summer school compared to 31.4% of those who used marijuana in the past month.

Figure 3.13. Ever being held back or attending summer school among 8th and 10th graders by past-month marijuana use, 2024



Students under the influence at school

The MTF asked 8th and 10th graders about how many days they were "under the influence of marijuana or some other illegal drug while you were at school" during the last four weeks.[22]

In 2024, 44.1% of past-month marijuana users in grades 8 and 10 said that they had been under the influence of marijuana or another drug while they were at school on at least one day during the last four weeks, increasing to 68.7% among those who used marijuana on 20–39 occasions in the past month and 54.6% among those who used it on 40 or more occasions in the past month. Additionally, 22.6% of those who used marijuana on 40 or more occasions in the past month said that they had been under the influence at school on 10 or more days in the past month (Table 3.8).

The survey also asked students about how often they had used marijuana or other drugs at school during the day in the past year. Among 8th and 10th graders who did not use marijuana in the past month, 3.1% used a drug at school during the day at least once in the past year. This increased to 44.1% of those who used marijuana in the past month, as well as to 68.0% among those who used marijuana on 20–39 occasions in the past month and to 54.6% among those who used it on 40 or more occasions in the past month. In comparison, 12.4% of past-month alcohol users in 8th and 10th grade said that they drank alcohol at school during the day in the past year.

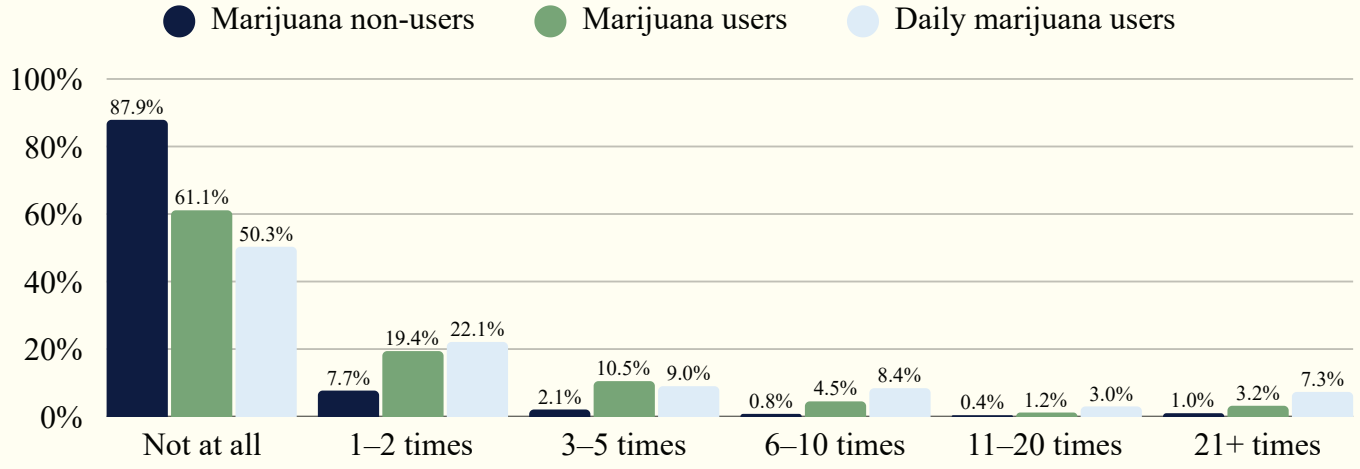
Table 3.8. Days of being under the influence of marijuana or other drugs at school in the past month among 8th and 10th graders by past-month marijuana use, 2024

Days	0 occasions	1–2 occasions	3–5 occasions	6–9 occasions	10–19 occasions	20–39 occasions	40+ occasions
None	98.3%	63.5%	68.3%	59.5%	57.1%	31.3%	45.4%
1 day	0.8%	18.8%	13.9%	11.0%	6.5%	12.5%	12.8%
2 days	0.5%	11.3%	3.7%	14.5%	7.1%	7.5%	5.8%
3–5 days	0.1%	3.9%	8.8%	9.4%	8.6%	15.8%	9.2%
6–9 days	0.2%	1.3%	3.5%	0%	9.2%	13.5%	4.2%
10+ days	0.2%	1.1%	1.9%	5.7%	11.4%	19.4%	22.6%

During the 2024–2025 school year, the Canadian Postsecondary Education Alcohol and Drug Use Survey found that 22.2% of past-year marijuana users aged 17–25 who were enrolled in college attended class after using marijuana.[23] Among those who attended class after using marijuana, 15.3% said that they "always or almost always" did it, while 14.4% said that they did it "often (weekly)." The survey also found that 26.6% did it 1–3 days per month, while the remaining 43.7% did it less than one day per month.

When 8th and 10th graders were asked, "During the last four weeks, how often have you gone to school, but skipped a class when you weren't supposed to?" 1.0% of those who did not use marijuana in the past month and 3.2% of those who did answered 21 or more times (Figure 3.14).[24] This increased to 7.3% among those who were daily users in the past month. Past-month marijuana users in grades 8 and 10 were 3.2 times as likely as those who did not use marijuana in the past month to have skipped a class in the past month, at 38.9% and 12.1%, respectively.

Figure 3.14. Number of times 8th and 10th graders skipped class in the past month by past-month marijuana use, 2024



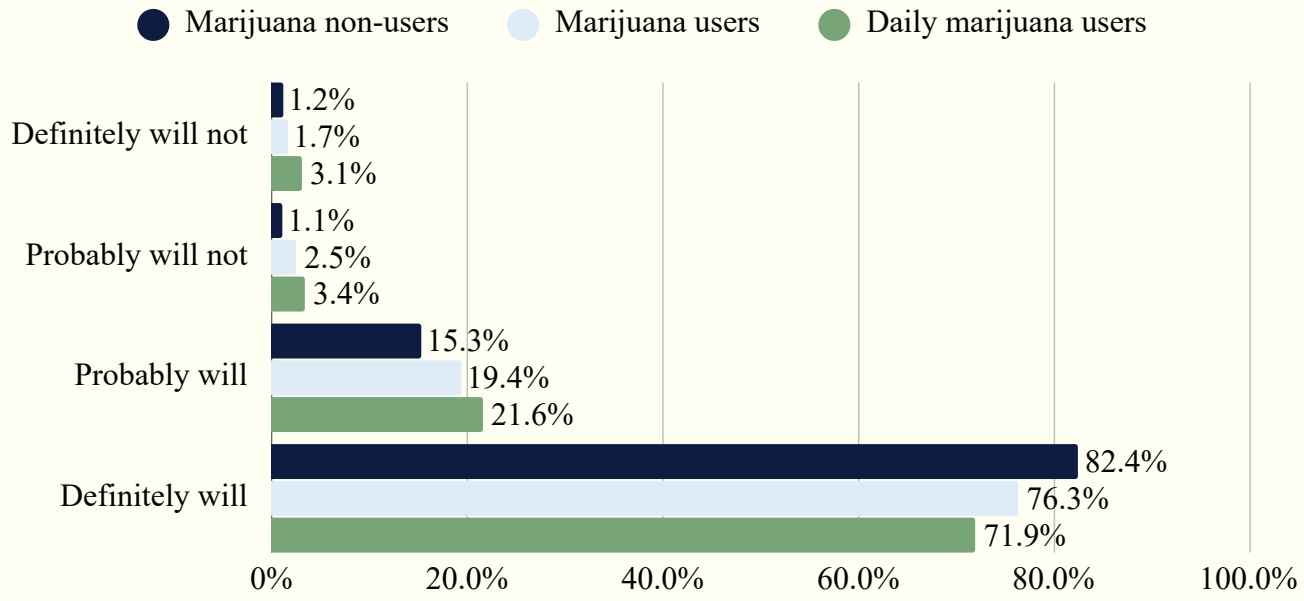
The survey also asked about how many whole days of school students missed for various reasons in the past month. In 2024, 14.6% of those in grades 8 and 10 who did not use marijuana in the past month skipped at least one day, with 1.0% having skipped 11 or more days (Table 3.9). In comparison, 37.5% of past-month marijuana users skipped at least one day in the past month, with 4.3% having skipped 11 or more days. Additionally, 49.2% of those who were daily marijuana users skipped at least one day in the past month, with 9.0% having skipped 11 or more days.

Table 3.9. Number of school days that were missed in the past month among 8th and 10th graders by past-month marijuana use, 2024

Reason	None	1 day	2 days	3 days	4–5 days	6–10 days	11+ days
Because you skipped or "cut"							
Past-month marijuana non-users	85.4%	6.6%	3.2%	1.8%	1.5%	0.5%	1.0%
Past-month marijuana users	62.5%	10.0%	9.1%	6.6%	5.0%	2.4%	4.3%
Past-month daily marijuana users	50.8%	13.3%	9.5%	7.8%	6.5%	3.2%	9.0%
Because of illness							
Past-month marijuana non-users	51.7%	15.0%	11.9%	8.2%	7.6%	3.5%	2.1%
Past-month marijuana users	43.2%	14.8%	14.9%	9.2%	10.9%	4.7%	2.3%
Past-month daily marijuana users	37.8%	13.9%	17.9%	6.0%	15.9%	3.2%	5.3%
For some other reason							
Past-month marijuana non-users	58.2%	16.3%	10.0%	5.9%	5.2%	2.1%	2.4%
Past-month marijuana users	46.9%	16.8%	11.5%	8.4%	7.2%	4.1%	5.1%
Past-month daily marijuana users	43.6%	12.8%	11.7%	7.8%	9.5%	4.6%	9.9%

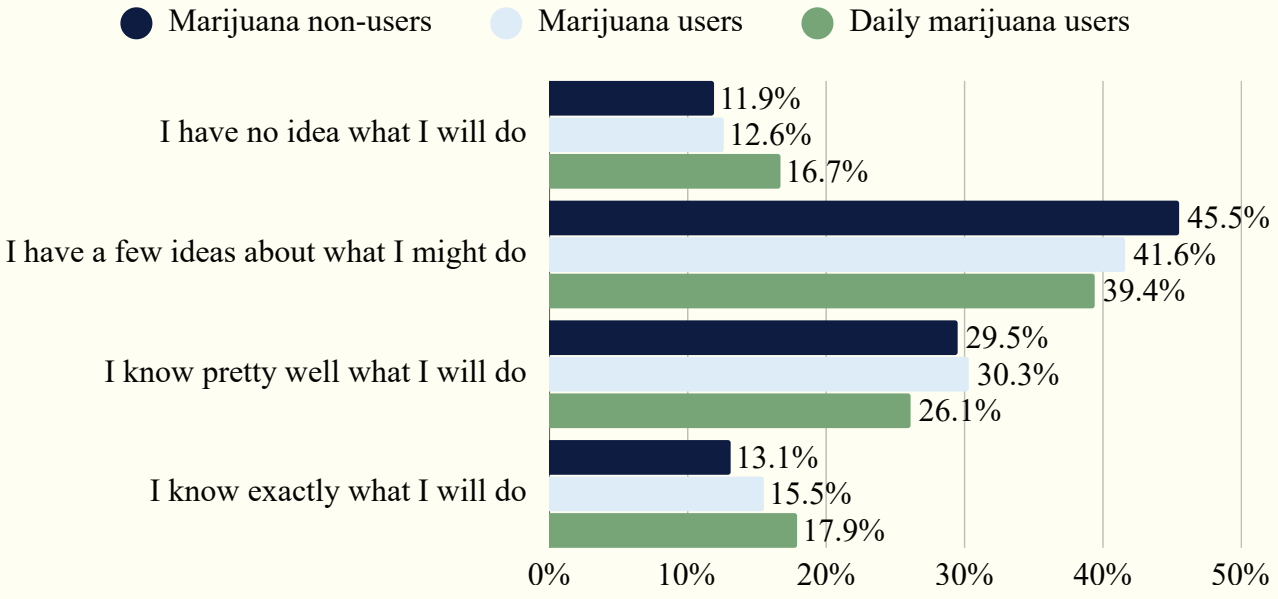
When 8th and 10th graders were asked how likely they thought they were to graduate from high school, 82.4% of those who did not use marijuana in the past month, 76.3% of those who used marijuana in the past month, and 71.9% of those who were daily marijuana users said that they "definitely will" graduate (Figure 3.15).

Figure 3.15. Likelihood of graduating from high school among 8th and 10th graders by past-month marijuana use, 2024



When 8th and 10th graders were asked which term best describes their "plans after high school," 13.1% of those who did not use marijuana in the past month and 15.5% of those who did use marijuana in the past month answered, "I know exactly what I will do" (Figure 3.16). This increased to 17.9% among those who were daily users in the past month, though 16.7% of this group also answered, "I have no idea what I will do."

Figure 3.16. Certainty of post-high school plans among 8th and 10th graders by past-month marijuana use, 2024



In 2024, among 12th graders, 46.4% of those who did not use marijuana in the past month, 40.2% of those who did use marijuana in the past month, and 26.3% of those who were daily users in the past month said that they will definitely graduate from a four-year college program (Table 3.10).[25]

Additionally, 18.3% of those who did not use marijuana in the past month, 22.2% of those who used marijuana in the past month, and 26.8% of those who were daily users in the past month said that they will probably or definitely attend a technical or vocational school.

Table 3.10. Post-high school aspirations among 12th graders by past-month marijuana use, 2024

Post-high school plans	Definitely won't	Probably won't	Probably will	Definitely will
Attend graduate or professional school after college				
Past-month marijuana non-users	23.8%	28.7%	30.0%	17.5%
Past-month marijuana users	30.7%	28.3%	26.2%	14.9%
Past-month daily marijuana users	44.2%	26.0%	19.2%	10.6%
Graduate from a 4-year college program				
Past-month marijuana non-users	14.3%	11.4%	27.9%	46.4%
Past-month marijuana users	19.4%	12.1%	28.3%	40.2%
Past-month daily marijuana users	30.0%	14.5%	29.3%	26.3%
Graduate from a 2-year college program				
Past-month marijuana non-users	35.2%	19.9%	26.0%	18.9%
Past-month marijuana users	38.5%	17.3%	26.7%	17.5%
Past-month daily marijuana users	34.5%	12.0%	35.5%	18.0%
Attend a technical or vocational school				
Past-month marijuana non-users	55.3%	26.3%	13.2%	5.1%
Past-month marijuana users	53.7%	24.1%	16.1%	6.1%
Past-month daily marijuana users	48.9%	24.3%	21.2%	5.6%
Serve in the military				
Past-month marijuana non-users	70.1%	18.8%	7.2%	3.8%
Past-month marijuana users	68.0%	20.7%	7.2%	4.1%
Past-month daily marijuana users	67.0%	19.9%	6.5%	6.5%

When 12th graders were asked, "How intelligent do you think you are compared with others your age?" 1.0% of those who did not use marijuana in the past month and 7.8% of those who used marijuana on 40 or more occasions in the past month said, "far below average" (Table 3.11).

Table 3.11. Self-rated intelligence among 12th graders by past-month marijuana use, 2024

	0 occasions	1–2 occasions	3–5 occasions	6–9 occasions	10–19 occasions	20–39 occasions	40+ occasions
Far below average	1.0%	0.7%	0.0%	2.1%	0.0%	0.7%	7.8%
Below average	2.3%	5.3%	4.1%	1.7%	4.3%	1.0%	5.1%
Slightly below average	6.5%	3.7%	7.1%	5.2%	3.2%	11.3%	7.5%
Average	33.3%	31.8%	34.5%	27.3%	28.6%	29.1%	25.4%
Slightly above average	27.6%	28.9%	28.5%	30.8%	26.6%	39.8%	25.6%
Above average	22.9%	23.1%	21.0%	19.3%	32.8%	14.2%	19.1%
Far above average	6.3%	6.6%	5.0%	13.7%	4.5%	4.0%	9.5%

Likewise, when 12th graders were asked, "Compared with others your age throughout the country, how do you rate yourself on school ability?" 1.2% of those who did not use marijuana in the past month and 4.5% of those who used marijuana on 40 or more occasions in the past month said, "far below average" (Table 3.12).

Table 3.12. Self-rated school ability among 12th graders by past-month marijuana use, 2024

	0 occasions	1–2 occasions	3–5 occasions	6–9 occasions	10–19 occasions	20–39 occasions	40+ occasions
Far below average	1.2%	1.5%	2.5%	2.1%	2.6%	1.9%	4.5%
Below average	2.6%	5.5%	2.2%	4.1%	0.0%	6.8%	10.2%
Slightly below average	6.0%	5.3%	7.7%	6.9%	14.5%	5.2%	8.5%
Average	34.6%	30.8%	34.8%	29.7%	36.9%	41.9%	37.1%
Slightly above average	25.4%	25.6%	25.7%	22.5%	24.5%	26.9%	22.6%
Above average	23.7%	22.8%	17.9%	25.5%	15.6%	14.7%	11.3%
Far above average	6.5%	8.5%	9.3%	9.2%	5.8%	2.5%	5.8%

When 8th and 10th graders were asked how many hours they usually worked per week in a paid job, 3.3% of those who did not use marijuana in the past month said 21 or more hours compared to 13.4% of those who used marijuana on 6–9 occasions in the past month and 19.1% of those who used it on 40 or more occasions in the past month (Table 3.13).[26]

Table 3.13. Hours worked in a paid job per week among 8th and 10th graders by past-month marijuana use, 2024

Hours per week	0 occasions	1–2 occasions	3–5 occasions	6–9 occasions	10–19 occasions	20–39 occasions	40+ occasions
None	76.6%	68.2%	63.4%	54.8%	66.6%	59.5%	52.2%
5 or fewer hours	9.0%	11.9%	11.5%	10.0%	9.5%	6.5%	9.4%
6–10 hours	5.5%	9.6%	7.6%	7.0%	7.8%	9.1%	5.9%
11–15 hours	3.0%	2.2%	5.0%	11.8%	2.4%	10.6%	1.8%
16–20 hours	2.7%	3.5%	3.2%	2.9%	3.7%	6.0%	11.5%
21–25 hours	1.4%	3.1%	2.8%	9.6%	3.7%	2.2%	4.5%
26–30 hours	0.8%	0.6%	5.3%	3.2%	2.0%	3.2%	5.1%
More than 30 hours	1.1%	1.0%	1.2%	0.6%	4.4%	2.9%	9.5%

When 8th and 10th graders were asked, "During the last 12 months, how often (if ever) have you used marijuana or any other drugs (like cocaine, amphetamines, etc.) in each of the following places?" 31.5% of past-month marijuana users said that they did so at home 6 or more times (Table 3.14). The survey also found that 12.0% said they used it at school during the day 6 or more times.

Table 3.14. Setting of drug use among past-month marijuana users in 8th and 10th grades, 2024

Location	Not at all	1–2 times	3–5 times	6+ times
At your home	33.1%	20.0%	15.5%	31.5%
At friends' houses	33.8%	22.7%	20.2%	23.3%
At a school dance, a game, or other event	64.9%	13.8%	14.1%	7.2%
At school during the day	55.9%	17.3%	14.8%	12.0%
Near school	66.4%	11.1%	11.7%	10.9%
In a car	54.6%	17.7%	12.9%	14.8%
At a party	53.4%	17.6%	13.3%	15.7%

When 8th and 10th graders were asked how much they agree with the statement, "I get a real kick out of doing things that are a little dangerous," 9.3% of those who did not use marijuana in the past month selected "agree" compared to 26.4% of those who used marijuana in the past month and 33.1% of those who were daily users in the past month (Table 3.15).

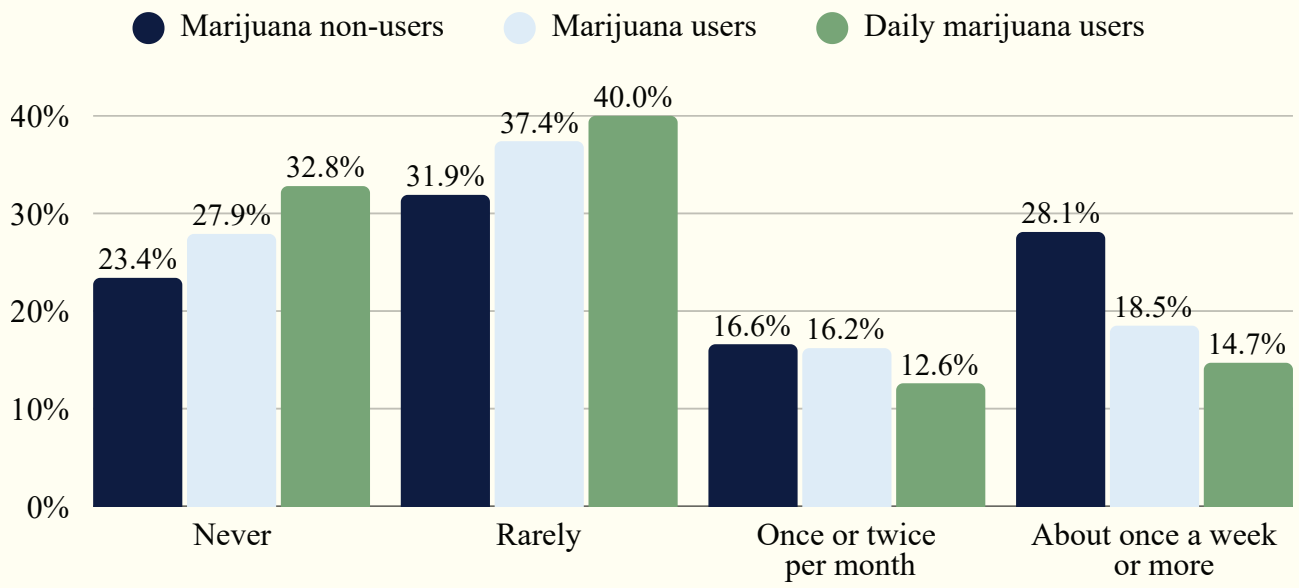
Among those who did not use marijuana in the past month, 7.8% selected "agree" for the statement, "I like to test myself every now and then by doing something a little risky," compared to 18.7% of those who used marijuana in the past month and 23.1% of those who were daily users in the past month.

Table 3.15. Agreement with statements about risks and new experiences among 8th and 10th graders by past-month marijuana use, 2024

Agreement with the following statements	Disagree	Mostly disagree	Neither	Mostly agree	Agree
I get a real kick out of doing things that are a little dangerous					
Past-month marijuana non-users	28.3%	16.6%	25.3%	20.5%	9.3%
Past-month marijuana users	16.6%	12.1%	17.4%	27.5%	26.4%
Past-month daily marijuana users	17.7%	7.8%	17.4%	24.0%	33.1%
I like to test myself every now and then by doing something a little risky					
Past-month marijuana non-users	32.0%	16.8%	24.7%	18.7%	7.8%
Past-month marijuana users	17.0%	13.6%	22.5%	28.1%	18.7%
Past-month daily marijuana users	20.3%	5.9%	21.7%	29.1%	23.1%
I would like to explore strange places					
Past-month marijuana non-users	15.5%	7.9%	22.8%	28.2%	25.6%
Past-month marijuana users	12.2%	4.9%	18.8%	27.5%	36.6%
Past-month daily marijuana users	13.5%	0.0%	23.0%	31.7%	31.8%
I like to do frightening things					
Past-month marijuana non-users	25.6%	16.6%	28.1%	18.8%	11.0%
Past-month marijuana users	17.6%	10.6%	24.8%	21.3%	25.6%
Past-month daily marijuana users	18.3%	5.5%	32.1%	18.6%	25.5%
I like new and exciting experiences, even if I have to break the rules					
Past-month marijuana non-users	20.8%	16.0%	27.0%	22.8%	13.4%
Past-month marijuana users	14.1%	7.0%	17.4%	31.5%	29.9%
Past-month daily marijuana users	17.3%	2.8%	22.9%	28.2%	28.7%
I prefer friends who are exciting and unpredictable					
Past-month marijuana non-users	14.9%	11.0%	31.9%	25.7%	16.4%
Past-month marijuana users	11.9%	9.8%	25.8%	28.2%	24.3%
Past-month daily marijuana users	16.2%	2.5%	24.0%	34.3%	23.0%

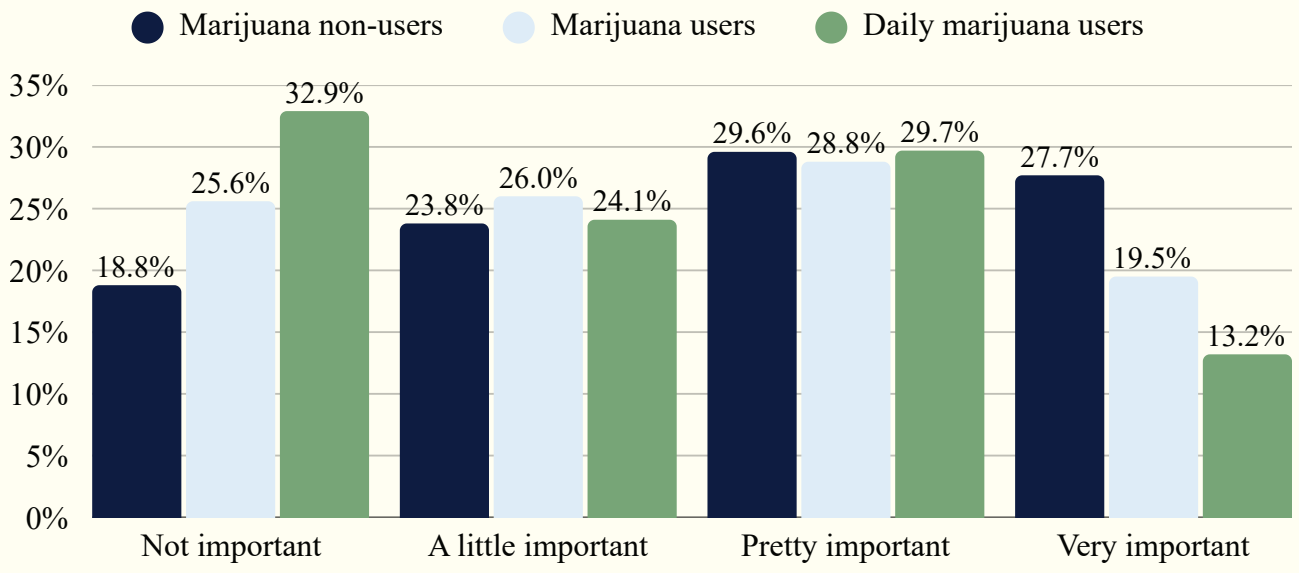
When 8th and 10th graders were asked, "How often do you attend religious services?" 28.1% of those who did not use marijuana in the past month and 18.5% of those who did use marijuana in the past month answered, "about once a week or more" (Figure 3.17). This declined to 14.7% among those who were daily users of marijuana in the past month.

Figure 3.17. Attendance at religious services among 8th and 10th graders by past-month marijuana use, 2024



Likewise, when 8th and 10th graders were asked, "How important is religion in your life?" 27.7% of those who did not use marijuana in the past month and 19.5% of those who used marijuana in the past month answered, "very important" (Figure 3.18). This declined to 13.2% among those who were daily users in the past month. Those who answered "not important" included 18.8% of those who did not use marijuana in the past month, 25.6% of those who used marijuana in the past month, and 32.9% of those who were daily users in the past month.

Figure 3.18. Importance of religion among 8th and 10th graders by past-month marijuana use, 2024



The survey asked 8th and 10th graders to rate how much they agreed with statements about their personality and satisfaction with life. When asked about the statement, "Life often seems meaningless," 23.5% of those who did not use marijuana in the past month selected "agree" or "mostly agree" compared to 42.0% of those who used marijuana in the past month and 48.4% of those who were daily users in the past month (Table 3.16).

The survey also found that 11.3% of those who did not use marijuana in the past month selected "agree" for the statement, "I have trouble controlling my temper," compared to 29.2% of those who used marijuana in the past month and 34.7% of those who were daily users in the past month.

Table 3.16. Personality and satisfaction with life among 8th and 10th graders by past-month marijuana use, 2024

Personality and satisfaction with life	Disagree	Mostly disagree	Neither	Mostly agree	Agree
On the whole, I'm satisfied with myself					
Past-month marijuana non-users	15.2%	9.8%	22.6%	30.0%	22.5%
Past-month marijuana users	18.7%	13.9%	25.0%	21.2%	21.2%
Past-month daily marijuana users	23.0%	14.0%	33.5%	11.8%	17.7%
Life often seems meaningless					
Past-month marijuana non-users	34.2%	21.5%	20.8%	15.3%	8.2%
Past-month marijuana users	22.4%	17.7%	17.9%	25.7%	16.3%
Past-month daily marijuana users	16.6%	18.8%	16.2%	23.1%	25.3%
I enjoy life as much as anyone					
Past-month marijuana non-users	12.4%	10.8%	19.5%	31.9%	25.4%
Past-month marijuana users	18.7%	14.3%	21.9%	25.0%	20.1%
Past-month daily marijuana users	26.2%	12.6%	21.2%	19.2%	20.7%
The future often seems hopeless					
Past-month marijuana non-users	38.7%	20.5%	21.9%	11.9%	7.1%
Past-month marijuana users	26.2%	23.5%	22.3%	15.4%	12.6%
Past-month daily marijuana users	17.6%	15.9%	28.4%	18.8%	19.2%
It feels good to be alive					
Past-month marijuana non-users	9.8%	5.5%	19.2%	26.0%	39.5%
Past-month marijuana users	14.8%	12.6%	24.4%	24.6%	23.6%
Past-month daily marijuana users	24.0%	14.5%	22.2%	16.6%	22.6%
I take a positive attitude toward myself					
Past-month marijuana non-users	12.9%	9.5%	16.6%	38.9%	22.0%
Past-month marijuana users	21.7%	9.2%	15.5%	35.0%	18.6%
Past-month daily marijuana users	23.9%	6.1%	18.8%	25.6%	25.6%
Sometimes I think that I am no good at all					
Past-month marijuana non-users	34.3%	18.0%	19.9%	18.0%	9.9%
Past-month marijuana users	24.2%	13.5%	20.8%	23.1%	18.4%
Past-month daily marijuana users	24.8%	11.1%	16.6%	22.7%	24.7%

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Table 3.16. Personality and satisfaction with life among 8th and 10th graders by past-month marijuana use, 2024 (continued)

Personality and satisfaction with life	Disagree	Mostly disagree	Neither	Mostly agree	Agree
I feel I do not have much to be proud of					
Past-month marijuana non-users	33.5%	20.7%	18.1%	18.9%	8.8%
Past-month marijuana users	23.4%	17.4%	21.0%	22.9%	15.3%
Past-month daily marijuana users	22.5%	14.9%	18.6%	21.0%	23.0%
I feel that my life is not very useful					
Past-month marijuana non-users	43.4%	16.8%	21.3%	11.6%	6.9%
Past-month marijuana users	32.8%	15.2%	22.4%	16.3%	13.3%
Past-month daily marijuana users	36.6%	6.6%	22.1%	16.0%	18.7%
I am able to do things as well as most other people					
Past-month marijuana non-users	11.9%	9.6%	20.8%	36.0%	21.6%
Past-month marijuana users	14.9%	10.6%	23.8%	32.2%	18.5%
Past-month daily marijuana users	20.2%	11.7%	22.9%	22.0%	23.1%
I feel I am a person of worth, on an equal plane with others					
Past-month marijuana non-users	12.8%	9.6%	20.8%	32.3%	24.5%
Past-month marijuana users	19.6%	10.9%	25.3%	22.5%	21.6%
Past-month daily marijuana users	26.0%	9.1%	23.6%	15.1%	26.2%
I feel that I can't do anything right					
Past-month marijuana non-users	35.6%	19.4%	22.0%	15.2%	7.8%
Past-month marijuana users	26.9%	16.5%	20.3%	21.9%	14.5%
Past-month daily marijuana users	18.8%	11.3%	28.9%	22.4%	18.5%
I often feel anxious					
Past-month marijuana non-users	21.1%	13.4%	23.0%	21.8%	20.6%
Past-month marijuana users	16.5%	10.1%	18.0%	27.5%	27.9%
Past-month daily marijuana users	18.0%	4.0%	14.9%	31.2%	32.0%
I often worry about how other people react to me					
Past-month marijuana non-users	19.9%	10.8%	20.1%	27.8%	21.5%
Past-month marijuana users	20.6%	6.0%	18.6%	29.4%	25.4%
Past-month daily marijuana users	33.9%	1.6%	17.1%	19.5%	27.8%
I have trouble controlling my temper					
Past-month marijuana non-users	28.0%	16.8%	25.4%	18.6%	11.3%
Past-month marijuana users	18.4%	14.3%	23.1%	14.9%	29.2%
Past-month daily marijuana users	23.0%	14.3%	19.3%	8.7%	34.7%

When 8th and 10th graders were asked how often they sold an illegal drug in the past year, 0.7% of those who did not use marijuana in the past month answered 5 or more times compared to 7.9% of those who used marijuana in the past month and 16.3% of those who were daily users in the past month (Table 3.17). The survey also found that 8.3% of those who did not use marijuana in the past month had gotten into at least one serious fight in school or at work compared to 27.6% of those who used marijuana in the past month and 34.2% of those who were daily users in the past month.

Table 3.17. Behaviors among 8th and 10th graders by past-month marijuana use, 2024

Behaviors in the past year	None	Once	Twice	3–4 times	5+ times
Sold an illegal drug					
Past-month marijuana non-users	98.4%	0.5%	0.3%	0.1%	0.7%
Past-month marijuana users	76.2%	4.6%	6.1%	5.3%	7.9%
Past-month daily marijuana users	66.8%	9.0%	4.5%	3.4%	16.3%
Ran away from home (for more than 24 hours)					
Past-month marijuana non-users	96.7%	1.9%	0.7%	0.3%	0.4%
Past-month marijuana users	84.7%	6.8%	4.1%	2.2%	2.2%
Past-month daily marijuana users	75.5%	10.5%	6.0%	2.2%	5.8%
Damaged school property on purpose					
Past-month marijuana non-users	93.1%	3.8%	1.3%	0.8%	1.0%
Past-month marijuana users	79.2%	7.5%	4.9%	2.0%	6.4%
Past-month daily marijuana users	74.0%	5.9%	6.3%	0.0%	13.8%
Went into some house or building when you weren't supposed to be there					
Past-month marijuana non-users	89.6%	5.3%	2.2%	1.8%	1.0%
Past-month marijuana users	66.3%	9.0%	12.1%	5.7%	6.9%
Past-month daily marijuana users	56.7%	9.4%	17.9%	2.5%	13.5%
Hurt someone badly enough to need bandages or a doctor					
Past-month marijuana non-users	93.2%	4.2%	1.4%	0.8%	0.4%
Past-month marijuana users	77.0%	10.8%	6.5%	1.5%	4.3%
Past-month daily marijuana users	75.4%	6.4%	9.6%	2.6%	6.0%
Taken part in a fight where a group of your friends were against another group					
Past-month marijuana non-users	90.9%	5.0%	1.9%	1.1%	1.1%
Past-month marijuana users	72.7%	9.0%	8.0%	3.5%	6.8%
Past-month daily marijuana users	64.0%	11.6%	9.0%	5.6%	9.8%

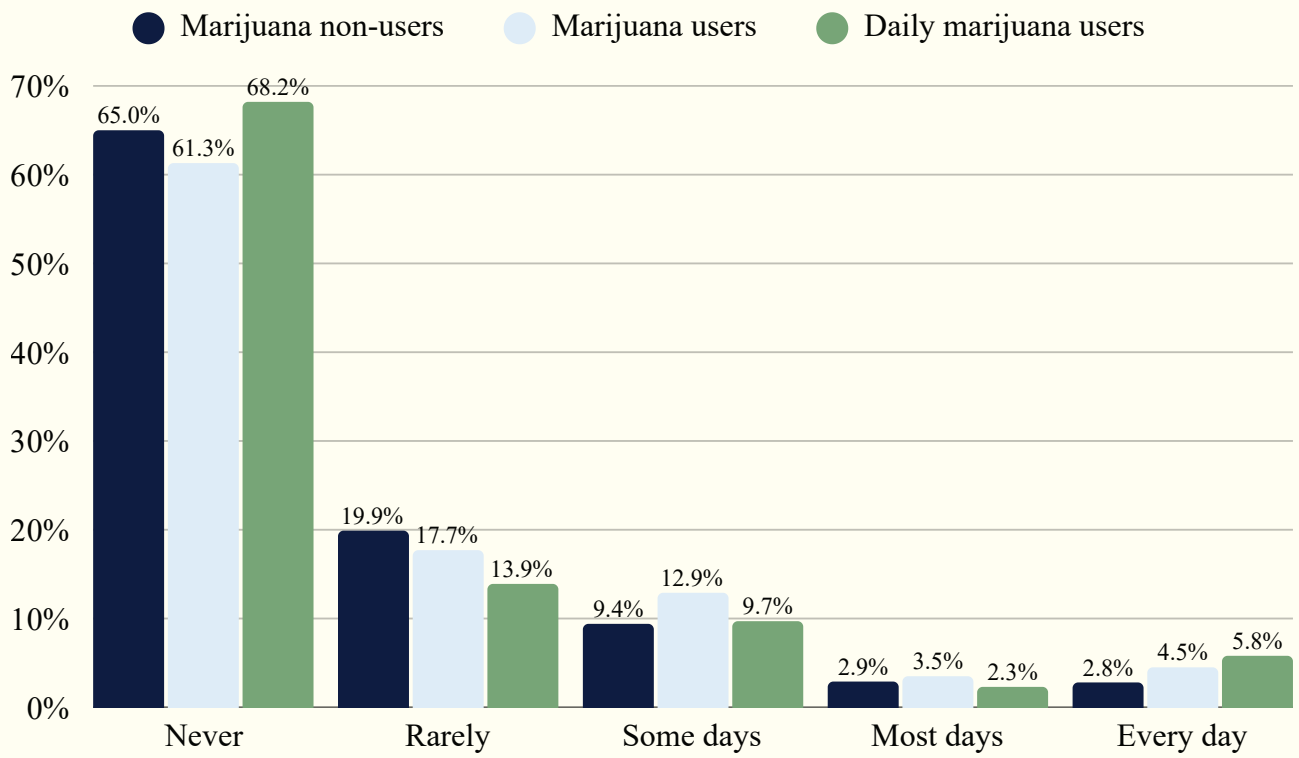
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Table 3.17. Behaviors among 8th and 10th graders by past-month marijuana use, 2024 (continued)

Behaviors in the past year	None	Once	Twice	3–4 times	5+ times
Gotten into a serious fight in school or at work					
Past-month marijuana non-users	91.7%	4.2%	2.4%	0.8%	0.9%
Past-month marijuana users	72.4%	9.4%	7.8%	6.0%	4.3%
Past-month daily marijuana users	65.8%	11.1%	9.0%	3.3%	10.8%
Taken something not belonging to you worth less than $50					
Past-month marijuana non-users	85.6%	7.5%	3.0%	1.7%	2.2%
Past-month marijuana users	58.5%	10.9%	10.7%	7.9%	12.0%
Past-month daily marijuana users	59.4%	3.7%	17.8%	5.3%	13.8%
Taken something not belonging to you worth over $50					
Past-month marijuana non-users	94.2%	2.8%	1.3%	0.8%	1.0%
Past-month marijuana users	74.4%	6.8%	7.4%	4.5%	6.9%
Past-month daily marijuana users	67.9%	9.3%	11.7%	1.3%	9.8%

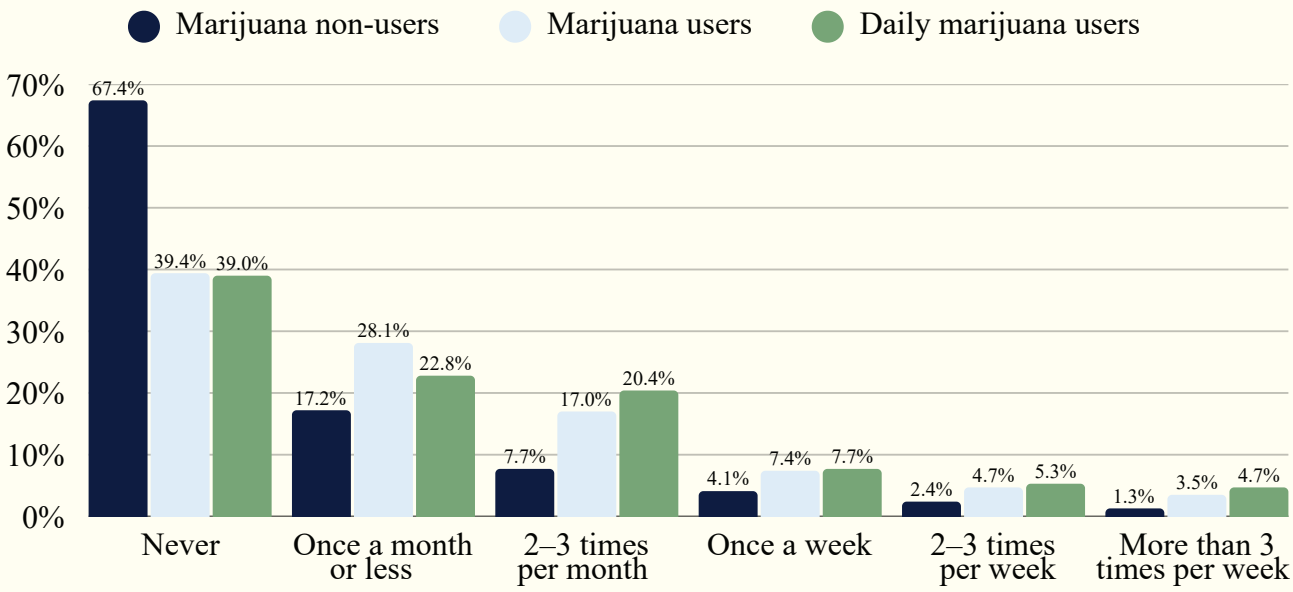
When 8th and 10th graders were asked about how often they felt bullied at school, 2.8% of those who did not use marijuana in the past month answered "every day" compared to 4.5% of those who used marijuana in the past month and 5.8% of those who were daily marijuana users in the past month (Figure 3.19).

Figure 3.19. Bullying at school among 8th and 10th graders by past-month marijuana use, 2024



When 8th and 10th graders were asked, "On the average, how often (if ever) do you go out with a date?" 7.8% of those who did not use marijuana in the past month went out with a date one or more times each week compared to 15.6% of those who used marijuana in the past month and 17.7% of those who were daily users (Figure 3.20). Among those who did not use marijuana in the past month, 67.4% said "never" compared to 39.4% of those who used marijuana in the past month.

Figure 3.20. Frequency of dating among 8th and 10th graders by past-month marijuana use, 2024



When 8th and 10th graders were asked about how many days they carried a weapon (e.g., a gun or knife) to school in the past month, 1.4% of those who did not use marijuana in the past month did so on one or more days compared to 10.1% of those who used marijuana in the past month and 12.4% of those who were daily users in the past month (Table 3.18). The survey also found that 1.1% of those who did not use marijuana in the past month carried a gun to school on one or more days compared to 5.0% of those who used marijuana in the past month and 8.1% of those who were daily users.

Table 3.18. Weapon carrying at school in the past month among 8th and 10th graders by past-month marijuana use, 2024

Weapons at school	None	1 day	2 days	3–5 days	6–9 days	10+ days
Carried a weapon to school						
Past-month marijuana non-users	98.6%	0.4%	0.2%	0.1%	0.1%	0.4%
Past-month marijuana users	89.9%	2.0%	2.3%	3.3%	0.6%	1.9%
Past-month daily marijuana users	87.6%	0.0%	1.9%	9.3%	0.0%	1.2%
Carried a gun to school						
Past-month marijuana non-users	98.9%	0.2%	0.3%	0.3%	0.1%	0.3%
Past-month marijuana users	95.0%	1.4%	0.9%	0.2%	1.1%	1.4%
Past-month daily marijuana users	91.9%	0.0%	0.0%	0.9%	3.3%	3.9%

When 8th and 10th graders were asked about how often they actively participate in sports, athletics, or exercising, 57.0% of those who did not use marijuana in the past month, 47.4% of those who used marijuana in the past month, and 41.3% of those who were daily users said that they did so almost daily or every day (Table 3.19). When they were asked about how often they go to parties or other social events, 44.5% of those who did not use marijuana in the past month, 34.7% of those who used marijuana in the past month, and 36.2% of those who were daily users said that they never did so or only went a few times a year.

Additionally, 34.0% of those who did not use marijuana in the past month said that they never participated in community affairs or volunteer work compared to 42.0% of those who used marijuana in the past month and 53.8% of those who were daily users in the past month.

Table 3.19. Participation in activities among 8th and 10th graders by past-month marijuana use, 2024

Participation in activities	Never	Few times a year	1–2 times a month	Once a week	Almost daily	Every day
Participate in community affairs or volunteer work						
Past-month marijuana non-users	34.0%	31.6%	19.9%	10.1%	3.0%	1.4%
Past-month marijuana users	42.0%	30.7%	15.0%	8.6%	2.6%	1.1%
Past-month daily marijuana users	53.8%	26.4%	11.0%	5.7%	1.1%	2.0%
Actively participate in sports, athletics, or exercising						
Past-month marijuana non-users	11.3%	9.2%	7.0%	15.5%	25.0%	32.0%
Past-month marijuana users	12.9%	9.9%	9.1%	20.7%	21.7%	25.7%
Past-month daily marijuana users	19.2%	8.8%	6.5%	24.2%	18.8%	22.5%
Get together with friends informally (in your free time)						
Past-month marijuana non-users	5.5%	9.8%	22.6%	31.7%	19.9%	10.5%
Past-month marijuana users	2.9%	6.8%	18.8%	34.6%	23.2%	13.6%
Past-month daily marijuana users	3.8%	6.4%	16.5%	31.7%	25.2%	16.4%
Spend at least an hour of leisure time (free time) alone						
Past-month marijuana non-users	3.5%	2.2%	3.9%	15.6%	31.6%	43.1%
Past-month marijuana users	2.4%	1.8%	3.8%	9.9%	25.8%	56.2%
Past-month daily marijuana users	4.3%	1.5%	3.2%	10.1%	21.2%	59.7%
Go to parties or other social events						
Past-month marijuana non-users	12.9%	31.6%	34.0%	16.9%	2.8%	1.7%
Past-month marijuana users	8.5%	26.2%	33.9%	23.2%	4.4%	3.8%
Past-month daily marijuana users	9.6%	26.6%	33.0%	19.4%	3.9%	7.5%

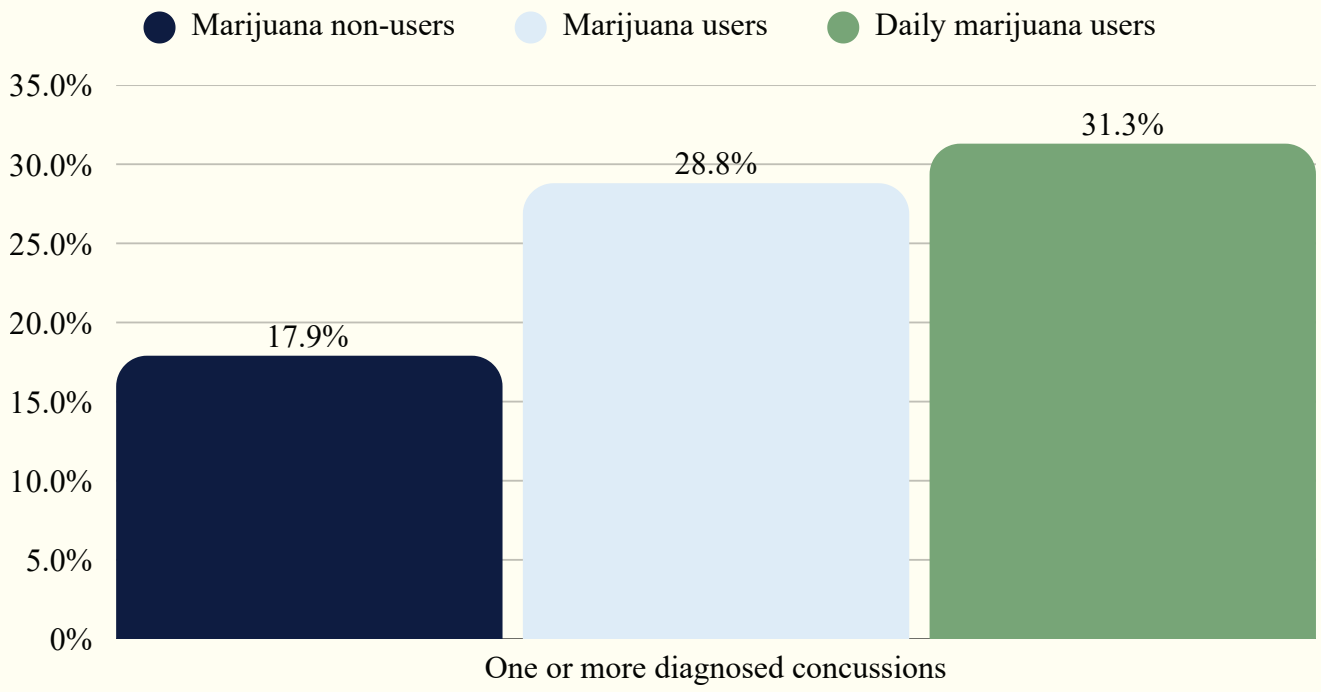
When 8th and 10th graders were asked, "About how many hours on an average day do you spend" on social media sites, 14.9% of those who did not use marijuana in the past month said they spent 9 or more hours per day compared to 24.4% of those who used marijuana in the past month and 29.3% of those who were daily users in the past month (Table 3.20). The survey also estimated that 14.6% of those who did not use marijuana in the past month spent at least 5 hours video chatting per day compared to 29.7% of those who used marijuana in the past month and 32.0% of those who were daily users in the past month.

Table 3.20. Time spent on activities per day among 8th and 10th graders by past-month marijuana use, 2024

Time spent on activities	None	<1 hour	1–2 hours	3–4 hours	5–6 hours	7–8 hours	9+ hours
Playing games on a computer, TV, phone, or other electronic device							
Past-month marijuana non-users	5.3%	13.8%	23.3%	24.7%	15.7%	7.3%	10.0%
Past-month marijuana users	4.1%	13.7%	20.3%	21.3%	16.7%	7.7%	16.1%
Past-month daily marijuana users	5.0%	13.3%	19.4%	15.0%	17.5%	5.7%	24.1%
On social media sites like TikTok, YouTube, Snapchat, Facebook, Instagram, X, etc.							
Past-month marijuana non-users	3.5%	7.1%	22.5%	26.4%	16.3%	9.2%	14.9%
Past-month marijuana users	1.3%	4.3%	11.5%	27.3%	19.4%	11.7%	24.4%
Past-month daily marijuana users	2.0%	3.0%	9.7%	25.8%	19.7%	10.5%	29.3%
Talking on the phone							
Past-month marijuana non-users	11.0%	37.6%	21.4%	12.9%	6.3%	3.6%	7.3%
Past-month marijuana users	5.8%	27.0%	19.4%	15.9%	11.3%	6.2%	14.4%
Past-month daily marijuana users	7.5%	24.4%	18.2%	16.8%	10.9%	4.5%	17.7%
Shopping online							
Past-month marijuana non-users	35.5%	39.6%	14.6%	4.8%	1.8%	1.2%	2.4%
Past-month marijuana users	23.5%	41.9%	18.9%	6.7%	2.1%	2.0%	4.9%
Past-month daily marijuana users	25.3%	38.5%	15.7%	8.8%	1.5%	1.5%	8.8%
Video chatting							
Past-month marijuana non-users	30.1%	27.1%	18.3%	9.9%	5.0%	3.0%	6.6%
Past-month marijuana users	19.5%	21.6%	16.3%	12.8%	8.9%	5.8%	15.0%
Past-month daily marijuana users	21.5%	18.3%	15.2%	13.0%	8.8%	3.7%	19.5%

In 2024, 17.9% of 8th and 10th graders who did not use marijuana in the past month said that they had been diagnosed with one or more concussions in their lifetime compared to 28.8% of those who used marijuana in the past month and 31.3% of those who were daily users of marijuana in the past month (Figure 3.21).

Figure 3.21. Concussions among 8th and 10th graders by past-month marijuana use, 2024



In 2024, 5.1% of 8th and 10th graders who did not use marijuana in the past month had two or more diagnosed concussions in their lifetime compared to 7.6% of those who used marijuana in the past month and 10.8% of those who were daily users of marijuana in the past month (Table 3.21).

Table 3.21. Concussions among 8th and 10th graders by past-month marijuana use, 2024

Lifetime number of diagnosed concussions	None	One	Two or more
Past-month marijuana non-users	82.1%	12.8%	5.1%
Past-month marijuana users	71.2%	21.2%	7.6%
Past-month daily marijuana users	68.7%	20.4%	10.8%

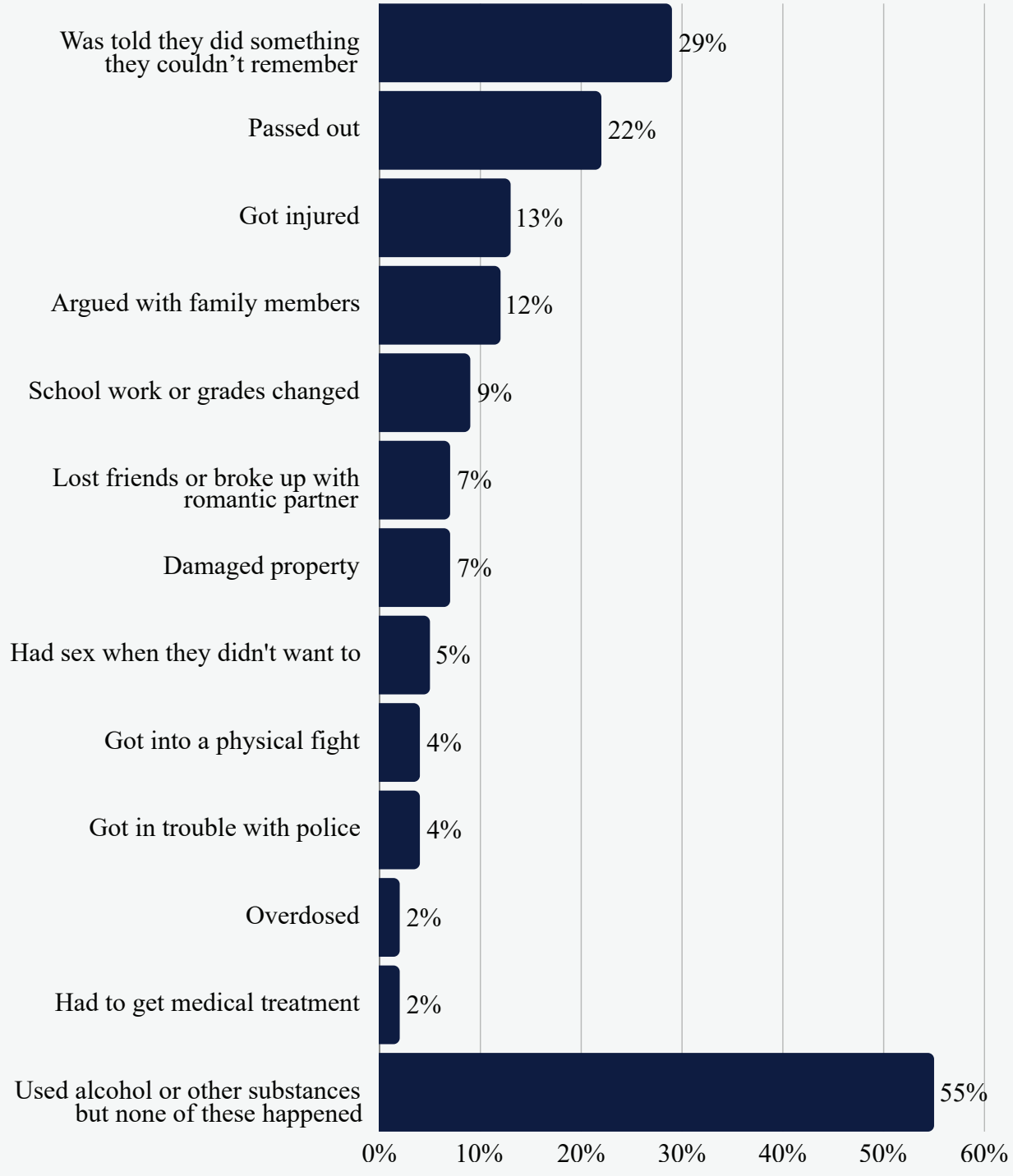
Field of study

During the 2024–2025 school year, the Canadian Postsecondary Education Alcohol and Drug Use Survey found that 34.4% of students aged 17–25 who were STEM majors used marijuana in the past year compared to 39.5% of students who were in the category of "business & other" and 46.7% of students who were in "arts & social sciences" programs.[27] Likewise, 21.3% of STEM majors used marijuana in the past month compared to 26.2% of students in the category of "business & other" and 31.5% of students in "arts & social sciences" programs.

The consequences of substance use

The 2023 British Columbia Adolescent Health Survey, conducted every five years by the McCreary Centre Society, included responses from more than 38,000 12–19-year-olds in British Columbia.[28] The survey asked respondents who had used alcohol or other substances in the past 12 months about substance-related consequences that they had experienced in the past 12 months. Although 55% of respondents reported that they did not experience any related consequences, 29% said they did something they couldn't remember, while 22% said they passed out (Figure 3.22).

Figure 3.22. Consequences of substance use among 12–19-year-olds in British Columbia, 2023



D. State-Level Estimates

Washington Healthy Youth Survey

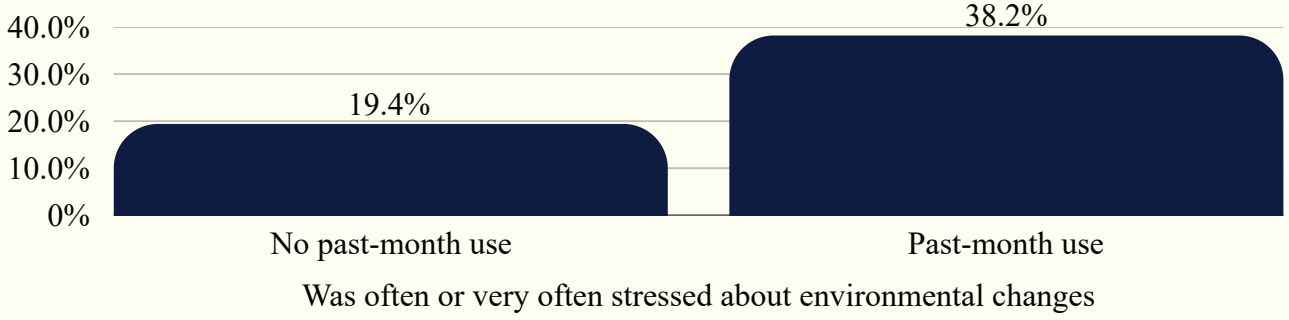
According to the 2025 Washington Healthy Youth Survey, 71.1% of 12th graders who used marijuana in the past month said that they had or identified with any disability compared to 46.8% of 12th graders who did not use marijuana in the past month (Table 3.22).[29] The question asked whether they had or identified with the condition, not whether they had been diagnosed with it.

Table 3.22. Disabilities among 12th graders in Washington by past-month marijuana use, 2025

Disability	No past-month marijuana use	Past-month marijuana use
Any disability	46.8%	71.1%
Autism	7.5%	8.9%
ADHD	22.9%	39.7%
Learning disability (dyslexia, dyscalculia, etc.)	6.8%	12.6%
Mental health condition (depression, anxiety, bipolar, schizophrenia, etc.)	22.7%	46.5%
Mobility disability (use a wheelchair, walker, cane, prosthetic/artificial limb, etc.)	0.6%	1.6%
Sensory disability (blindness, low-vision, deaf, hard-of-hearing, etc.)	4.2%	6.1%
Other health condition (HIV/AIDS, cancer, diabetes, epilepsy, etc.)	3.4%	5.8%

When 12th graders were asked how often they "feel emotionally stressed...about the future because of changes to the environment like rising temperatures and more heat waves, wildfires, and flooding," 38.2% of those who used marijuana in the past month answered often or very often compared to 19.4% of those who did not use marijuana in the past month (Figure 3.23).

Figure 3.23. Stress about environmental changes among 12th graders in Washington by past-month marijuana use, 2025



In 2025, 15.4% of 12th graders in Washington who used marijuana in the past month attempted suicide in the past year compared to 2.9% of 12th graders who did not use marijuana (Table 3.23).

Table 3.23. Mental health issues in the past year among 12th graders in Washington by past-month marijuana use, 2025

Outcomes in the past 12 months	No past-month marijuana use	Past-month marijuana use
Ever felt so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities	23.7%	51.0%
Did something to purposely hurt yourself without wanting to die, such as cutting or burning yourself on purpose	10.0%	34.8%
Seriously considered attempting suicide	9.2%	30.1%
Made a plan about how they would attempt suicide	6.6%	21.8%
Attempted suicide	2.9%	15.4%

In 2025, 45.2% of 12th graders who used marijuana in the past month had ever been physically hurt by an adult on purpose compared to 19.9% of those who did not use marijuana (Table 3.24).

Table 3.24. Sexual- and violence-related experiences among 12th graders in Washington by past-month marijuana use, 2025

Outcomes in their lifetime	No past-month marijuana use	Past-month marijuana use
Ever traded sex for money, drugs, a place to stay, a cell phone, or something else that you needed	0.8%	6.9%
Ever been in a situation where someone made you engage in kissing, sexual touch, or having sex when you did not want to?	13.2%	41.5%
Ever physically hurt by an adult on purpose (like pushed, slapped, hit, kicked or punched)	19.9%	45.2%

In 2025, 21.1% of 12th graders who used marijuana in the past month had been bullied in the past month compared to 9.9% of those who did not use marijuana (Table 3.25).

Table 3.25. Bullying among 12th graders in Washington by past-month marijuana use, 2025

Outcomes in the past 30 days	No past-month marijuana use	Past-month marijuana use
Had been bullied	9.9%	21.1%
Had been bullied by someone using social media, a phone, or video games	8.3%	17.0%
Did not participate in school activities on at least one day because they felt unsafe	4.1%	11.1%
Did not go to school because they felt they would be unsafe on their way to and from school	0.8%	2.9%

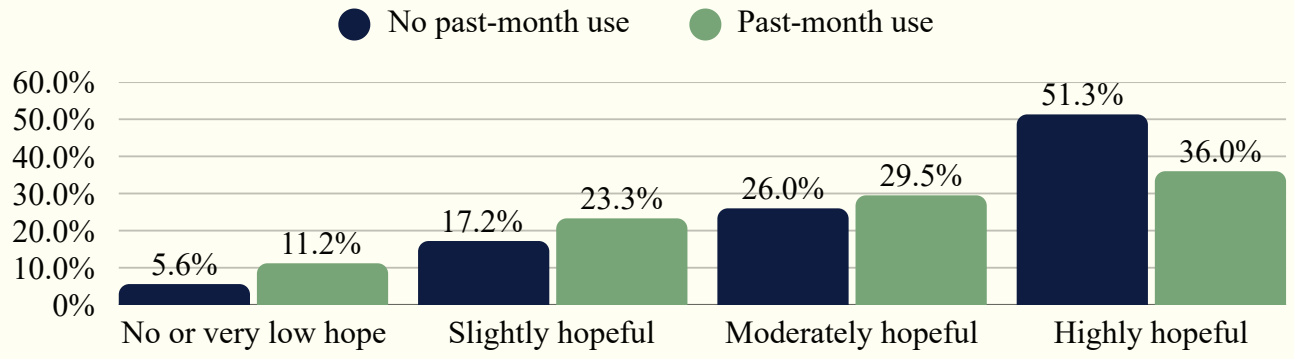
The Children's Hope Scale measures hope in individuals aged 8–16. Though it was developed with six questions, the Washington Office of Superintendent of Public Instruction said, "consulting with researchers it was determined that the scale is still valid with just asking four of the questions instead of all six."[30] When asked how much the statement "I think the things I have done in the past will help me in the future" applies to them, 50.5% of 12th graders who used marijuana in the past month and 63.7% of those who did not said a lot, most, or all of the time (Table 3.26).

Table 3.26. Hopefulness among 12th graders in Washington by past-month marijuana use, 2025

Children's Hope Scale	None, a little or some of the time	A lot, most, or all of the time
I can think of many ways to get the things in life that are most important to me		
No past-month marijuana use	30.6%	69.4%
Past-month marijuana use	40.7%	59.3%
I am doing just as well as other kids my age		
No past-month marijuana use	36.3%	63.7%
Past-month marijuana use	53.8%	46.2%
I think the things I have done in the past will help me in the future		
No past-month marijuana use	36.3%	63.7%
Past-month marijuana use	49.5%	50.5%
When I have a problem, I can come up with lots of ways to solve it		
No past-month marijuana use	32.7%	67.3%
Past-month marijuana use	42.3%	57.7%

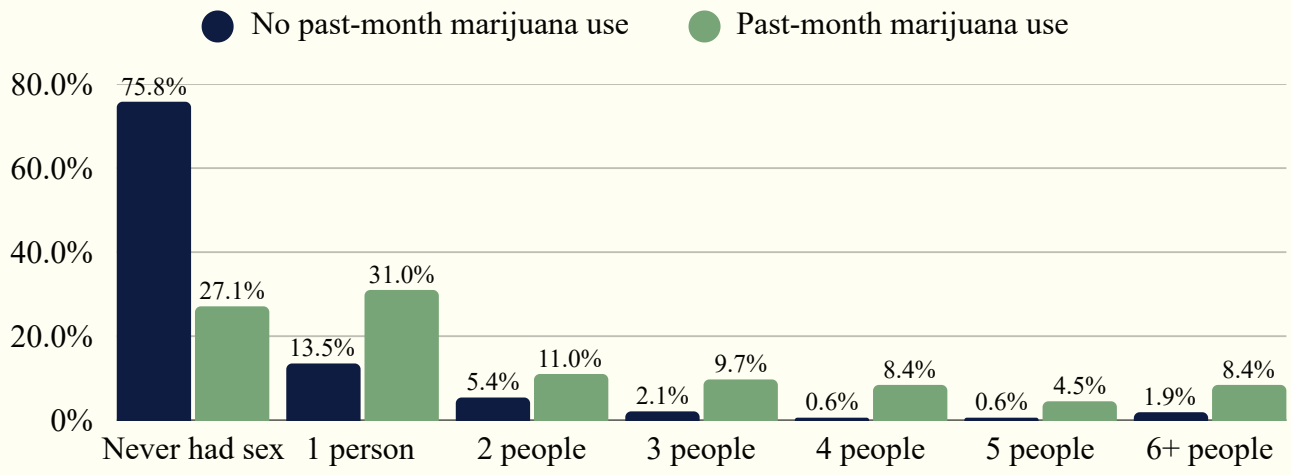
Each of the four questions in Table 3.26 was given a score of 1–6, with 1 for answers of "none of the time" ranging to 6 for "all of the time." Summed scores of 4–8 indicate "no to very low hope," 9–12 indicate "slightly hopeful," 13–16 indicate "moderately hopeful," and 17–24 indicate "highly hopeful." In 2025, 36.0% of past-month marijuana users in 12th grade were highly hopeful compared to 51.3% of those who did not use marijuana in the past month (Figure 3.24).

Figure 3.24. Children's Hope Scale among 12th graders in Washington by past-month marijuana use, 2025



In 2025, 21.3% of 12th graders who used marijuana in the past month had 4 or more sexual partners in their lifetime compared to 3.1% of those who did not use marijuana in the past month (Figure 3.25).

Figure 3.25. Lifetime sexual partners among 12th graders in Washington by past-month marijuana use, 2025



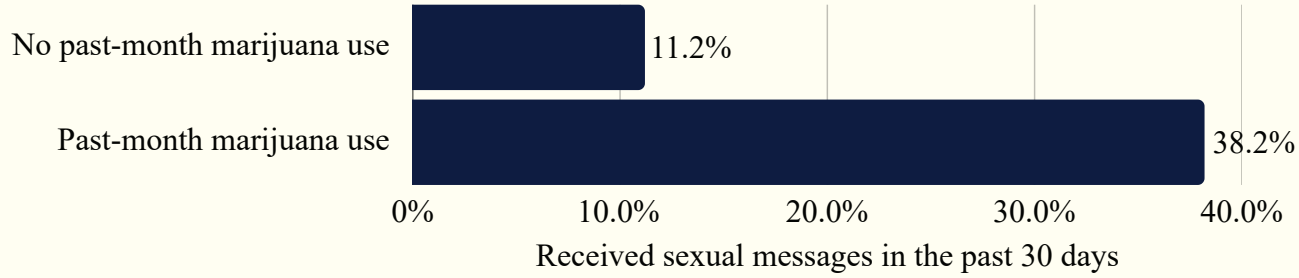
In 2025, 14.3% of 12th graders who used marijuana in the past month said that someone they had been dating had physically hurt them compared to 4.4% of those who did not use marijuana (Table 3.27).

Table 3.27. Intimate partner violence and gang involvement among 12th graders in Washington by past-month marijuana use, 2025

Outcomes in the past 12 months	No past-month marijuana use	Past-month marijuana use
Someone you were dating or going out with limited your activities, threatened you, or made you feel unsafe in any other way	6.6%	22.0%
Had been physically hurt on purpose at least once by someone you were dating or going out with	4.4%	14.3%
Had been in at least one physical fight	7.5%	28.2%
Had been a member of a gang	1.1%	5.8%

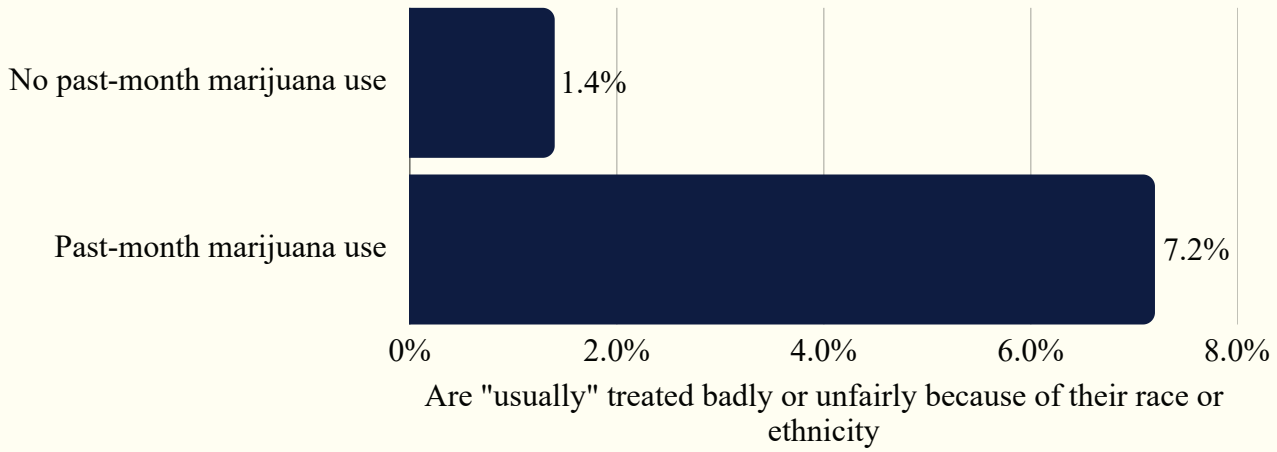
When asked, "During the past 30 days, have you received messages, images, photos, or videos via text, app, or social media that are sexual?" 38.2% of 12th graders who used marijuana in the past month and 11.2% of those who did not answered yes (Figure 3.26).

Figure 3.26. Receiving sexual messages among 12th graders in Washington by past-month marijuana use, 2025



In 2025, 7.2% of 12th graders who used marijuana in the past month said that they were usually treated badly or unfairly because of their race or ethnicity compared to 1.4% of those who did not use marijuana in the past month (Figure 3.27).

Figure 3.27. Experienced feelings of racial discrimination among 12th graders in Washington by past-month marijuana use, 2025



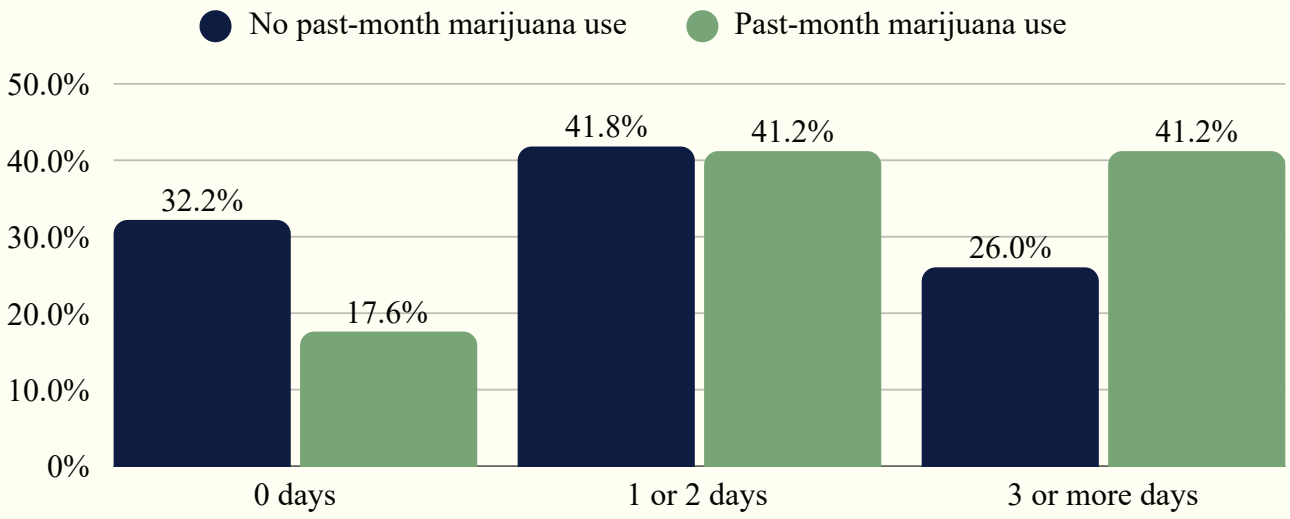
In 2025, 27.2% of 12th graders who used marijuana in the past month strongly agreed with the statement, "when I have problems at school, I am good at finding ways to solve them," compared to 34.3% of those who did not use marijuana in the past month (Table 3.28).

Table 3.28. Agreement with statements about oneself among 12th graders in Washington by past-month marijuana use, 2025

Agreement with statements	Strongly disagree	Disagree	Agree	Strongly agree
I know how to disagree without starting a fight or argument				
No past-month marijuana use	2.2%	5.5%	49.5%	42.8%
Past-month marijuana use	5.3%	7.3%	46.1%	41.3%
When I have problems at school, I am good at finding ways to solve them				
No past-month marijuana use	1.8%	9.3%	54.6%	34.3%
Past-month marijuana use	2.9%	13.1%	56.8%	27.2%
Before I make a decision, I think about the outcome and who it might affect				
No past-month marijuana use	2.6%	9.7%	50.2%	37.5%
Past-month marijuana use	4.8%	16.4%	48.3%	30.4%
I try to understand how other people feel and think				
No past-month marijuana use	1.8%	3.5%	42.8%	51.9%
Past-month marijuana use	3.9%	2.9%	42.4%	50.7%

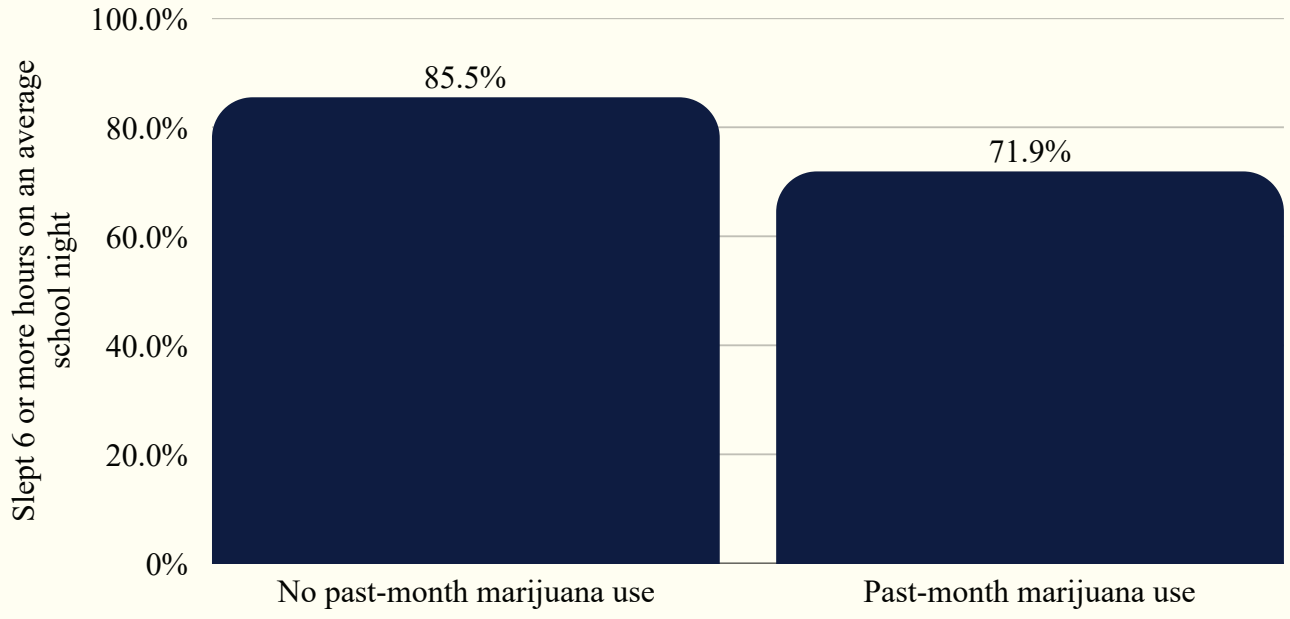
When asked how many days they had been absent from school for any reason in the past month, based on days in which they missed at least half of the school day, 82.4% of 12th graders who used marijuana in the past month and 67.8% of those who did not missed one or more days. Additionally, 41.2% of 12th graders who used marijuana in the past month missed 3 or more days compared to 26.0% of those who did not use marijuana (Figure 3.28).

Figure 3.28. Missed days of school in the past month among 12th graders in Washington by past-month marijuana use, 2025



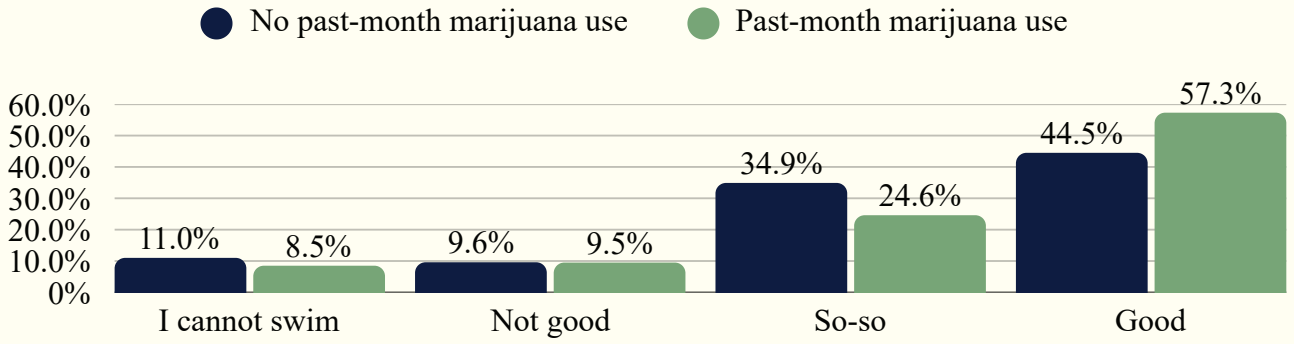
When asked, "On an average school night how many hours do you sleep?" 71.9% of 12th graders who used marijuana in the past month answered that they slept 6 or more hours compared to 85.5% of those who did not use marijuana in the past month (Figure 3.29).

Figure 3.29. Average number of hours of sleep on a school night among 12th graders in Washington by past-month marijuana use, 2025



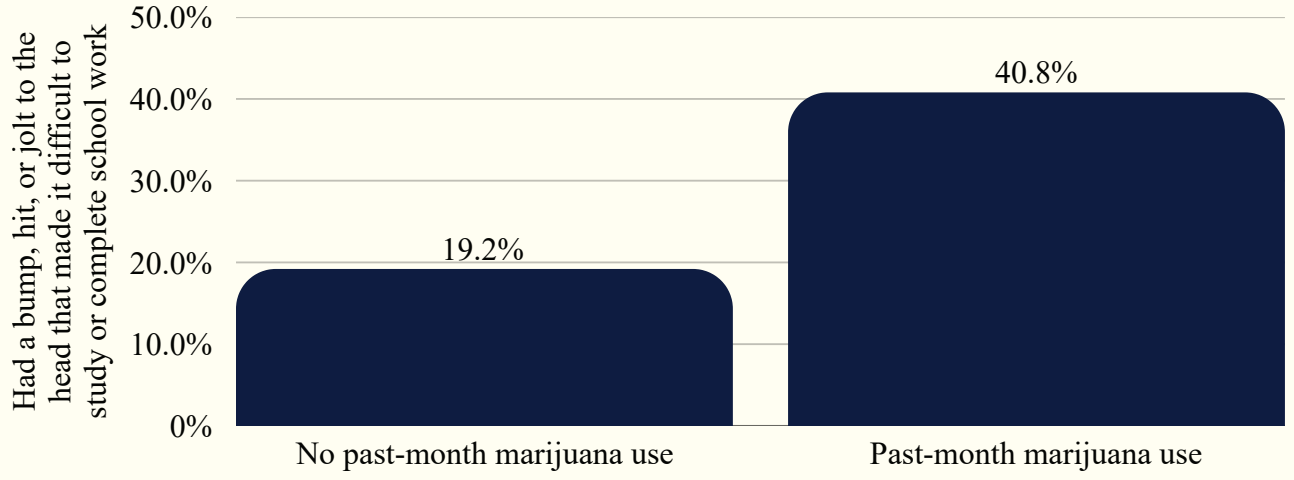
When asked, "How good a swimmer do you think you are?" 57.3% of 12th graders who used marijuana in the past month said "good" compared to 44.5% of those who did not use marijuana in the past month (Figure 3.30).

Figure 3.30. Perceived swimming abilities among 12th graders in Washington by past-month marijuana use, 2025



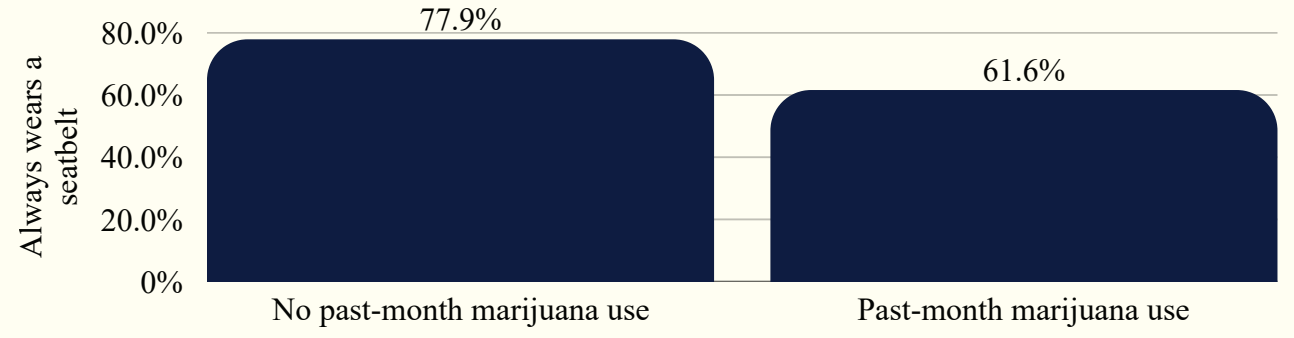
When asked, "Have you ever had a bump, hit, or jolt to the head that made it difficult to study or complete school work?" 40.8% of 12th graders who used marijuana in the past month said yes compared to 19.2% of those who did not use marijuana in the past month (Figure 3.31).

Figure 3.31. Head injuries among 12th graders in Washington by past-month marijuana use, 2025



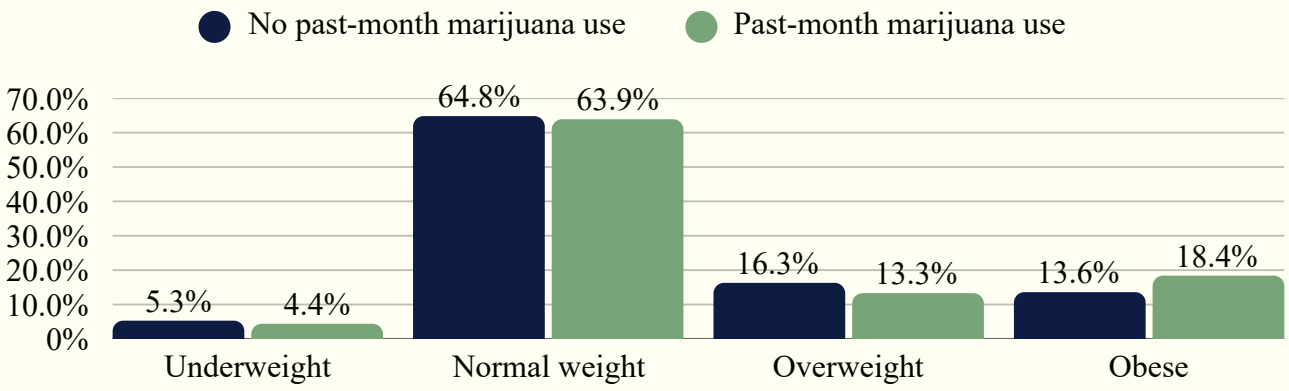
When asked how often they wear a seatbelt, 61.6% of 12th graders who used marijuana in the past month said they always wear it compared to 77.9% of those who did not use marijuana in the past month (Figure 3.32).

Figure 3.32. Seatbelt use among 12th graders in Washington by past-month marijuana use, 2025



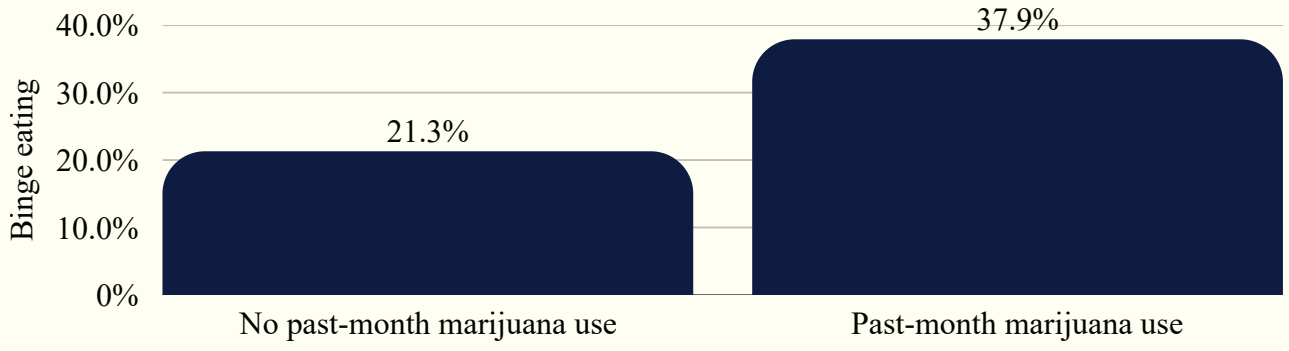
After asking students their height and weight, which are used to calculate the individual's body mass index, the survey found that 18.4% of 12th graders who used marijuana in the past month were obese compared to 13.6% of those who did not use marijuana (Figure 3.33).

Figure 3.33. Body mass index among 12th graders in Washington by past-month marijuana use, 2025



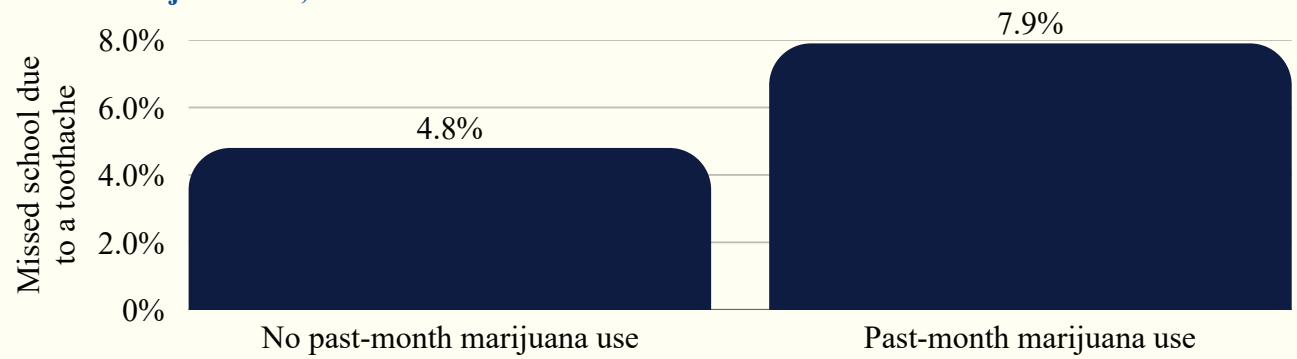
When asked whether in the past 12 months they had eaten so much food in a short period of time that they would be embarrassed if other people saw them, 37.9% of 12th graders who used marijuana in the past month said yes compared to 21.3% of those who did not use marijuana in the past month (Figure 3.34).

Figure 3.34. Binge eating among 12th graders in Washington by past-month marijuana use, 2025



When asked whether in the past 12 months they had missed school because of a toothache (not from braces or an injury), 7.9% of 12th graders who used marijuana in the past month said yes compared to 4.8% of those who did not use marijuana in the past month (Figure 3.35).

Figure 3.35. Missing school due to a toothache among 12th graders in Washington by past-month marijuana use, 2025



Pennsylvania Youth Survey

In 2025, 36.9% of 12th graders in Pennsylvania who used marijuana more than once a day in the past month said that at least one of their four best friends sold illegal drugs in the past year compared to 2.7% of those who did not use marijuana in the past month (Table 3.29).[31] Likewise, 41.2% of 12th graders who used marijuana more than once a day said that at least one of their four best friends had been suspended in the past year compared to 8.5% of those who did not use marijuana.

Table 3.29. Friend group among 12th graders in Pennsylvania by past-month marijuana use, 2025

Outcomes in the past 12 months	One or more friends
How many of your four best friends carried a handgun	
No marijuana use in the past month	2.3%
Used marijuana once or twice	5.8%
Used marijuana once or twice per week	12.0%
Used marijuana about once a day	7.4%
Used marijuana more than once a day	20.9%
How many of your four best friends sold illegal drugs	
No marijuana use in the past month	2.7%
Used marijuana once or twice	12.9%
Used marijuana once or twice per week	31.9%
Used marijuana about once a day	20.6%
Used marijuana more than once a day	36.9%
How many of your four best friends used LSD, cocaine, amphetamines, or another illegal drug	
No marijuana use in the past month	2.3%
Used marijuana once or twice	11.1%
Used marijuana once or twice per week	18.3%
Used marijuana about once a day	16.2%
Used marijuana more than once a day	29.4%
How many of your four best friends used marijuana	
No marijuana use in the past month	20.3%
Used marijuana once or twice	78.4%
Used marijuana once or twice per week	87.1%
Used marijuana about once a day	85.3%
Used marijuana more than once a day	86.8%

Table 3.29. Friend group among 12th graders in Pennsylvania by past-month marijuana use, 2025 (continued)

Outcomes in the past 12 months	One or more friends
How many of your four best friends have been suspended from school	
No marijuana use in the past month	8.5%
Used marijuana once or twice	19.2%
Used marijuana once or twice per week	28.3%
Used marijuana about once a day	33.8%
Used marijuana more than once a day	41.2%
How many of your four best friends have dropped out of school	
No marijuana use in the past month	3.6%
Used marijuana once or twice	7.1%
Used marijuana once or twice per week	15.4%
Used marijuana about once a day	13.2%
Used marijuana more than once a day	16.4%
How many of your four best friends have stolen or tried to steal a motor vehicle	
No marijuana use in the past month	1.6%
Used marijuana once or twice	7.7%
Used marijuana once or twice per week	10.9%
Used marijuana about once a day	4.4%
Used marijuana more than once a day	7.4%
How many of your four best friends have been arrested	
No marijuana use in the past month	3.4%
Used marijuana once or twice	10.1%
Used marijuana once or twice per week	18.5%
Used marijuana about once a day	8.8%
Used marijuana more than once a day	20.6%

In 2025, 51.4% of 12th graders in Pennsylvania who used marijuana more than once a day in the past month had ever bet or gambled for money or anything of value compared to 19.9% of those who did not use marijuana in the past month (Table 3.30). Additionally, when asked how often they gambled, 9.7% of those who used marijuana more than once a day in the past month said that they do it "regularly now" compared to 1.6% of those who did not use marijuana in the past month.

Table 3.30. Lifetime gambling among 12th graders in Pennsylvania by past-month marijuana use, 2025

Lifetime gambling	Never	Once or twice	Once in a while but not regularly	Regularly in the past	Regularly now
Have you ever bet/gambled for money or anything of value					
No marijuana use in the past month	80.1%	9.7%	7.6%	1.0%	1.6%
Used marijuana once or twice	61.4%	16.5%	15.2%	2.6%	4.3%
Used marijuana once or twice per week	52.8%	11.2%	29.2%	4.5%	2.2%
Used marijuana about once a day	58.5%	13.8%	16.9%	4.6%	6.2%
Used marijuana more than once a day	48.6%	19.4%	18.1%	4.2%	9.7%

In 2025, 28.8% of 12th graders in Pennsylvania who used marijuana more than once a day in the past month had bet or gambled for money or anything of value in the past month compared to 9.1% of those who did not use marijuana in the past month (Table 3.31). Additionally, when asked how often they gambled, 4.5% of those who used marijuana more than once a day in the past month said that they do it "more than once a day" compared to 0.3% of those who did not use marijuana in the past month.

Table 3.31. Past-month gambling among 12th graders in Pennsylvania by past-month marijuana use, 2025

Past-month gambling	Never	Once or twice	Once or twice per week	About once a day	More than once a day
How often have you bet/gambled for money or anything of value during the past 30 days					
No marijuana use in the past month	90.9%	6.8%	1.5%	0.4%	0.3%
Used marijuana once or twice	78.1%	15.4%	4.5%	0.7%	1.4%
Used marijuana once or twice per week	73.3%	18.6%	7.0%	1.2%	0.0%
Used marijuana about once a day	78.3%	11.7%	6.7%	1.7%	1.7%
Used marijuana more than once a day	71.2%	13.6%	7.6%	3.0%	4.5%

In 2025, 22.1% of 12th graders in Pennsylvania who used marijuana more than once a day bet or gambled on sporting events, sports pools, or fantasy sports in the past year compared to 7.4% of those who did not use marijuana in the past month (Table 3.32). Additionally, 26.1% of those who used marijuana more than once a day bet or gambled on the lottery compared to 7.2% of those who did not use marijuana in the past month.

Table 3.32. Types of gambling in the past year among 12th graders in Pennsylvania by past-month marijuana use, 2025

Types of gambling in the past year	Not at all	Less than once a month	1 to 3 times a month	More than 3 times a month
How often have you bet/gambled, even casually, for money or valuables in the following ways: Games such as poker, card games, dice, pool, darts				
No marijuana use in the past month	90.1%	6.5%	2.0%	1.4%
Used marijuana once or twice	76.7%	16.3%	3.7%	3.3%
Used marijuana once or twice per week	67.0%	20.5%	6.8%	5.7%
Used marijuana about once a day	79.7%	7.8%	7.8%	4.7%
Used marijuana more than once a day	74.3%	8.6%	10.0%	7.1%
How often have you bet/gambled, even casually, for money or valuables in the following ways: Lottery (scratch cards, numbers, etc.)				
No marijuana use in the past month	92.8%	5.0%	1.5%	0.7%
Used marijuana once or twice	83.6%	11.7%	2.3%	2.3%
Used marijuana once or twice per week	76.7%	14.0%	7.0%	2.3%
Used marijuana about once a day	90.6%	6.2%	3.1%	0.0%
Used marijuana more than once a day	73.9%	20.3%	0.0%	5.8%
How often have you bet/gambled, even casually, for money or valuables in the following ways: Sporting events, sports pools, or fantasy sports				
No marijuana use in the past month	92.6%	4.1%	1.9%	1.4%
Used marijuana once or twice	84.5%	8.4%	2.7%	4.4%
Used marijuana once or twice per week	73.6%	8.0%	12.6%	5.7%
Used marijuana about once a day	78.5%	9.2%	6.2%	6.2%
Used marijuana more than once a day	77.9%	5.9%	7.4%	8.8%

Table 3.32. Types of gambling in the past year among 12th graders in Pennsylvania by past-month marijuana use, 2025 (continued)

Types of gambling in the past year	Not at all	Less than once a month	1 to 3 times a month	More than 3 times a month
How often have you bet/gambled, even casually, for money or valuables in the following ways: Online (Internet) gambling				
No marijuana use in the past month	96.2%	1.8%	1.2%	0.8%
Used marijuana once or twice	86.2%	7.1%	3.0%	3.7%
Used marijuana once or twice per week	77.6%	9.4%	7.1%	5.9%
Used marijuana about once a day	89.1%	4.7%	4.7%	1.6%
Used marijuana more than once a day	78.6%	11.4%	4.3%	5.7%
How often have you bet/gambled, even casually, for money or valuables in the following ways: Video games or online gaming				
No marijuana use in the past month	93.8%	3.6%	1.4%	1.2%
Used marijuana once or twice	86.9%	7.4%	2.0%	3.7%
Used marijuana once or twice per week	77.6%	9.4%	7.1%	5.9%
Used marijuana about once a day	89.2%	0.0%	7.7%	3.1%
Used marijuana more than once a day	78.6%	5.7%	7.1%	8.6%
How often have you bet/gambled, even casually, for money or valuables in the following ways: Bet/gambled in some other way				
No marijuana use in the past month	93.7%	4.2%	1.1%	0.9%
Used marijuana once or twice	83.8%	9.1%	3.7%	3.4%
Used marijuana once or twice per week	73.3%	12.8%	8.1%	5.8%
Used marijuana about once a day	81.5%	3.1%	9.2%	6.2%
Used marijuana more than once a day	79.7%	4.3%	5.8%	10.1%

In 2025, 19.4% of 12th graders in Pennsylvania who used marijuana more than once a day in the past month said that they had ever "felt the need to bet more and more money" compared to 3.3% of those who did not use marijuana in the past month (Table 3.33).

Table 3.33. Feelings related to gambling among 12th graders in Pennsylvania by past-month marijuana use, 2025

Outcomes	Yes
Have you ever felt the need to bet more and more money	
No marijuana use in the past month	3.3%
Used marijuana once or twice	10.0%
Used marijuana once or twice per week	9.1%
Used marijuana about once a day	9.2%
Used marijuana more than once a day	19.4%
Have you ever felt the need to lie to important people (such as your family/friends) about how much you gamble?	
No marijuana use in the past month	1.2%
Used marijuana once or twice	5.0%
Used marijuana once or twice per week	3.4%
Used marijuana about once a day	1.6%
Used marijuana more than once a day	9.7%

In 2025, 23.9% of those who used marijuana more than once a day strongly agreed ("Yes!") that it is sometimes okay to cheat at school compared to 3.6% of those who did not use marijuana in the past month (Table 3.34).

Table 3.34. Perception of cheating in school among 12th graders in Pennsylvania by past-month marijuana use, 2025

Agreement with statement	No!	No	Yes	Yes!
I think sometimes it's okay to cheat at school				
No marijuana use in the past month	43.8%	32.8%	19.8%	3.6%
Used marijuana once or twice	22.7%	32.9%	33.2%	11.2%
Used marijuana once or twice per week	16.5%	25.3%	40.7%	17.6%
Used marijuana about once a day	25.4%	25.4%	40.3%	9.0%
Used marijuana more than once a day	16.4%	20.9%	38.8%	23.9%

When asked, "How many times have you done what feels good no matter what?" 29.0% of those who used marijuana more than once a day in the past month said, "once a week or more," compared to 10.1% of those who did not use marijuana in the past month (Table 3.35).

Table 3.35. Behaviors among 12th graders in Pennsylvania by past-month marijuana use, 2025

	Never	I've done it but not in the past year	Less than once a month	About once a month	2 or 3 times a month	Once a week or more
How many times have you done what feels good no matter what						
No marijuana use in the past month	45.5%	11.9%	12.7%	10.5%	9.2%	10.1%
Used marijuana once or twice	22.7%	12.7%	16.7%	18.4%	15.4%	14.0%
Used marijuana once or twice per week	19.1%	14.6%	15.7%	16.9%	19.1%	14.6%
Used marijuana about once a day	25.0%	8.8%	14.7%	14.7%	17.6%	19.1%
Used marijuana more than once a day	15.9%	10.1%	10.1%	13.0%	21.7%	29.0%
How many times have you done something dangerous because someone dared you to do it						
No marijuana use in the past month	69.6%	17.3%	7.8%	3.4%	1.1%	0.8%
Used marijuana once or twice	46.5%	23.9%	19.6%	5.3%	3.0%	1.7%
Used marijuana once or twice per week	36.3%	23.1%	12.1%	17.6%	5.5%	5.5%
Used marijuana about once a day	35.3%	30.9%	11.8%	13.2%	4.4%	4.4%
Used marijuana more than once a day	36.6%	22.5%	12.7%	16.9%	8.5%	2.8%
How many times have you done crazy things even if they are a little dangerous						
No marijuana use in the past month	58.5%	19.4%	11.4%	6.4%	2.5%	1.8%
Used marijuana once or twice	29.5%	20.9%	23.8%	13.9%	6.6%	5.3%
Used marijuana once or twice per week	17.4%	26.1%	14.1%	14.1%	18.5%	9.8%
Used marijuana about once a day	27.9%	14.7%	19.1%	14.7%	14.7%	8.8%
Used marijuana more than once a day	18.3%	21.1%	21.1%	11.3%	15.5%	12.7%

When asked how much they agree with the statement, "I like to see how much I can get away with," 19.4% of 12th graders who used marijuana more than once a day said it is "very true" compared to 2.1% of those who did not use marijuana in the past month (Table 3.36).

Table 3.36. Agreement with statements about behavior among 12th graders in Pennsylvania by past-month marijuana use, 2025

Agreement with statement	Very false	Somewhat false	Somewhat true	Very true
I like to see how much I can get away with				
No marijuana use in the past month	62.8%	24.0%	11.1%	2.1%
Used marijuana once or twice	33.8%	37.1%	23.2%	6.0%
Used marijuana once or twice per week	33.0%	23.4%	28.7%	14.9%
Used marijuana about once a day	35.7%	32.9%	25.7%	5.7%
Used marijuana more than once a day	20.8%	25.0%	34.7%	19.4%
I ignore the rules that get in my way				
No marijuana use in the past month	67.7%	22.6%	8.3%	1.4%
Used marijuana once or twice	43.4%	32.2%	20.7%	3.6%
Used marijuana once or twice per week	28.7%	24.5%	34.0%	12.8%
Used marijuana about once a day	38.6%	32.9%	24.3%	4.3%
Used marijuana more than once a day	24.7%	26.0%	38.4%	11.0%
I do the opposite of what people tell me, just to get them mad				
No marijuana use in the past month	73.2%	18.7%	6.3%	1.8%
Used marijuana once or twice	59.7%	24.1%	11.9%	4.3%
Used marijuana once or twice per week	54.7%	15.8%	20.0%	9.5%
Used marijuana about once a day	57.1%	27.1%	12.9%	2.9%
Used marijuana more than once a day	43.8%	34.2%	13.7%	8.2%

In 2025, 45.8% of 12th graders who used marijuana more than once a day said that they felt tired or sleepy every day compared to 32.1% of those who did not use marijuana (Table 3.37).

Table 3.37. Tiredness among 12th graders in Pennsylvania by past-month marijuana use, 2025

	Never	Once	Twice	Several times	Every day
In the last two weeks, how often have you felt tired or sleepy during the day					
No marijuana use in the past month	7.4%	9.3%	14.5%	36.7%	32.1%
Used marijuana once or twice	1.7%	5.3%	13.9%	35.8%	43.4%
Used marijuana once or twice per week	1.1%	5.4%	11.8%	26.9%	54.8%
Used marijuana about once a day	1.5%	6.1%	10.6%	36.4%	45.5%
Used marijuana more than once a day	9.7%	4.2%	13.9%	26.4%	45.8%

Utah Student Health and Risk Prevention Survey

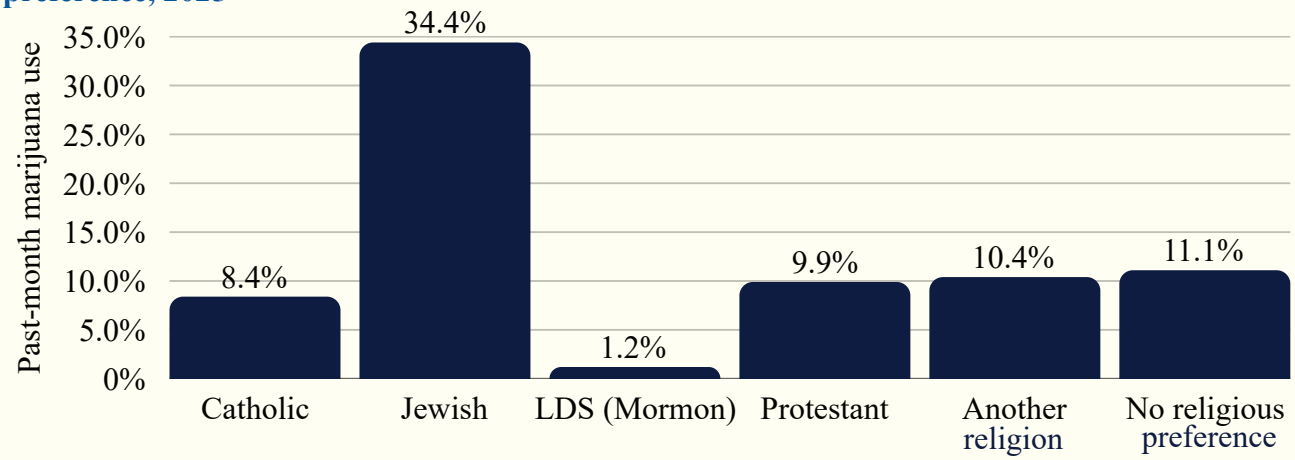
In 2025, the Utah Student Health and Risk Prevention (SHARP) survey found that 4.9% of 12th graders in Utah who used marijuana in the past month had been arrested at least once in the past year compared to 0.6% of those who did not use marijuana in the past month (Table 3.38).[32] The SHARP survey also found that 16.8% of 12th graders who used marijuana in the past month had been suspended from school at least once in the past year compared to 3.5% of those who did not use marijuana in the past month. Additionally, 46.9% of those who used marijuana in the past month had been drunk or high at school in the past year compared to 1.3% of those who did not use marijuana in the past month.

Table 3.38. Outcomes in the past year among 12th graders in Utah by past-month marijuana use, 2025

Past-year outcomes	At least once
Suspended from school	
No past-month marijuana use	3.5%
Past-month marijuana use	16.8%
Carried a gun	
No past-month marijuana use	5.6%
Past-month marijuana use	13.5%
Sold illegal drugs	
No past-month marijuana use	0.4%
Past-month marijuana use	12.0%
Been arrested	
No past-month marijuana use	0.6%
Past-month marijuana use	4.9%
Attacked someone with the idea of seriously hurting them	
No past-month marijuana use	1.8%
Past-month marijuana use	9.5%
Were drunk or high at school	
No past-month marijuana use	1.3%
Past-month marijuana use	46.9%
Took a handgun to school	
No past-month marijuana use	0.2%
Past-month marijuana use	0.9%

When asked about their religious preference, 34.4% of 12th graders in Utah who selected "Jewish" used marijuana in the past month compared to 1.2% of those who said the Church of Jesus Christ of Latter-day Saints (Mormon) (Figure 3.36). The SHARP survey also found that 11.1% of those who did not have a religious preference used marijuana in the past month. As a note of caution, some would have been based on smaller sample sizes (e.g., 12th-grade Jewish students in Utah).

Figure 3.36. Past-month marijuana use among 12th graders in Utah by religious preference, 2025



When asked how often in the past 7 days they "felt isolated from others," 13.3% of 12th graders who used marijuana in the past month said, "always," compared to 6.0% of those who did not use marijuana in the past month (Table 3.39).

Table 3.39. Feelings among 12th graders in Utah by past-month marijuana use, 2025

Past-week outcomes	Never	Rarely	Sometimes	Often	Always
In the past seven days, I have felt left out					
No past-month marijuana use	31.9%	27.0%	24.0%	12.9%	4.2%
Past-month marijuana use	24.5%	28.3%	25.7%	15.8%	5.8%
In the past seven days, I have felt that people barely know me					
No past-month marijuana use	36.5%	22.8%	21.0%	13.3%	6.4%
Past-month marijuana use	25.2%	20.3%	23.8%	17.0%	13.6%
In the past seven days, I have felt isolated from others					
No past-month marijuana use	37.3%	22.8%	20.9%	13.0%	6.0%
Past-month marijuana use	23.2%	22.0%	22.7%	18.9%	13.3%
In the past seven days, I have felt that people are around me but not with me					
No past-month marijuana use	35.1%	21.5%	20.8%	15.4%	7.2%
Past-month marijuana use	23.7%	21.1%	20.7%	19.3%	15.2%

When asked how wrong it would be to pick a fight with someone, 16.3% of 12th graders who used marijuana in the past month said it would be "very wrong" compared to 33.5% of those who did not use marijuana in the past month (Table 3.40).

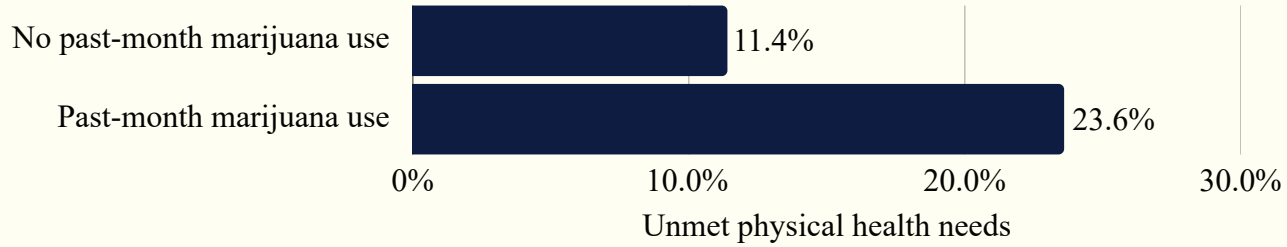
Table 3.40. Perceived wrongness of various behaviors among 12th graders in Utah by past-month marijuana use, 2025

Attitudes	Very wrong	Wrong	A little bit wrong	Not wrong at all
Take a handgun to school				
No past-month marijuana use	90.3%	7.5%	1.8%	0.4%
Past-month marijuana use	92.5%	5.7%	1.5%	0.3%
Steal anything worth more than $5				
No past-month marijuana use	42.0%	42.7%	14.3%	1.1%
Past-month marijuana use	18.0%	42.9%	34.0%	5.1%
Pick a fight with someone				
No past-month marijuana use	33.5%	46.3%	18.9%	1.3%
Past-month marijuana use	16.3%	47.5%	31.5%	4.6%
Attack someone with the idea of seriously hurting them				
No past-month marijuana use	82.2%	15.4%	2.0%	0.3%
Past-month marijuana use	66.0%	27.0%	6.2%	0.8%
Stay away from school all day when their parents/caregivers think they are at school				
No past-month marijuana use	32.2%	40.6%	24.4%	2.8%
Past-month marijuana use	17.2%	38.0%	38.6%	6.2%
Drink beer, wine, or hard liquor regularly				
No past-month marijuana use	71.0%	21.8%	6.0%	1.2%
Past-month marijuana use	32.2%	35.0%	27.0%	5.8%
Smoke cigarettes				
No past-month marijuana use	72.2%	22.6%	4.4%	0.9%
Past-month marijuana use	39.4%	35.6%	20.3%	4.6%
Smoke marijuana				
No past-month marijuana use	66.6%	21.3%	9.9%	2.3%
Past-month marijuana use	10.1%	25.3%	41.8%	22.8%
Use LSD, cocaine, amphetamines, or another illegal drug				
No past-month marijuana use	88.8%	9.5%	1.3%	0.4%
Past-month marijuana use	67.9%	23.0%	6.7%	2.4%

Oregon Student Health Survey

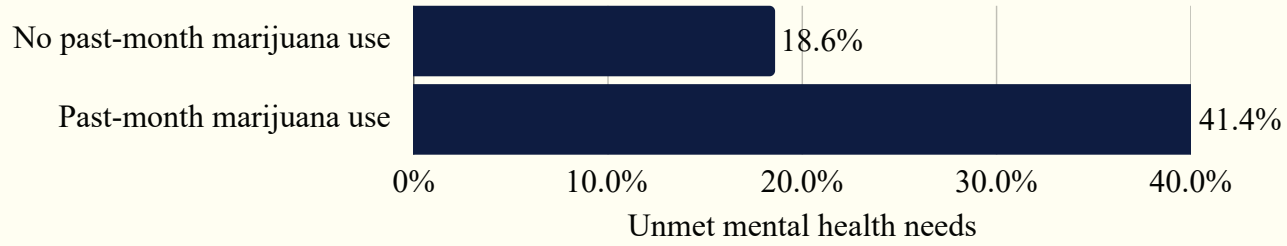
The Oregon Student Health Survey included approximately 63,000 students in grades 6, 8, and 11. The survey asked, "During the past year, did you have any physical health care needs that were not met? (Count any situation where you thought you should see a doctor, nurse, or other health professional)." Among 11th graders, 23.6% of those who used marijuana in the past month and 11.4% of those who did not answered "yes" (Figure 3.37).[33]

Figure 3.37. Unmet physical health needs among 11th graders in Oregon by past-month marijuana use, 2025



Likewise, the survey asked, "During the past year, did you have any emotional or mental health care needs that were not met? (Count any situation where you thought you should see a counselor, social worker, or other mental health professional)." Among 11th graders, 41.4% of those who used marijuana in the past month and 18.6% of those who did not answered "yes" (Figure 3.38).

Figure 3.38. Unmet mental health needs among 11th graders in Oregon by past-month marijuana use, 2025



In 2025, 66.0% of 11th graders who said they used marijuana in the past month had a medical check-up when they were not sick or injured in the past year compared to 74.4% of those who did not use marijuana in the past month (Table 3.41).

Table 3.41. Last health check-up among 11th graders in Oregon by past-month marijuana use, 2025

	Never	More than 2 years ago	Between 1 and 2 years ago	During the past year
When did you last go to a doctor or nurse practitioner for a check-up when you were not sick or injured?				
No past-month marijuana use	3.0%	6.2%	16.4%	74.4%
Past-month marijuana use	4.3%	9.4%	20.3%	66.0%

* = Table 3.41 does not include those who answered, "I am not sure," "I don't know what this question is asking," or "I prefer not to answer."

In 2025, 51.9% of 11th graders who used marijuana in the past month said that they had difficulty concentrating, remembering, or making decisions due to a condition compared to 26.0% of those who did not use marijuana in the past month (Table 3.42).

Table 3.42. Disabilities among 11th graders in Oregon by past-month marijuana use, 2025

	No	Yes
Are you deaf or do you have serious difficulty hearing?		
No past-month marijuana use	98.3%	1.7%
Past-month marijuana use	94.5%	5.5%
Are you blind or do you have serious difficulty seeing, even when wearing glasses?		
No past-month marijuana use	96.1%	3.9%
Past-month marijuana use	91.0%	9.0%
Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions?		
No past-month marijuana use	74.0%	26.0%
Past-month marijuana use	48.1%	51.9%
Do you have serious difficulty walking or climbing stairs?		
No past-month marijuana use	98.0%	2.0%
Past-month marijuana use	93.1%	6.9%
Do you have difficulty dressing or bathing?		
No past-month marijuana use	99.2%	0.8%
Past-month marijuana use	95.0%	5.0%

* = Table 3.42 does not include those who answered, "I am not sure," "I don't know what this question is asking," or "I prefer not to answer."

When asked, "Are you in a Special Education program, have a 504 plan, or an IEP (Individual Education Program)?" 27.1% of 11th graders who used marijuana in the past month answered "yes" compared to 17.3% of those who did not use marijuana in the past month (Table 3.43).

Table 3.43. Special education program enrollment among 11th graders in Oregon by past-month marijuana use, 2025

	No	Yes
Are you in a Special Education program, have a 504 plan, or an IEP (Individual Education Program)		
No past-month marijuana use	82.7%	17.3%
Past-month marijuana use	72.9%	27.1%

* = Table 3.43 does not include those who answered, "I am not sure," "I don't know what this question is asking," or "I prefer not to answer."

When asked how much trust they have in their family, 56.5% of 11th graders who used marijuana in the past month said, "a lot of trust," compared to 75.0% of those who did not use marijuana in the past month (Table 3.44).

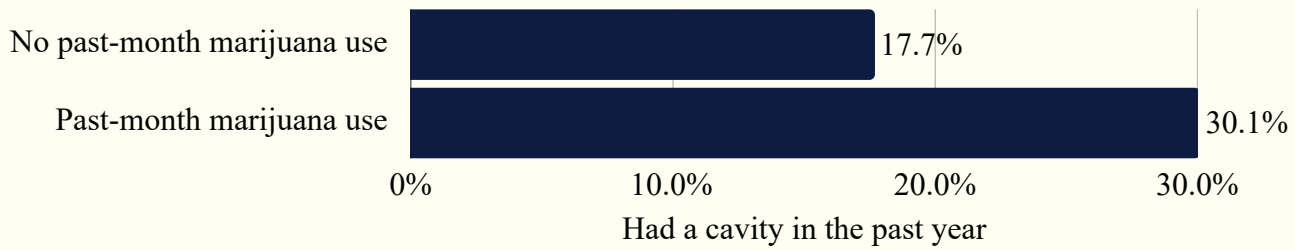
Table 3.44. Trust among 11th graders in Oregon by past-month marijuana use, 2025

	No trust at all	A little trust	Some trust	A lot of trust
How much trust do you have in your family?				
No past-month marijuana use	1.2%	4.5%	19.4%	75.0%
Past-month marijuana use	3.9%	9.7%	30.0%	56.5%
How much trust do you have in your neighbors?				
No past-month marijuana use	26.5%	36.1%	28.6%	8.8%
Past-month marijuana use	39.0%	35.4%	19.5%	6.1%
How much trust do you have in schools?				
No past-month marijuana use	11.3%	32.2%	45.6%	10.9%
Past-month marijuana use	21.2%	40.9%	32.5%	5.4%
How much trust do you have in health care?				
No past-month marijuana use	4.5%	17.1%	45.2%	33.2%
Past-month marijuana use	9.3%	23.9%	41.9%	24.9%
How much trust do you have in police?				
No past-month marijuana use	11.4%	22.0%	41.2%	25.5%
Past-month marijuana use	27.5%	32.6%	27.2%	12.7%
How much trust do you have in government?				
No past-month marijuana use	35.4%	33.5%	25.2%	5.9%
Past-month marijuana use	57.5%	26.4%	14.0%	2.0%

* = Table 3.44 does not include those who answered, "I am not sure," "I don't know what this question is asking," or "I prefer not to answer."

In 2025, 30.1% of 11th graders who used marijuana in the past month said that they had a cavity in the past year compared to 17.7% of those who did not use marijuana in the past month (Figure 3.39).

Figure 3.39. Had a cavity among 11th graders in Oregon by past-month marijuana use, 2025



Chapter 4. Marijuana-Related Mortality

Between 1999 and 2024, 21,106 death records in the United States included marijuana poisoning (ICD-10 code T40.7), a marijuana-related disorder (ICD-10 code F12), or both, as the underlying or contributing cause of death, according to the CDC's WONDER database.[1] Among these deaths, 3,340 involved individuals aged 24 or younger. The number of marijuana-related deaths among individuals aged 24 or younger increased from 29 in 1999 to 187 in 2024.

Among the 3,340 marijuana-related deaths involving individuals aged 24 or younger between 1999 and 2024, 1,745 recorded poisoning as the underlying cause of death, while motor vehicle crashes were the underlying cause of 627 deaths and firearms were the underlying cause of 341 deaths.

Notably, even if a death certificate does not record a marijuana-related condition as the underlying or contributing cause of death, marijuana may nevertheless be involved in the death. Missouri reported that marijuana was detected in the toxicology tests of 25.0% of the overdose deaths that were classified as unintentional or had an undetermined intent in 2023, yet it was recorded as a cause of death in 0.6%.[2]

Among decedents of any age in the United States who were tested for marijuana in 2022, 57.7% of those who died by homicide tested positive for marijuana, according to a study led by the CDC that was based on data in the National Violent Death Reporting System.[3] The study also found that 28.5% of those who died by suicide and were tested for marijuana tested positive. Likewise, the Massachusetts Violent Death Reporting System noted that 51.9% (241) of the 464 homicide deaths and 20.6% (361) of the 1,754 suicide deaths in the state between 2019 and 2021 had a toxicology test that was positive for marijuana.[4]

In Colorado, the percentage of non-natural, non-homicide deaths among residents younger than 25 with toxicology tests that were positive for marijuana increased from 15.0% in 2010 to 37.9% in 2023.[5] Over this period, more than 1,000 decedents tested positive for marijuana. Of note, the state cautioned that "the presence of THC does not imply causation or intoxication at the time of death, necessitating a nuanced interpretation of toxicology results."[6]

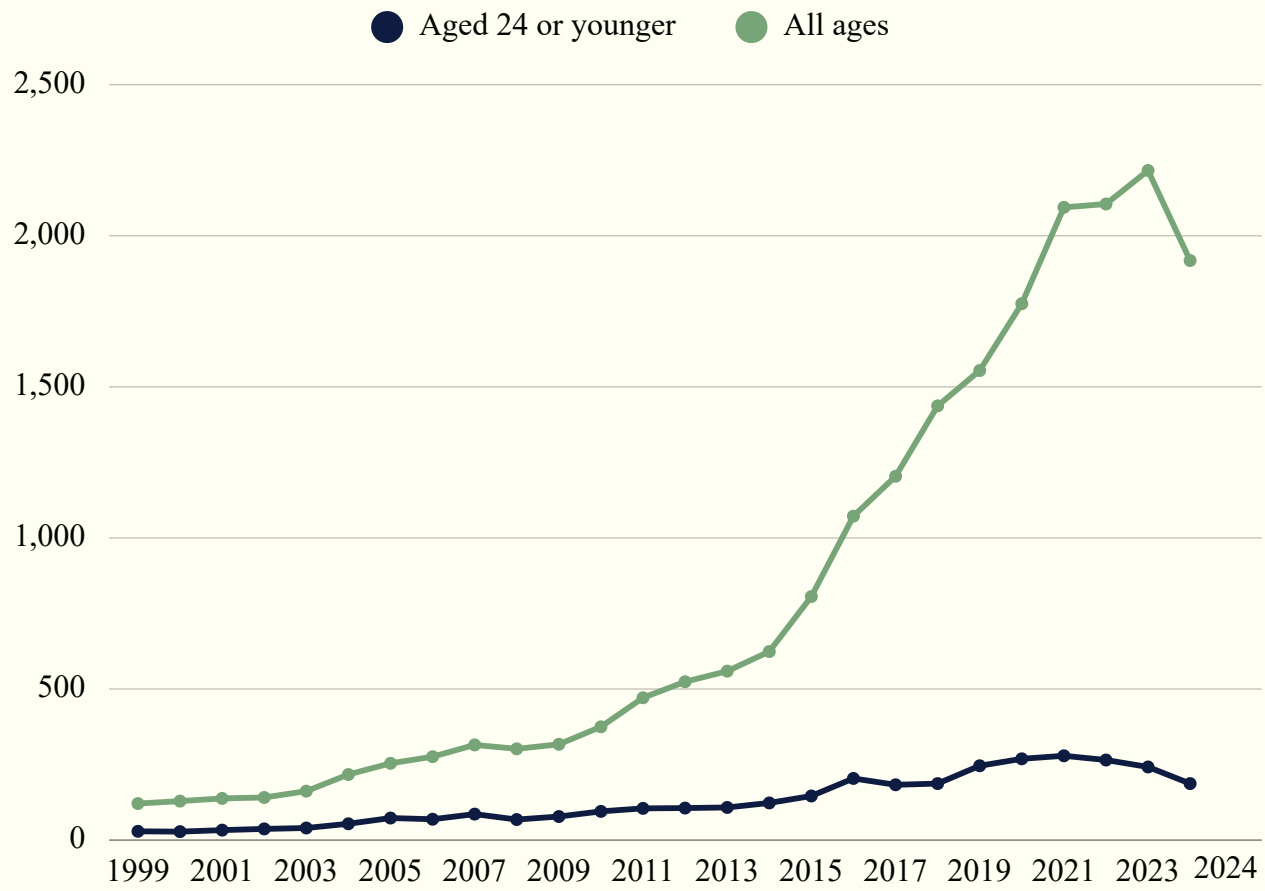
Between 2015 and 2023, there were 1,024 suicide deaths in Minnesota among individuals between the ages of 0 and 24; 15.1% (155) tested positive for marijuana.[7] Over this period, marijuana was present in 15.0% of the suicide deaths among White individuals in this age group compared to 22.8% of the suicide deaths among Black individuals in this age group.

A. National Estimates

Between 1999 and 2024, 21,106 deaths recorded marijuana poisoning (ICD-10 code T40.7), a mental or behavioral disorder due to marijuana (ICD-10 code F12), or both as the underlying or contributing cause of death, according to the CDC's WONDER database.[8] The WONDER database includes information that was recorded on death certificates, such as demographics and the causes of death.

Among these 21,106 marijuana-related deaths, 3,340 involved individuals aged 24 or younger—24 is often used to define the upper threshold for the category of adolescents and young adults. The number of marijuana-related deaths among individuals aged 24 or younger increased from 29 in 1999 to 187 in 2024, peaking at 279 in 2021 (Figure 4.1).

Figure 4.1. Marijuana-related deaths, 1999–2024



Background

Every death certificate includes one underlying cause of death and up to twenty contributing causes of death. The CDC, as well as the World Health Organization, defines the underlying cause of death as "the disease or injury which initiated the train of morbid events leading directly to death or the circumstances of the accident or violence which produced the fatal injury."[9,10] The CDC also explained that "any cause of death that is neither the direct, intervening, originating antecedent nor underlying is a contributory cause of death."[11] Death certificates are completed by medical professionals (e.g., physicians and medical examiners).

The ICD-10 code T40.7 is used to identify marijuana poisoning. It is typically recorded alongside the codes for overdose deaths and cannot be the underlying cause of death. The ICD-10 code F12 is used to identify mental and behavioral disorders due to the use of cannabinoids. F12 can be recorded as the underlying or contributing cause of death. F12 includes conditions such as harmful use (F12.1), dependence (F12.2), withdrawal (F12.3), withdrawal with delirium (F12.4), and psychotic disorder (F12.5), among others.

The CDC includes mental and behavioral disorders due to the use of cannabinoids in its list of drug-induced conditions.[12] Of note, the CDC includes only F12.1–F12.5 and F12.7–F12.9 in this list. F12.0 is for acute intoxication; it was recorded in 19 deaths between 1999 and 2005 and in 0 since then. The CDC removed F12.0, as well as the codes for acute intoxication from other substances (e.g., F11.0 for opioids) in 2009 in favor of the standard codes for poisoning. F12.6 is for amnesic syndrome and was not recorded in any deaths between 1999 and 2024.

Various states also include F12 codes in their categories for drug-induced deaths. New Jersey and Missouri include F12.1–F12.5 and F12.7–F12.9, following the CDC's current approach.[13,14] Arizona includes F12.0–F12.9, while California includes F12.0–F12.5 and F12.7–F12.9.[15,16] The minor differences between the states are negligible because F12.0 and F12.6 have not been recorded in any deaths throughout the nation in recent years.

The Department of Health and Human Services' Healthy People 2020 and the White House's 2010 National Drug Control Strategy (NDCS) adopted goals related to the number of drug-induced deaths, which were based on the CDC's estimate of drug-induced deaths and included F12 codes.[17,18] However, subsequent versions of the NDCS, in addition to Healthy People 2030, narrowed their focus to the number of drug overdose deaths.[19] Drug-induced deaths continue to be referenced in the White House's Drug Control Data Dashboard.[20]

Additionally, citing WONDER, the Adult Use Cannabis Health Advisory Committee for the state of Illinois reported the number of overdose deaths that recorded marijuana poisoning as a contributing cause of death.[21] More broadly, the Ministry of Health of Australia's New South Wales includes the codes of F12, as either the underlying or contributing cause of death, and T40.7 in its category for drug-related deaths.[22] A July 2026 article in the *Drug Report* estimated the number of marijuana-related deaths in the United States using the T40.7 and F12 codes.[23]

Between 1999 and 2024, there were 21,106 marijuana-related deaths, of which 14,074 recorded marijuana poisoning as a contributing cause of death, 7,954 recorded a marijuana-related disorder as the underlying or contributing cause of death, and 922 recorded both (Table 4.1).[24]

Table 4.1. Marijuana-related deaths among individuals of all ages, 1999–2024

Year	Marijuana poisoning as a contributing cause	Marijuana-related disorder as the underlying cause	Marijuana-related disorder as the underlying or contributing cause	Marijuana poisoning with a marijuana-related disorder as the underlying or contributing cause	Marijuana poisoning and/or a marijuana-related disorder as the underlying or contributing cause
Total	**14,074**	**252**	**7,954**	**922**	**21,106**
1999	49	*	73	*	121
2000	61	*	68	*	129
2001	58	*	81	*	138
2002	70	*	72	*	141
2003	88	*	75	*	162
2004	122	*	97	*	217
2005	141	*	118	*	254
2006	162	*	117	*	276
2007	177	*	139	*	315
2008	169	*	136	*	302
2009	170	*	151	*	317
2010	261	*	116	*	375
2011	312	*	165	*	471
2012	343	*	193	12	524
2013	388	*	180	*	559
2014	421	*	218	15	624
2015	560	13	277	31	806
2016	717	10	387	32	1,072
2017	862	23	379	37	1,204
2018	1,036	13	479	78	1,437
2019	1,101	20	517	64	1,554
2020	1,302	21	595	122	1,775
2021	1,450	20	801	157	2,094
2022	1,419	19	806	120	2,105
2023	1,437	25	890	111	2,216
2024	1,198	35	824	104	1,918

* = suppressed when the number of deaths was between 1 and 9.

Between 1999 and 2024, there were 3,340 marijuana-related deaths among individuals aged 24 or younger, of which 2,375 recorded marijuana poisoning as a contributing cause of death, 1,073 recorded a marijuana-related disorder as the underlying or contributing cause of death, and 108 recorded both (Table 4.2).

Table 4.2. Marijuana-related deaths among individuals aged 24 or younger, 1999–2024

Year	Marijuana poisoning as a contributing cause	Marijuana-related disorder as the underlying cause	Marijuana-related disorder as the underlying or contributing cause	Marijuana poisoning with a marijuana-related disorder as the underlying or contributing cause	Marijuana poisoning and/or a marijuana-related disorder as the underlying or contributing cause
Total	**2,375**	**35**	**1,073**	**108**	**3,340**
1999	13	*	16	0	29
2000	16	*	12	0	28
2001	12	0	21	0	33
2002	20	0	17	0	37
2003	22	0	18	0	40
2004	33	*	21	0	54
2005	42	0	33	*	73
2006	47	*	23	*	69
2007	48	0	38	0	86
2008	43	*	26	*	68
2009	49	*	29	0	78
2010	71	0	24	0	95
2011	75	*	31	*	105
2012	75	*	33	*	106
2013	81	*	28	*	108
2014	92	*	34	*	123
2015	104	*	47	*	146
2016	143	*	70	*	204
2017	147	*	44	*	183
2018	151	*	46	10	187
2019	181	*	74	*	246
2020	206	*	74	11	269
2021	205	0	89	15	279
2022	192	*	86	13	265
2023	171	*	78	*	242
2024	136	*	61	10	187

* = suppressed when the number of deaths was between 1 and 9.

Underlying Cause of Death

Table 4.3 summarizes the number of marijuana-related deaths by the leading injury and non-injury underlying causes of death. Among the 3,340 marijuana-related deaths involving individuals aged 24 or younger between 1999 and 2024, 1,745 recorded poisoning as the underlying cause of death.[25] Motor vehicle crashes were the underlying cause of 627 deaths, while firearms were the underlying cause of 341 deaths.

Table 4.3. Marijuana-related deaths by the leading injury and non-injury underlying cause of death among individuals aged 24 or younger, 1999–2024

Underlying cause of death	Number	Percentage of total
Total	**3,340**	**100%**
Poisoning	1,745	52.2%
Motor vehicle crashes	627	18.8%
Firearm	341	10.2%
Suffocation	128	3.8%
Non-injury: All other diseases (residual)	100	3.0%
Drowning	89	2.7%
Non-injury: Diseases of heart	57	1.7%
Fall	42	1.3%
Non-injury: Chronic lower respiratory diseases	22	0.7%
Cut/pierce	21	0.6%
Fire/flame	18	0.5%
Natural/environmental	14	0.4%
Remaining categories, including suppressed categories	136	N/A

National Violent Death Reporting System

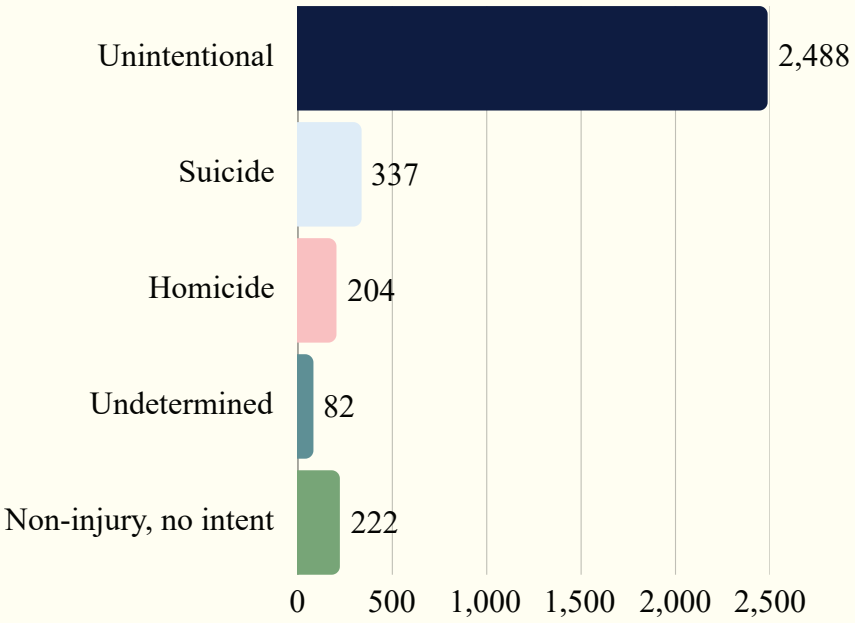
A 2025 study from the CDC, citing data in the National Violent Death Reporting System, noted that toxicology tests found that marijuana was present in many decedents whose deaths were classified as homicide, suicide, legal intervention, or undetermined intent in the 50 states and Washington, DC, in 2022:[26]

- Among 22,395 homicide deaths, 46.4% (10,386) were tested for marijuana, of which 57.7% (5,988) were positive.
- Among 44,917 suicide deaths, 35.6% (15,999) were tested for marijuana, of which 28.5% (4,555) were positive.
- Among 1,014 legal intervention deaths (e.g., a person killed by a law enforcement officer who was acting in the line of duty), 54.6% (554) were tested for marijuana, of which 50.5% (280) were positive.
- Among 5,292 deaths with an undetermined intent, 34.9% (1,849) were tested for marijuana, of which 31.4% (580) were positive.

Intent

Among the 3,340 marijuana-related deaths among individuals aged 24 or younger that occurred between 1999 and 2024, 2,488 were unintentional, 337 were suicides, 204 were homicides, 82 had an undetermined intent, and 222 were non-injuries with no classified intent (Figure 4.2).[27] Of note, the number of marijuana-related deaths within the category of legal intervention (e.g., a police shooting of someone with marijuana-induced psychosis) was suppressed in WONDER because it was between 1 and 9.

Figure 4.2. Marijuana-related deaths among individuals aged 24 or younger by intent, 1999–2024



The number of marijuana-related deaths among individuals aged 24 or younger that were classified as unintentional was 141 in 2018, peaked at 220 in 2021, and was 135 in 2024 (Figure 4.3). The number of marijuana-related deaths that were classified as suicides was 25 in 2018, peaked at 34 in 2019, and was 26 in 2024. Of note, the numbers for non-injuries in 2020 and homicides in 2018 and 2024 were suppressed.

Figure 4.3. Marijuana-related deaths among individuals aged 24 or younger by intent, 2018–2024

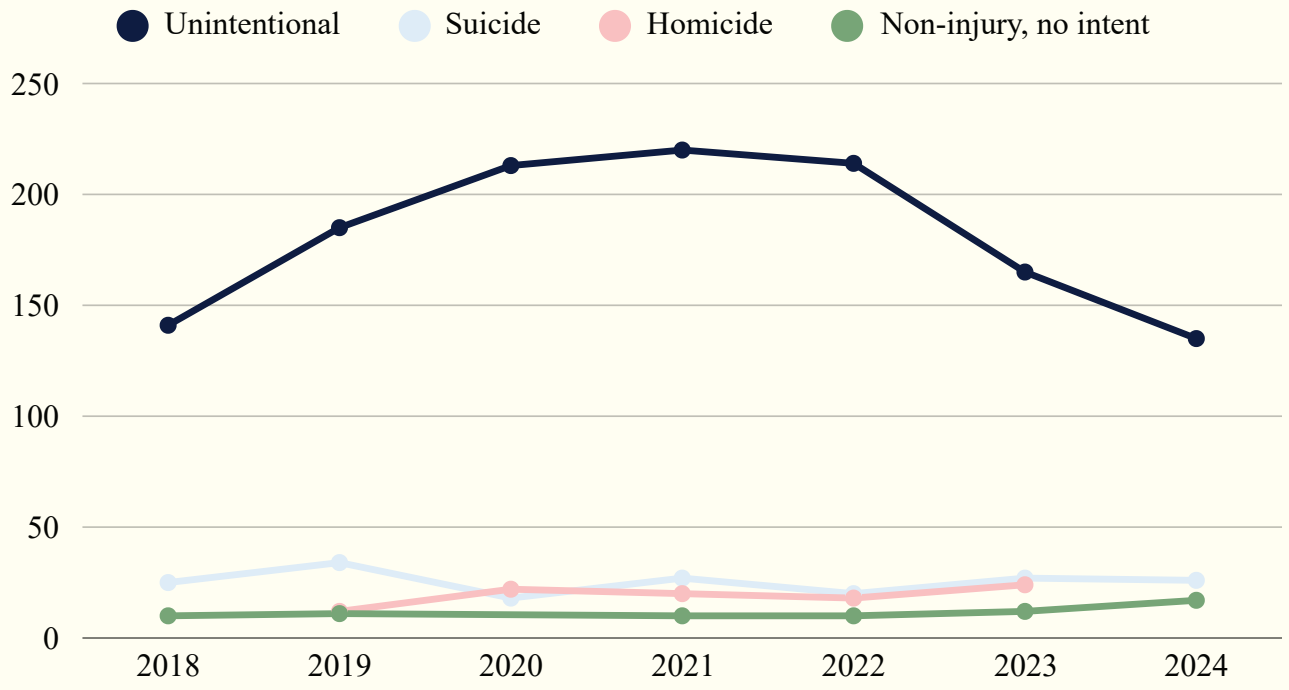
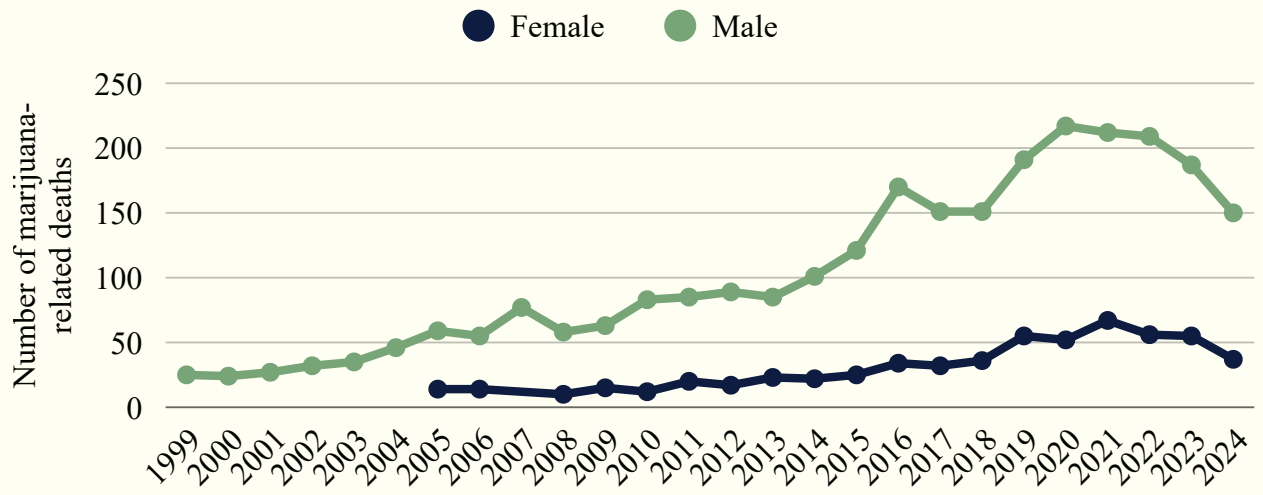


Figure 4.4. Marijuana-related deaths among individuals aged 24 or younger by sex, 1999–2024



Sex

Between 1999 and 2024, the number of marijuana-related deaths among males aged 24 or younger increased from 25 to 150, peaking at 217 in 2020 (Figure 4.4). Likewise, among females aged 24 or younger, the number of marijuana-related deaths increased from 14 in 2005 to 37 in 2024, peaking at 67 in 2021. Of note, the years 1999–2004 and 2007 were suppressed for females because there were 1–9 deaths each year.

In 2024, the crude rate of marijuana-related deaths among males aged 24 or younger was 0.3 per 100,000, while the rate among females aged 24 or younger was 0.1 per 100,000 (Figure 4.5).

Among marijuana-related deaths involving individuals aged 24 or younger in 2024, males accounted for 80.2%, while females accounted for 19.8% (Figure 4.6).

Figure 4.5. Rate of marijuana-related deaths among individuals aged 24 or younger by sex, 2024

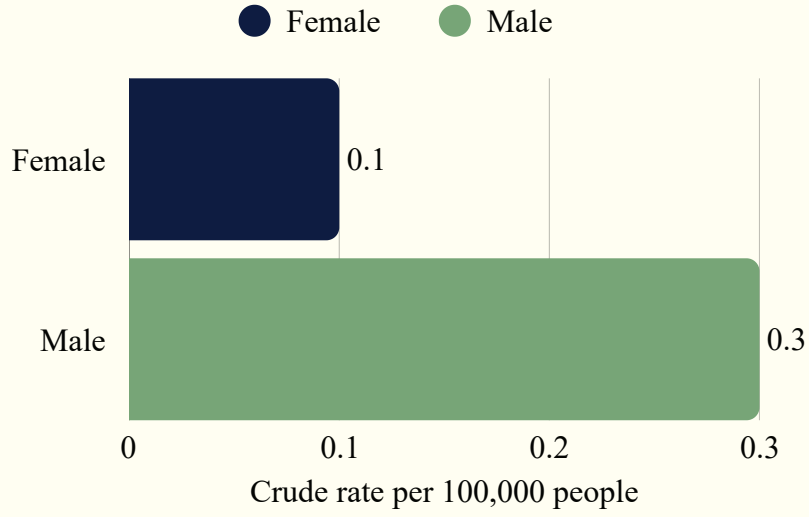


Figure 4.6. Percentage of marijuana-related deaths among individuals aged 24 or younger by sex, 2024

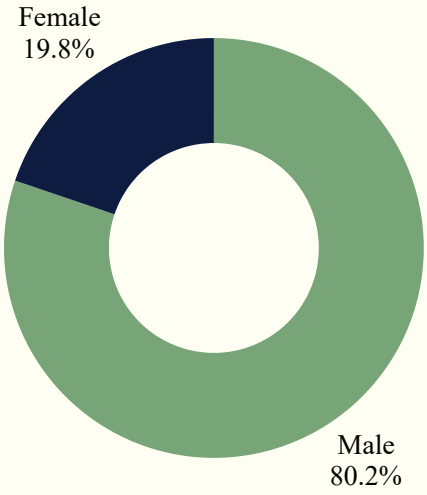
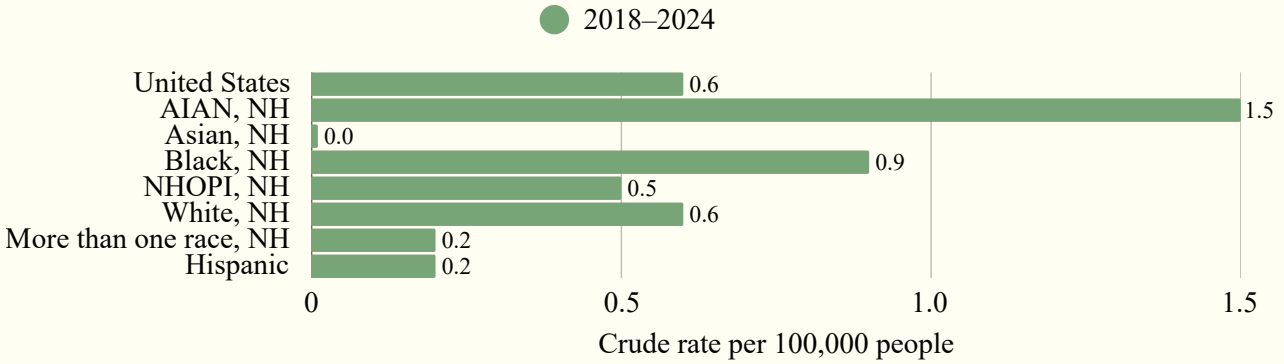


Figure 4.7. Crude rate of marijuana-related deaths among individuals of all ages by race and Hispanic origin, 2018–2024



Notes: NH = non-Hispanic. NHOPI = Native Hawaiian or Other Pacific Islander. Individuals were not included in Figure 4.7 if their death certificate did not indicate whether they were Hispanic. The number of individuals not included between 2018 and 2024 was 48 out of 13,099.

Race

Between 2018 and 2024, the crude rate of marijuana-related deaths among individuals of all ages, not only 24 or younger, was highest for the American Indian or Alaska Native (AIAN) population, at 1.5 deaths per 100,000 people, and lowest for the Asian population, at 0.0 deaths per 100,000 people (Figure 4.7). During that time period, there were 13,099 marijuana-related deaths, corresponding to a nationwide average of 0.6 per 100,000 people.

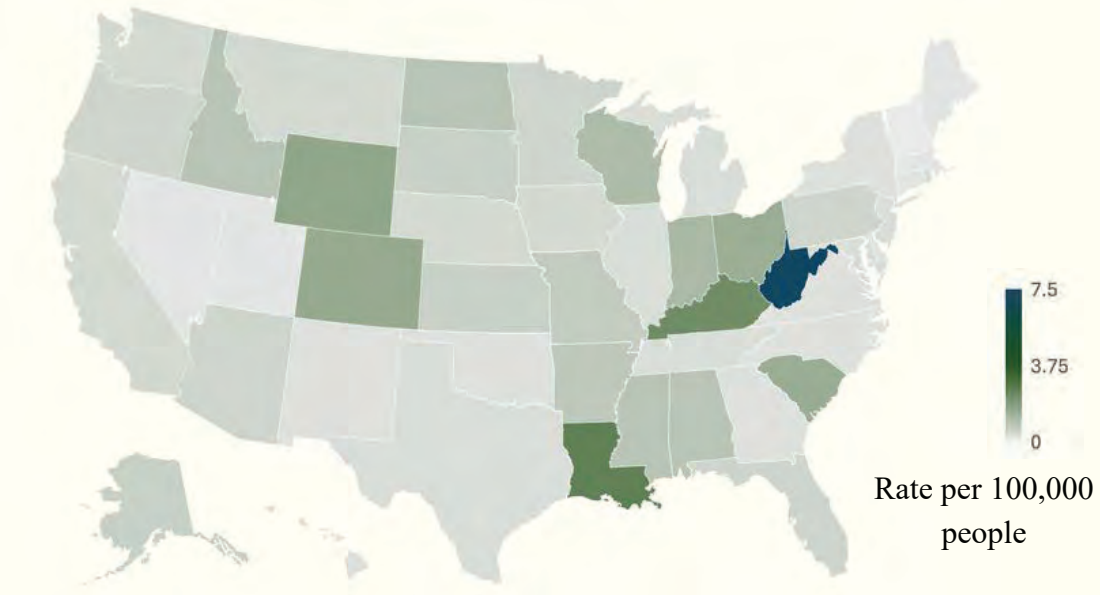
By 2018, all states had adopted the 2003 revision of the U.S. Standard Certificate of Death, which provides greater specificity in reporting the decedent's race (e.g., Vietnamese instead of "Asian"). Table 4.4 presents the number of marijuana-related deaths by these racial categories between 2018 and 2024, regardless of Hispanic ethnicity, for individuals of all ages.

Table 4.4. Number of marijuana-related deaths among individuals of all ages by race, 2018–2024

Race	2018–2024
Total	**13,099**
White	9,981
Black	2,600
AIAN	275
Asian	64
Asian Indian	11
Chinese	0
Filipino	*
Japanese	*
Korean	10
Vietnamese	13
Other Asian	16
NHOPI	25
Hawaiian	*
Guamanian	*
Samoan	*
Other Pacific Islander	10
More than one race	154
Black and White	60
AIAN and White	38
Asian and White	19
Remaining racial combinations	37

* = suppressed when the number of deaths was between 1 and 9.

Figure 4.8. Crude rate of marijuana-related deaths by jurisdiction among individuals of all ages, 2018–2024



Jurisdiction

Between 2018 and 2024, the five states with the highest reported rates of marijuana-related deaths for individuals of any age were West Virginia (7.5 deaths per 100,000 people), Louisiana (2.6), Kentucky (2.3), Wyoming (1.7), and Colorado (1.6) (Figures 4.8 and 4.9). The five states with the lowest reported rates were Connecticut, Maine, Massachusetts, Nevada, and Utah, all with a rate of 0.1 deaths per 100,000 people.

However, this geographic trend may partly reflect the fact that many of these states also had the highest rates of drug overdose deaths—from any drug—rather than that they had the highest rates of marijuana use. Between 2018 and 2024, West Virginia was the state with the highest rate of drug overdose deaths, while Kentucky had the 4th highest rate and Louisiana had the 6th highest. Even so, states like Wyoming and Wisconsin were below the national average for the rate of drug overdose deaths, suggesting that this trend may also be influenced by differences in death investigations and cause-of-death coding practices across states.

Figure 4.9. States with the highest crude rates of marijuana-related deaths among individuals of all ages, 2018–2024

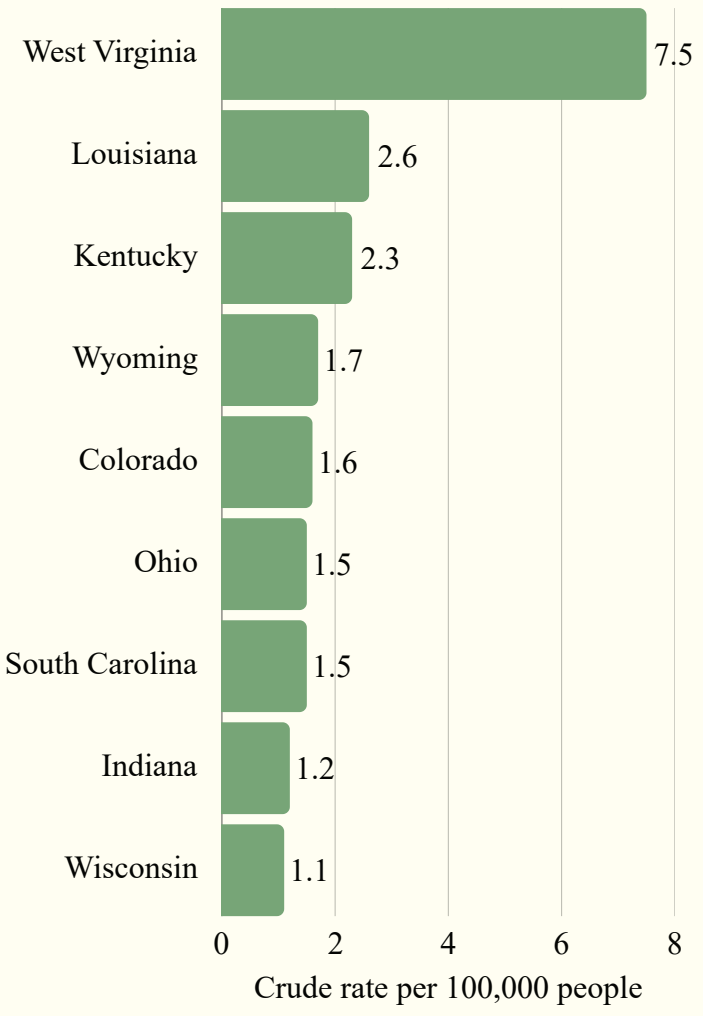


Table 4.5 summarizes the number of marijuana-related deaths between 1999 and 2024 by jurisdiction among individuals of all ages. Among the 21,106 deaths that occurred throughout the 50 states and the District of Columbia, 2,297 occurred in Ohio, while 2,019 occurred in California.

Table 4.5. Marijuana-related deaths by jurisdiction among individuals of all ages, 1999–2024

Jurisdiction	Marijuana-related deaths, 1999–2024	Rate of marijuana-related deaths per 100,000 people, 2018–2024
Total	**21,106**	**0.6**
Alabama	366	0.9
Alaska	47	0.6
Arizona	332	0.5
Arkansas	297	0.8
California	2,019	0.4
Colorado	964	1.6
Connecticut	34	0.1
Delaware	22	0.2
District of Columbia	49	0.7
Florida	1,081	0.5
Georgia	260	0.2
Hawaii	41	0.2
Idaho	170	0.9
Illinois	470	0.3
Indiana	848	1.2
Iowa	334	0.4
Kansas	275	0.6
Kentucky	991	2.3
Louisiana	1,141	2.6
Maine	19	0.1
Maryland	146	0.3
Massachusetts	79	0.1
Michigan	397	0.3
Minnesota	349	0.5
Mississippi	271	0.9

(The table continues on the next page)

Table 4.5. Marijuana-related deaths by jurisdiction among individuals of all ages, 1999–2024 (continued)

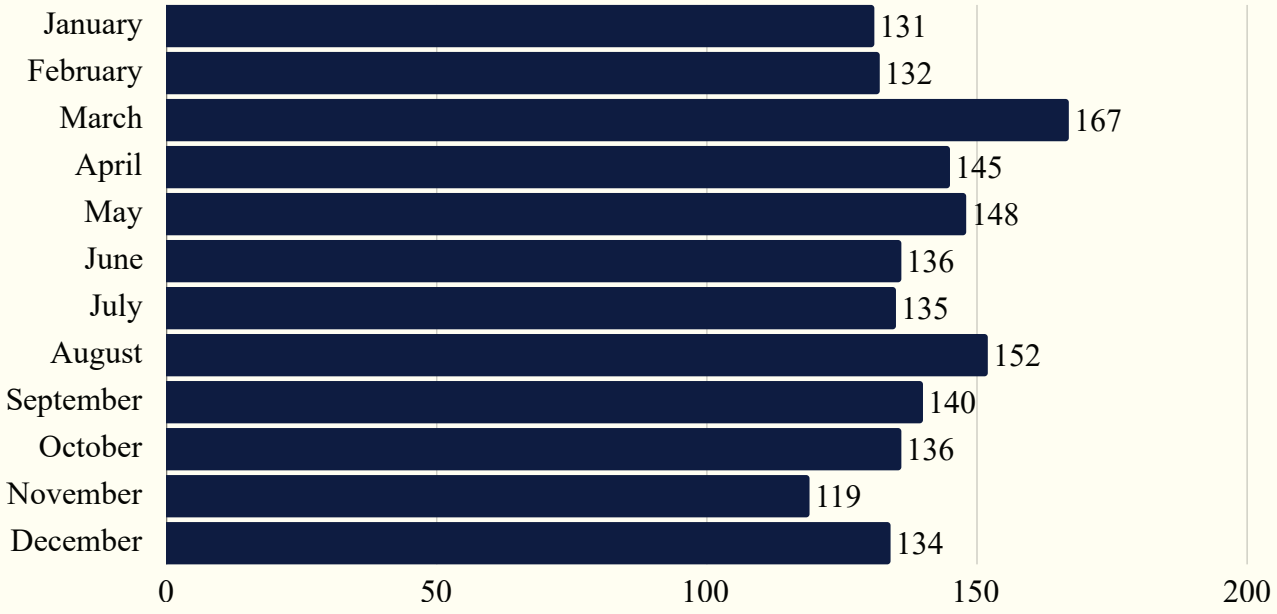
Jurisdiction	Marijuana-related deaths, 1999–2024	Rate of marijuana-related deaths per 100,000 people, 2018–2024
Missouri	386	0.7
Montana	88	0.4
Nebraska	76	0.4
Nevada	62	0.1
New Hampshire	12	*
New Jersey	340	0.3
New Mexico	72	0.2
New York	527	0.2
North Carolina	206	0.2
North Dakota	66	0.9
Ohio	2,297	1.5
Oklahoma	81	0.2
Oregon	228	0.5
Pennsylvania	748	0.5
Rhode Island	30	0.3
South Carolina	786	1.5
South Dakota	50	0.6
Tennessee	345	0.3
Texas	1,082	0.3
Utah	83	0.1
Vermont	12	*
Virginia	172	0.2
Washington	411	0.4
West Virginia	1,105	7.5
Wisconsin	708	1.1
Wyoming	131	1.7

Notes: * = suppressed in WONDER due to low precision. WONDER reports data for 1999 through 2020 and 2018 through 2024.

Day and Month

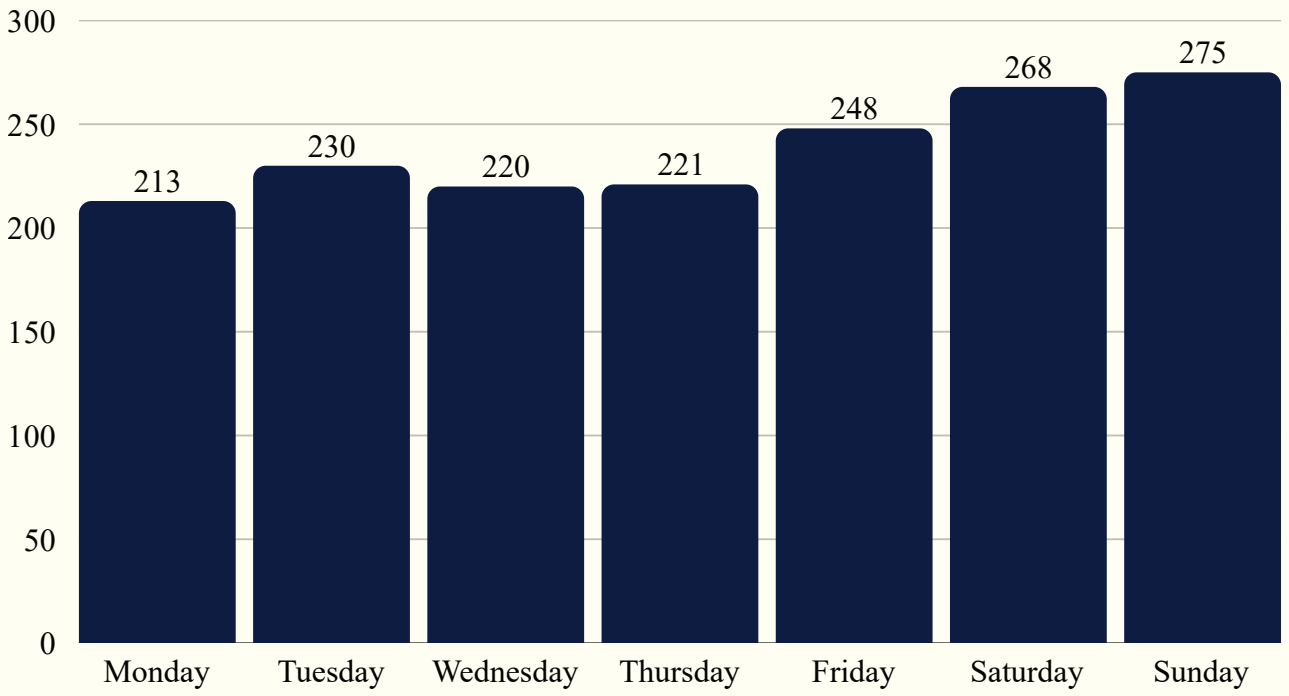
Among the 1,675 marijuana-related deaths that occurred among individuals aged 24 or younger between 2018 and 2024, 119 occurred in the month of November, while 167 occurred in the month of March (Figure 4.10).

Figure 4.10. Month of marijuana-related deaths among individuals aged 24 or younger, 2018–2024



Among the 1,675 marijuana-related deaths that occurred among individuals aged 24 or younger between 2018 and 2024, 213 occurred on a Monday, while 275 occurred on a Sunday (Figure 4.11).

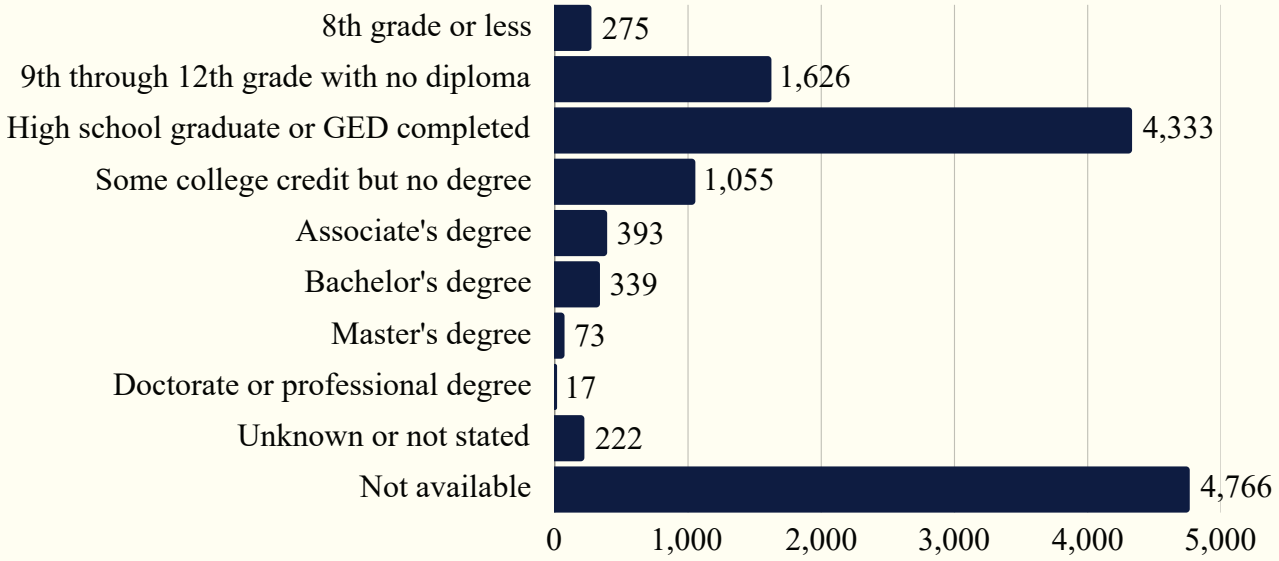
Figure 4.11. Day of marijuana-related deaths among individuals aged 24 or younger, 2018–2024



Education

Between 2018 and 2024, among the 13,099 decedents whose deaths involved marijuana poisoning or a mental or behavioral disorder due to marijuana, 4,333 graduated from high school, while 339 received a bachelor's degree (Figure 4.12).

Figure 4.12. Education level of decedents involved in marijuana-related deaths, 2018–2024



Contributing Causes of Death

Between 2018 and 2024, 153 deaths among individuals of all ages recorded a mental or behavioral disorder due to marijuana as the underlying cause of death. Among these 153 deaths, 73 recorded heart disease as a contributing cause of death and 11 recorded renal failure as a contributing cause of death (Table 4.6). Additional conditions were recorded as contributing causes of death but were suppressed in WONDER because they accounted for 1–9 deaths during this time period.

Table 4.6. Contributing causes of death alongside deaths that recorded a mental or behavioral disorder due to marijuana as the underlying cause of death, 2018–2024

Contributing cause of death	Number of deaths
Major cardiovascular diseases (I00–I78)	79
Diseases of heart (I00–I09, I11, I13, I20–I51)	73
Ischemic heart diseases (I20–I25)	19
Other heart diseases (I26–I51)	60
Essential hypertension and hypertensive renal disease (I10, I12, I15)	15
Other diseases of respiratory system (J00–J06, J30–J39, J67, J70–J98)	16
Nephritis, nephrotic syndrome and nephrosis (N00–N07, N17–N19, N25–N27)	12
Renal failure (N17–N19)	11
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)	70

Marijuana-Related Drug Overdose Deaths

Between 2018 and 2024, 6,854 drug overdose deaths among individuals of any age recorded marijuana poisoning as a contributing cause of death. Among them, 4,791 (69.9%) also recorded opioid poisoning as a contributing cause of death and 1,340 (19.6%) also recorded cocaine poisoning as a contributing cause of death (Table 4.7).

Likewise, between 2018 and 2024, 794 drug overdose deaths among individuals aged 24 or younger recorded marijuana poisoning as a contributing cause of death. Among them, 628 (79.1%) also recorded opioid poisoning as a contributing cause of death and 139 (17.5%) also recorded cocaine poisoning as a contributing cause of death (Table 4.8).

At least one of the six categories in Tables 4.7 and 4.8—opioids, cocaine, methamphetamine*, antidepressants, benzodiazepines, and antiepileptics or sedative-hypnotics—was recorded in 5,928 (86.5%) of the 6,854 marijuana-related drug overdose deaths among individuals of any age between 2018 and 2024. At least one of the six categories was recorded in 701 (88.3%) of the 794 marijuana-related drug overdose deaths among individuals aged 24 or younger between 2018 and 2024. Of note, additional substances could have been recorded in the death (e.g., muscle relaxants and antipsychotics).

Between 2018 and 2024, marijuana poisoning was recorded as a contributing cause of death in 1.1% of the 628,827 drug overdose deaths among individuals of any age and in 1.9% of the 42,318 drug overdose deaths among individuals aged 24 or younger.

Table 4.7. Marijuana-related drug overdose deaths among individuals of any age by the involvement of additional substances, 2018–2024

Individuals of any age	Number of deaths	Percent of deaths
Marijuana-related drug overdose deaths	6,854	100%
Also involved opioids	4,791	69.9%
Also involved methamphetamine*	2,438	35.6%
Also involved benzodiazepines	1,387	20.2%
Also involved cocaine	1,340	19.6%
Also involved antiepileptics or sedative-hypnotics	691	10.1%
Also involved antidepressants	593	8.7%

Table 4.8. Marijuana-related drug overdose deaths among individuals aged 24 or younger by the involvement of additional substances, 2018–2024

Individuals aged 24 or younger	Number of deaths	Percent of deaths
Marijuana-related drug overdose deaths	794	100%
Also involved opioids	628	79.1%
Also involved methamphetamine*	200	25.2%
Also involved benzodiazepines	186	23.4%
Also involved cocaine	139	17.5%
Also involved antiepileptics or sedative-hypnotics	43	5.4%
Also involved antidepressants	46	5.8%

* = ICD-10 code T43.6, classified as psychostimulants with abuse potential, which primarily reflects methamphetamine.

Additional estimates

The Food and Drug Administration's 2023 review of marijuana, which was the basis of the federal recommendation to move marijuana from Schedule I to Schedule III, analyzed the CDC's National Vital Statistics System-Mortality (NVSS-M) data for the 10-year period from 2012 to 2021.[28] The review found that marijuana was involved in 5,957 overdose deaths during this period.* For comparison, it found that alcohol was involved in 10,484 overdose deaths, while fentanyl was involved in 258,785. It added that "polysubstance deaths were common."

Additionally, the FDA's review found that marijuana was the only substance in 160 of these overdose deaths between 2012 and 2021. Again for comparison, alcohol was the sole substance in 1,338 overdose deaths, while fentanyl was the sole substance in 12,843 overdose deaths.

The review further estimated the utilization-adjusted single substance overdose death rate by dividing the number of single substance overdose deaths in 2020 by the number of past-year users of each substance that year. It found that marijuana had a rate of 0.04 deaths per 100,000 past-year marijuana users. Alcohol had a rate of 0.08 deaths per 100,000 past-year users, benzodiazepines had a rate of 0.14 deaths per 100,000 users, cocaine had a rate of 4.79 deaths per 100,000 users, and heroin had a rate of 22.22 deaths per 100,000 users.

The FDA's review also analyzed the CDC's Drug-Involved Mortality (DIM) data, noting that DIM is based on "the literal text fields in the death certificate containing information written by the official certifying the death" and provides "information about drug-involved mortality at the level of the active ingredient." In 2017, the latest year for available data, marijuana was determined to have contributed to 202 overdose deaths and been the sole substance in 12 overdose deaths.

The FDA's review also cited the ToxIC Core Registry, which is led by the American College of Medical Toxicology and includes data on individuals who are evaluated and treated by medical toxicologists. The FDA's review added: "The Core Registry had two cases involving marijuana-containing product exposure with an outcome of death. Both fatal cases involved the inhalational route of exposure to a non pharmaceutical product (a substance other than an approved medication) in the setting of intentional misuse/abuse. One of the two deaths involved acute exposure in a 16-year-old boy who had life support withdrawn. The other death involved chronic exposure in a 21-year-old man with vaping-induced pulmonary injury."

Though it is stated without an explanation or citation, the Drug Enforcement Administration's 2026 Drugs of Abuse report noted, "no deaths from overdose of marijuana have been reported."[29]

* = The FDA appears to have included only overdose deaths with an unintentional or undetermined intent. Its estimate of 5,957 marijuana-involved overdose deaths between 2012 and 2021 can be replicated in WONDER with the ICD-10 codes of X40–44 and Y10–14, which are for overdoses with an unintentional and undetermined intent, respectively, as the underlying cause of death alongside T40.7 for marijuana poisoning as a contributing cause of death. The inclusion of overdose deaths with an intent of suicide and homicide would increase the marijuana-involved total to 6,101.

Additional considerations

While this section includes data based on death certificates that recorded a marijuana-related condition as a cause of death, marijuana was detected in many more deaths. A 2026 study from the CDC, citing the State Unintentional Drug Overdose Reporting System (SUDORS), found that marijuana was detected in 21.0% of 209,166 overdose deaths with an unintentional or undetermined intent. It added that marijuana was a cause of death in 0.8%, suggesting that the percentage of deaths in which marijuana was detected was approximately 26 times the percentage that recorded it as a cause of death.[30] The study reviewed overdose deaths that occurred between January 2021 and June 2025 in 31 states and the District of Columbia.

Notably, among overdose deaths involving 12–17-year-olds between January 2021 and June 2025, the study noted that marijuana was detected in 42.7%, fluctuating from 49.2% in 2021 to 35.9% in 2024 and 44.6% from January–June 2025. In comparison, marijuana was detected in 16.7% of overdose deaths among individuals aged 50 or older.

Among the overdose deaths in which marijuana was detected, the study found that delta-9 THC was detected in 73.1%, delta-8 THC was detected in 1.1%, and a different cannabis derivative (e.g., cannabigerol) was detected in 0.1%. It added that 26.6% detected a cannabinoid that was not specified. Additionally, among overdose deaths involving individuals aged 12–17 that detected marijuana, 88.6% also detected illegally manufactured fentanyl and 69.0% detected stimulants (e.g., cocaine).

For reference, the CDC funds 49 states and the District of Columbia (not North Dakota) to collect additional data about overdoses, including through postmortem toxicology tests, through the SUDORS program.[31] Some states report their own data collected through SUDORS.

Missouri reported that marijuana was detected in the toxicology tests of 25.0% of the overdose deaths that had an unintentional or undetermined intent in 2023, yet it was recorded as a cause of death in 0.6%.[32] Colorado maintains a dashboard that reports that marijuana was detected in 28.4% of overdose deaths that had an unintentional or undetermined intent between 2020 and 2025.[33] Likewise, in 2023, marijuana was detected in 20% of fatal drug overdoses in Tennessee and in 18% in Indiana.[34,35] Even so, other states like California appear to collect but not publicly report data about the presence of marijuana in toxicology tests.[36]

Limitations

The estimates throughout this chapter are likely undercounts. Not all overdose deaths have toxicology results or identify specific substances. A 2026 summary of drug overdose deaths from the CDC noted that "the percentage of drug overdose deaths that identified the specific drugs involved varied by year, increasing from 81% in 2014 to 96% in 2024."[37]

Even if overdose deaths have toxicology results, many may not test specifically for marijuana. The aforementioned SUDORS study from the CDC about the detection of marijuana in overdose deaths explained, "because cannabinoids are rarely implicated in the cause of death, cannabinoid screening and confirmatory testing is not universally conducted. Thus, the identification of cannabis use among overdose deaths is likely underestimated."[38] Likewise, a 2011 publication in the *Journal of Analytical Toxicology* stated that "cannabinoids are often excluded from postmortem toxicology screens due to their ubiquitous nature, interpretative difficulties and unanswered questions regarding their postmortem redistribution."[39]

If a medical examiner tests for marijuana, they may not test for all cannabinoids (e.g., delta-9 THC, delta-8 THC, THC-A, THC-P, THC-O, and HHC).

A position paper about the investigation of drug-related deaths from the National Association of Medical Examiners, published in 2019 and renewed through 2029, noted that a full toxicological panel should include substances such as opioids, benzodiazepines, antidepressants, muscle relaxants, sleep aids, ethanol, pain adjunctive medications, stimulants, and "new psychoactive drugs that become prevalent."[40] It did not mention cannabinoids.

Additionally, information about marijuana's potential involvement in overdose deaths appears to be withheld from the public SUDORS dashboard. According to its coding manual, the SUDORS program collects at least three types of information related to marijuana.[41] First, there is a checkbox for whether "there is evidence of the decedent's current or past use/misuse of cannabis (marijuana)," noting that this is based on witness reports and coroner and medical examiner reports rather than toxicology tests. Second, it tracks when "marijuana is found at the scene, and it is illegal in that jurisdiction." Third, based on toxicology results, it tracks the presence of delta-9 THC, as well as metabolites and synthetic marijuana. With the exception of the presence of synthetic marijuana—it was detected in 166 deaths across 43 jurisdictions in 2024—none of these marijuana-related measures are reported on the public SUDORS dashboard.[42]

Unlike its approach for tobacco and alcohol, the federal government does not use models to estimate the number of deaths attributable to illicit drugs, including marijuana.[43,44] Studies such as the Global Burden of Disease Study and the Australian Burden of Disease Study help to demonstrate the feasibility and utility of this approach.[45,46] This type of program, based on population-attributable fractions, would help to close the gap between deaths that explicitly recorded marijuana on the decedent's death certificate and all marijuana-attributable deaths.

Methodology

Data were obtained from the National Vital Statistics System within the CDC's WONDER database at https://wonder.cdc.gov/, which includes information about deaths that occurred within the 50 states and the District of Columbia. The most recent year for final data was 2024.

Marijuana-related deaths were defined as having an International Classification of Diseases, 10th Revision (ICD-10) multiple cause-of-death code of T40.7 (poisoning by marijuana) or F12 (mental and behavioral disorders due to the use of cannabinoids).

Drug overdose deaths were defined as having an ICD-10 underlying cause-of-death code of X40–X44, X60–X64, X85, or Y10–Y14.

Alongside the underlying cause-of-death codes for drug overdose (X40–X44, X60–X64, X85, or Y10–Y14), opioid-involved overdose deaths were identified by the presence of any of the following multiple cause-of-death codes: opium (T40.0); heroin (T40.1); natural opioid analgesics (T40.2); methadone (T40.3); synthetic opioid analgesics other than methadone (T40.4); or other and unspecified narcotics (T40.6). Likewise, psychostimulants with abuse potential (primarily methamphetamine) were identified by T43.6. Antidepressants were identified by any one of T43.0–T43.2. Benzodiazepines were identified by T42.4. Antiepileptics or sedative-hypnotics were identified by any one of T42.0–T42.2 or T42.5–T42.7. Marijuana was identified by T40.7.

B. State-Level Estimates

Colorado

Colorado publishes an annual report and dashboard on postmortem THC detection in non-natural, non-homicide deaths among residents younger than 25.[47,48] Between 2010 and 2023, there were 3,669 of these deaths, of which 82.6% (3,029) had toxicology results. Among these 3,029, 33.4% (1,012) were positive for THC. Among the 1,012 that were positive for THC, 30.9% (313) were positive for THC only, while 69.1% (699) were positive for THC alongside at least one additional substance (e.g., alcohol or cocaine).

Of note, the dashboard cautioned that "the presence of THC does not imply causation or intoxication at the time of death, necessitating a nuanced interpretation of toxicology results. There is a need for further research into the implications of THC presence in postmortem toxicology results." THC can remain in the individual's body after the impairment has worn off.

Between 2010 and 2023, the percentage of these deaths with toxicology results that were positive for THC increased from 15.0% to 37.9%, peaking at 40.3% in 2021 (Table 4.9).

Table 4.9. Non-natural, non-homicide deaths among individuals younger than 25 in Colorado by the presence of THC, 2010–2023

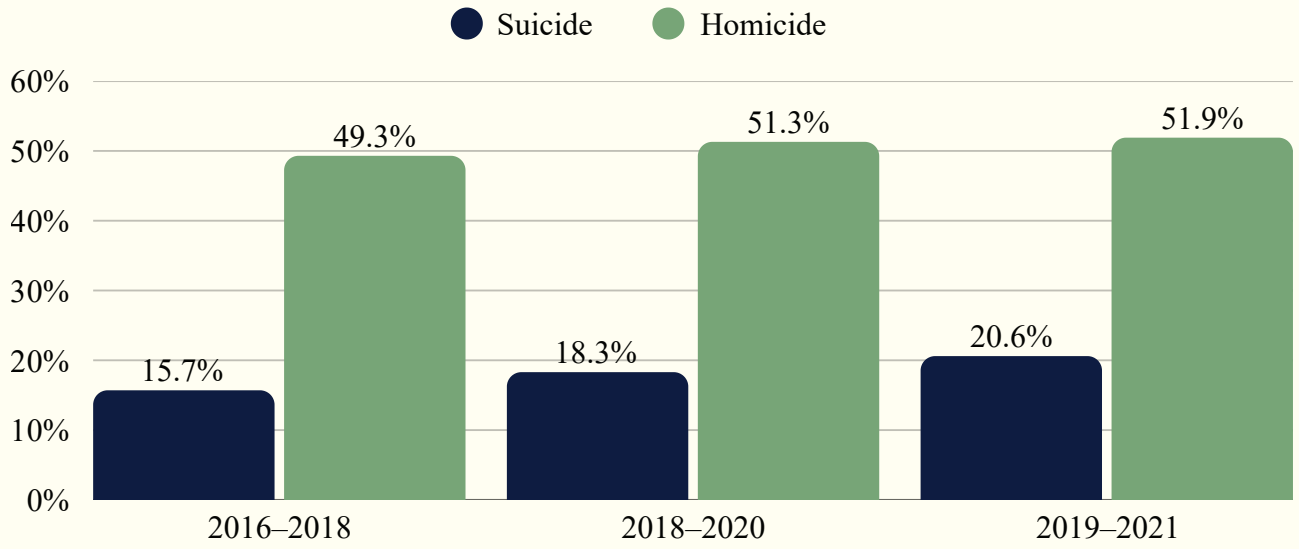
Year	Deaths	Deaths with toxicology results	Deaths with toxicology results that were positive for THC	Percentage of deaths with toxicology results that were positive for THC
2010–2023	**3,669**	**3,029**	**1,012**	**33.4%**
2010	150	120	18	15.0%
2011	158	118	24	20.3%
2012	156	115	27	23.5%
2013	156	107	29	27.1%
2014	158	128	25	19.5%
2015	181	135	39	28.9%
2016	188	146	48	32.9%
2017	193	146	41	28.1%
2018	212	165	52	31.5%
2019	261	241	75	31.1%
2020	371	332	133	40.1%
2021	388	362	146	40.3%
2022	580	476	189	39.7%
2023	517	438	166	37.9%

Massachusetts

The Massachusetts Violent Death Reporting System noted that 51.9% (241) of the 464 homicide deaths in the state between 2019 and 2021 had a positive toxicology test for marijuana (Figure 4.13).[49] In comparison, 51.3% (239) of the 466 homicide deaths in 2018–2020 were positive for marijuana, while 49.3% (221) of the 448 homicide deaths in 2016–2018 were positive for marijuana.

Additionally, it noted that 20.6% (361) of the 1,754 suicide deaths in 2019–2021 tested positive for marijuana compared with 18.3% (346) of the 1,892 suicide deaths in 2018–2020 and 15.7% (305) of the 1,947 suicide deaths in 2016–2018.

Figure 4.13. Presence of marijuana in suicide and homicide deaths in Massachusetts, 2016–2021



Suicide deaths in Minnesota

Between 2015 and 2023, there were 6,864 suicide deaths in Minnesota, according to the Minnesota Violent Death Reporting System.[50] Among these 6,864 deaths, 1,024 involved individuals between the ages of 0 and 24; 15.1% (155) involved marijuana. The state's dashboard noted that "substance and/or circumstance data are not available for all deaths," suggesting that even more may have involved marijuana.

In 2015, there were 14 marijuana-involved suicide deaths among 0–24-year-olds, representing 13.0% of the 108 suicide deaths among that age group that year. In comparison, in 2023, there were 21 marijuana-involved suicide deaths, representing 18.4% of the 114 suicide deaths among that age group that year.

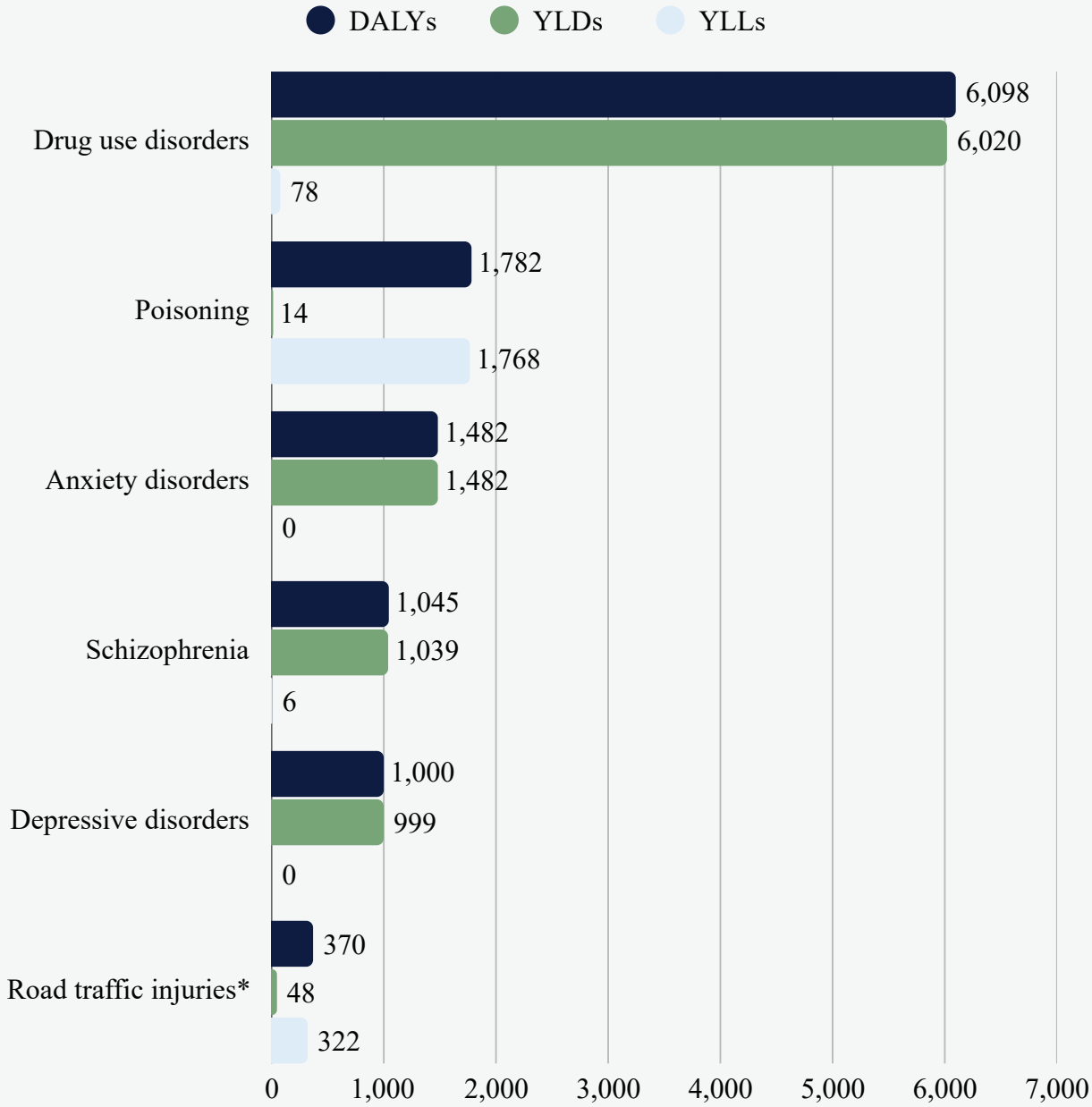
Among the 155 marijuana-involved suicide deaths among 0–24-year-olds between 2015 and 2023, 118 involved males, while 37 involved females. Marijuana was present in 15.0% of the suicide deaths among White individuals in this age group compared to 22.8% of the suicide deaths among Black individuals in this age group.

Disability-adjusted life years

The Australian Burden of Disease Study, led by the Australian Institute of Health and Welfare, estimated that 11,777 disability-adjusted life years (DALYs) were attributable to marijuana in Australia in 2024, of which 6,098 were related to drug use disorders, 1,782 were related to poisoning, and 1,482 were related to anxiety disorders (Figure 4.14).[51]

In effect, one DALY is equivalent to the loss of one year of healthy life. DALYs are the sum of the years of healthy life lost due to premature death (YLL) and years lived with disability (YLD). YLDs are calculated with the use of a disability weight, which adjusts for the severity of conditions.

Figure 4.14. Marijuana-attributable DALYs in Australia, 2024



* = the sum of the categories for motor vehicle occupants and motorcyclists.

Chapter 5. Marijuana-Related Emergency Department Visits and Inpatient Hospitalizations

Between 2021 and 2024, the number of marijuana-related emergency department (ED) visits nationwide increased from 804,285 to 1,089,579, while the number among those younger than 18 increased from 72,144 to 87,166 and the number among those aged 18–25 increased from 215,307 to 261,499.[1,2] In 2024, among individuals younger than 18, there were more marijuana-related ED visits than ED visits for alcohol, opioids, benzodiazepines, methamphetamine, and cocaine combined.

A study from the Centers for Disease Control and Prevention (CDC) found that 199,565 ED visits in the United States, based on data from more than 3,600 ED facilities, involved cannabinoid hyperemesis syndrome (CHS) between January 2023 and May 2026.[3] Between October 2025 and May 2026, the average number of CHS-involved ED visits per month was 89 among 11–14-year-olds, 4,297 among 15–24-year-olds, and 3,707 among 25–34-year-olds.

Between 2016 and 2024, the number of marijuana-related ED visits in California among children aged 0–4 more than quadrupled from 95 to 412, while the number among those aged 5–9 increased nearly fivefold from 37 to 183.[4] In contrast, the number decreased among 15–20-year-olds from 19,068 to 17,555. In 2024, the rate of marijuana-related ED visits among Californians aged 0–20 ranged from a low of 30.4 per 100,000 people among Asian people to a high of 458.5 per 100,000 people among Black people.

Between 2016 and 2023, the rate of ED visits for marijuana-related poisoning among individuals aged 5–14 in New York State increased from 1.0 per 100,000 to 14.0 per 100,000.[5] Likewise, the rate of ED visits due to marijuana-related abuse, dependence, and use (misuse) among individuals aged 5–14 in New York State increased from 30.7 per 100,000 in 2016 to 103.7 per 100,000 in 2023.

Between 2019 and 2023, 9% of 16–20-year-olds and 13% of 21–25-year-olds in Massachusetts who used marijuana in the past year said they sought medical treatment for adverse health effects following marijuana use in the past year.[6]

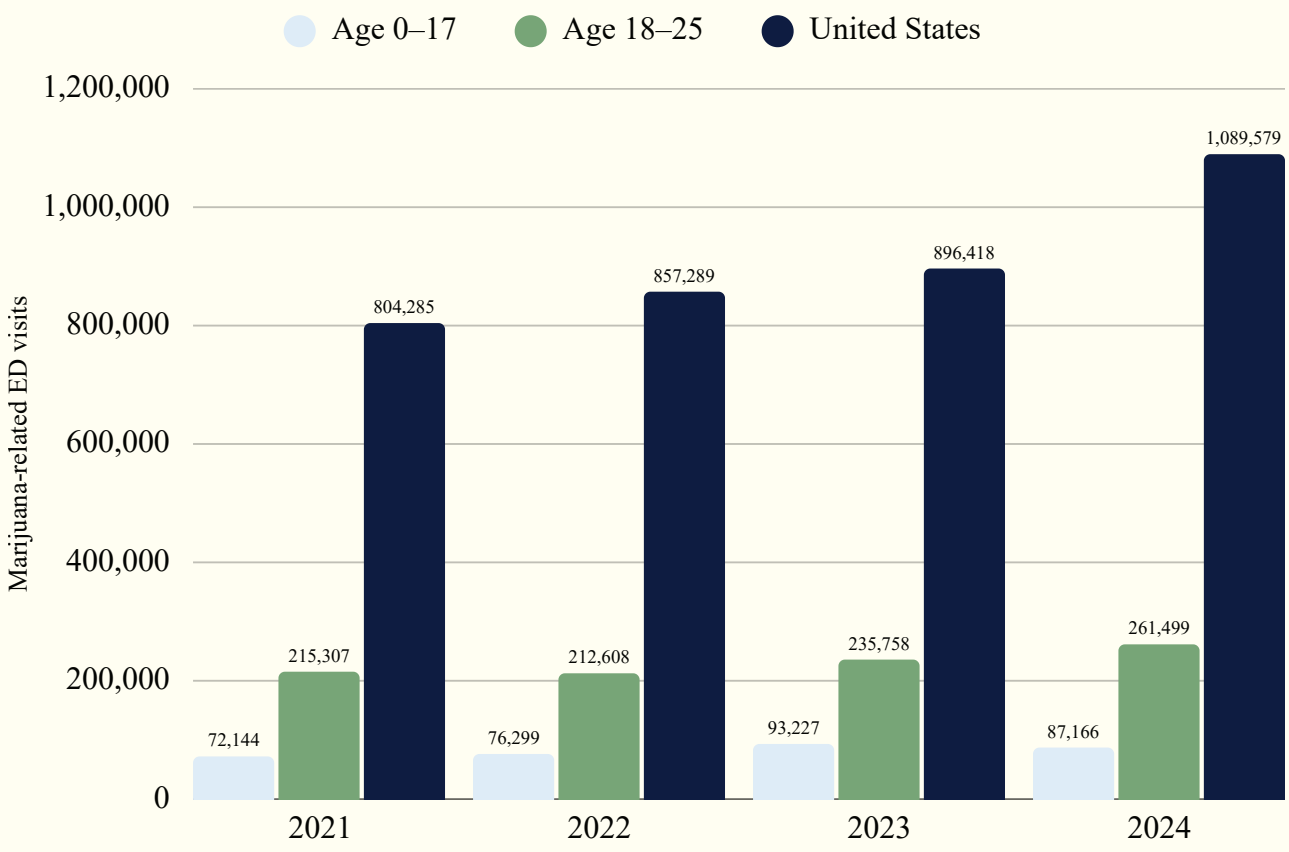
A. National Estimates

Drug Abuse Warning Network

The Substance Abuse and Mental Health Services Administration (SAMHSA) administered the Drug Abuse Warning Network (DAWN), which provided nationally representative estimates of drug-related ED visits. The 2024 DAWN report said that the program "uses a hybrid sentinel surveillance and probability-based sample design," noting that "examples of drug-related visits included those related to alcohol or drug intoxication, poisoning or overdose, suicide attempts with a drug involved, drug detoxification or withdrawal, or an adverse reaction to a drug."[7] Of note, the DAWN program was discontinued in 2025.

Between 2021 and 2024, the number of marijuana-related ED visits nationwide increased from 804,285 to 1,089,579 (Figure 5.1).[8–11] Among those younger than 18, the number of marijuana-related ED visits increased from 72,144 to 87,166, while it increased from 215,307 to 261,499 among those aged 18–25.

Figure 5.1. Marijuana-related emergency department visits, 2021–2024



In 2024, 8.0% of the 1,089,579 marijuana-related ED visits involved individuals younger than 18, corresponding to an estimated 87,166 ED visits (Table 5.1).[12] That year, the rate of marijuana-related ED visits among males was 366 per 100,000 compared to 275 per 100,000 among females. The rate among Black people was nearly three times as high as the rate among White people, at 676 and 241 per 100,000, respectively.

Table 5.1. Marijuana-related emergency department visits in the United States by demographic groups, 2024

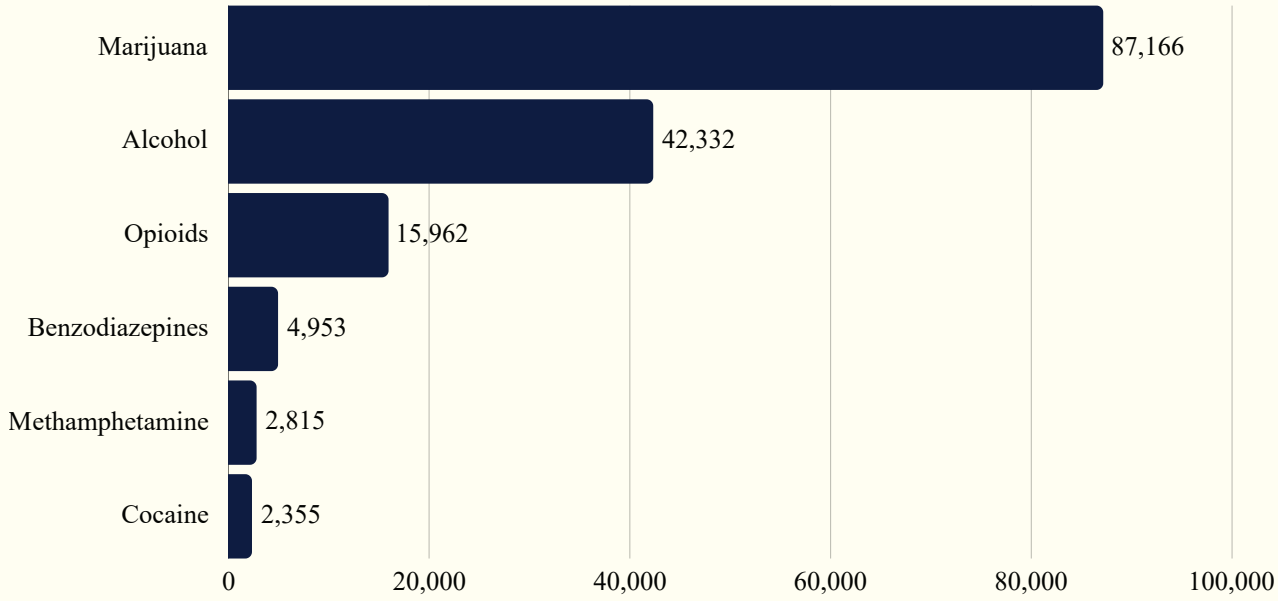
Demographic	Rate per 100,000 people	Percent	Estimate
Age			
0 to 17	119	8.0%	87,166
18 to 25	730	24.0%	261,499
26 to 44	525	42.1%	458,713
45 to 64	270	20.4%	222,274
65+	96	5.4%	57,837
Sex			
Female	275	43.4%	472,877
Male	366	56.5%	615,612
Ethnicity			
Hispanic or Latino	161	10.0%	108,958
Not Hispanic or Latino	337	84.0%	915,246
Race			
American Indian or Alaska Native	124	0.5%	5,448
Asian	47	1.0%	10,896
Black	676	28.9%	314,888
Native Hawaiian or Other Pacific Islander	*	*	*
Multiracial	123	1.2%	13,075
Other	*	8.7%	94,793
White	241	56.1%	611,254
Region			
Northeast	354	18.8%	204,841
Midwest	*	23.9%	260,409
South	321	39.1%	426,025
West	244	17.9%	195,034

* = suppressed by SAMHSA due to low precision.

In 2024, 87,166 marijuana-related ED visits involved individuals aged 17 or younger (8.0% of the 1,089,579 marijuana-related ED visits) (Figure 5.2). In comparison, this age group had 42,332 alcohol-related ED visits (1.3% of 3,256,312), 15,962 opioid-related ED visits (1.7% of 938,969), 4,953 benzodiazepine-related ED visits (2.5% of 198,115), 2,815 methamphetamine-related ED visits (0.5% of 562,919), and 2,355 cocaine-related ED visits (0.6% of 392,510).

In 2024, among individuals younger than 18, there were more marijuana-related ED visits than ED visits for alcohol, opioids, benzodiazepines, methamphetamine, and cocaine combined (87,166 vs. 68,417). Of note, ED visits with more than one substance would have been counted in more than one category.

Figure 5.2. Drug-related emergency department visits among individuals younger than 18 by substance, 2024



Emergency department visits for cannabis-associated psychotic symptoms

Although the DSM-5 noted that the prevalence of marijuana-induced psychosis is unknown, a 2022 study in *Translational Psychiatry*, based on an international sample of 233,475 people who had ever used marijuana, estimated that the lifetime prevalence of cannabis-associated psychotic symptoms (CAPS) was 0.47%.[13] The study defined CAPS as "the occurrence of hallucinations and/or paranoia requiring emergency medical treatment following the use of cannabis." Put another way, approximately 1 in 200 marijuana users were estimated to have ever experienced cannabis-associated psychotic symptoms that were so severe that they required emergency medical treatment.

The authors noted that "some individuals could be particularly sensitive to the adverse psychological effects of cannabis, such as young individuals or those with pre-existing mental health vulnerabilities." They concluded, "given the increasing legalization of cannabis for recreational purposes, more efforts to educate young people and public health initiatives about the consequences of cannabis use are therefore needed."

The stories behind marijuana-related emergency department visits

Recent news stories help to illustrate the many potential circumstances that factor into the national number of marijuana-related ED visits.

In 2025, *CBS* covered the experience of a man who developed cannabinoid hyperemesis syndrome.[14] He said, "I couldn't get out of bed, uncontrollable vomiting, I couldn't keep anything down, not even water." After losing 30 pounds in two weeks, he said, "Finally, when I went to the last ER, the nurse that was helping me in the ER looked at my chart and saw that my THC levels were ridiculously high and was like, 'You have CHS.'" As a word of caution to others, he said, "Be wary of what you are using, the marijuana today is completely different from what it was 15, 20 years ago."

In 2026, *People* highlighted the story of a 4-year-old boy who was hospitalized after eating a marijuana-infused lollipop that was given to him in a birthday goodie bag at school.[15] His mother said, "It was awful" and "He looked high ... I was thinking in my head, 'Why do you look high?'" His mother added, "His heart rate was so high. I could feel it in his chest just beating."

In 2024, the *Wall Street Journal* reported on the experience of a 24-year-old man who began using marijuana on a daily basis at age 17 and was hospitalized for cannabis-induced psychosis at age 18.[16] He said, "I had lost my faculties. I wasn't making sense." The article also highlighted the experience of a 21-year-old man with marijuana-induced psychosis: "One night after using cannabis he had been so afraid people were after him that he ran out into a snowstorm in Denver and was lost for 24 hours. He survived with frostbite and infected toes." After he died from a self-inflicted gunshot wound, his parents reviewed his phone and found videos in which "he said he believed cannabis had caused his delusions."

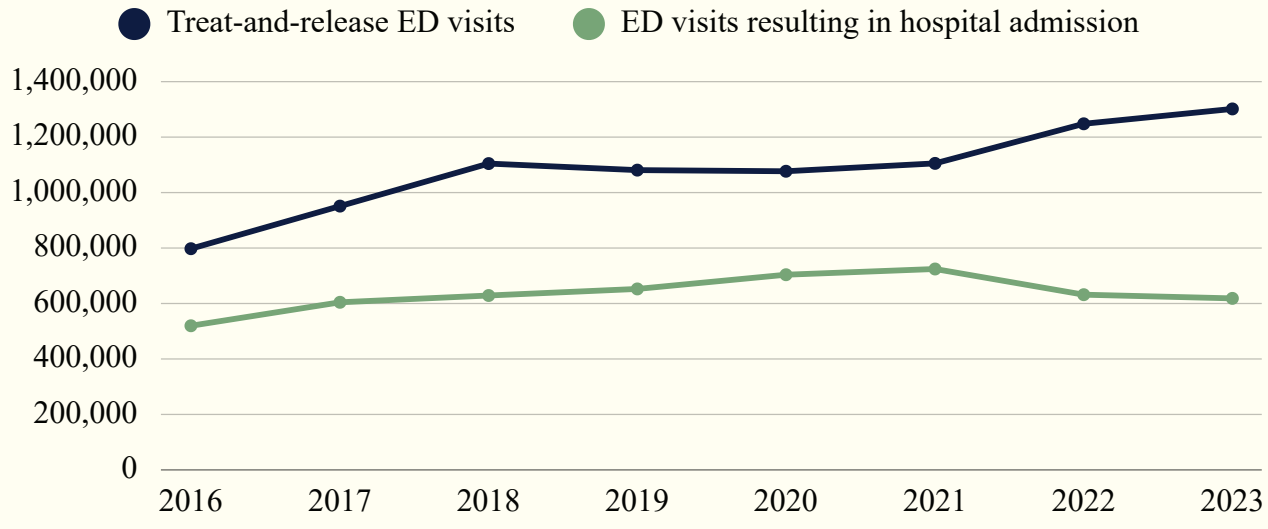
In 2026, *Fox 4 News Dallas-Fort Worth* described the experience of a 21-year-old woman who drove into the back of a dump truck while impaired by marijuana.[17] Her 6-year-old daughter, who was in the backseat, died from the crash, while her second child "suffered non-life-threatening injuries." The article added that toxicologists "determined the level of THC found in her blood was consistent with usage within four to six hours of the draw."

In 2025, *GQ* covered the experience of a 24-year-old man who, after eating a 10mg THC edible, said, "I was convinced I was having a stroke or heart attack," which prompted his family to call 911.[18] The episode was attributed to marijuana-induced anxiety, and he later said, "I'm really scared that this is my new normal, that I'll never be able to just sit down and think about anything other than my anxiety."

Healthcare Cost and Utilization Project

The Agency for Healthcare Research and Quality's (AHRQ) Healthcare Cost and Utilization Project (HCUP), which derives its data from administrative and billing information from hospitals throughout the nation, provides estimates of ED visits and inpatient stays due to marijuana-related disorders. Between 2016 and 2023, the number of treat-and-release ED visits that recorded a marijuana-related disorder as either a primary or secondary diagnosis increased from 797,609 to a high of 1,301,630 (Figure 5.3).[19] The number of ED visits due to a marijuana-related disorder that resulted in hospital admission increased from 519,745 in 2016 to 618,505 in 2023, peaking at 724,423 in 2021.

Figure 5.3. Marijuana-related emergency department visits, 2016–2023



In 2023, among the treat-and-release ED visits that involved a marijuana-related disorder, 482 involved individuals younger than 1, 102,322 involved individuals aged 1–17, and 869,600 involved individuals aged 18–44 (Figure 5.4). Among the ED visits that involved a marijuana-related disorder and resulted in hospital admission, 147 involved individuals younger than 1, 23,268 involved individuals aged 1–17, and 346,190 involved individuals aged 18–44.

Figure 5.4. Marijuana-related emergency department visits by age, 2023

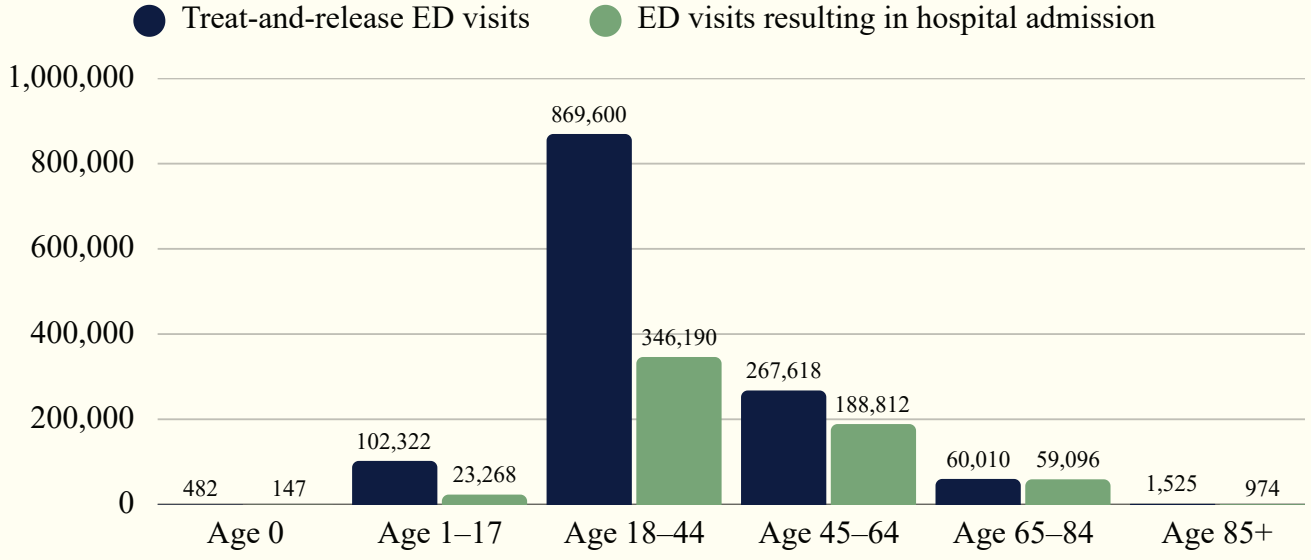


Table 5.2 provides estimates of the national number of substance-related ED visits among 1–17-year-olds in 2023, as reported in HCUPnet. In 2023, there were 102,322 treat-and-release ED visits with a diagnosis of a marijuana-related disorder among 1–17-year-olds, including 24,191 that referenced it as the principal diagnosis. Each category includes codes for poisoning and non-poisoning conditions.

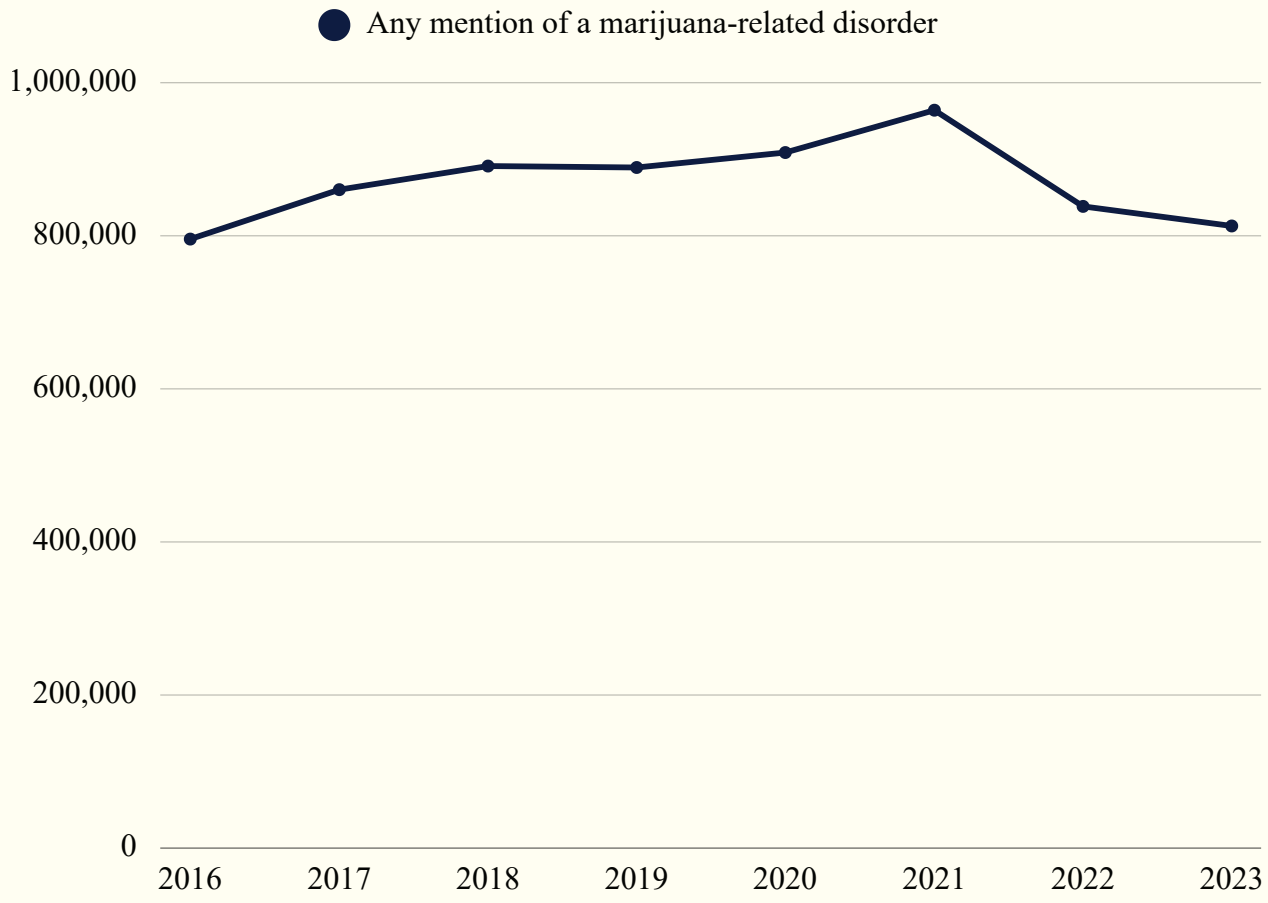
Table 5.2. Emergency department visits for substance-related disorders among individuals aged 1–17, 2023

Characteristic	Principal diagnosis	Rate per 100,000 people	All-listed diagnoses	Rate per 100,000 people
Marijuana-related disorders (MBD019)				
Treat-and-release ED visits	24,191	34.8	102,322	147.0
ED visits resulting in hospital admission	668	1.0	23,268	33.4
Stimulant-related disorders (MBD021)				
Treat-and-release ED visits	1,729	2.5	12,488	17.9
ED visits resulting in hospital admission	*	*	2,789	4.0
Opioid-related disorders (MBD018)				
Treat-and-release ED visits	2,050	2.9	8,968	12.9
ED visits resulting in hospital admission	*	*	5,273	7.6
Inhalant-related disorders (MBD023)				
Treat-and-release ED visits	107	0.2	276	0.4
ED visits resulting in hospital admission	*	*	*	*
Sedative-related disorders (MBD020)				
Treat-and-release ED visits	502	0.7	5,307	7.6
ED visits resulting in hospital admission	*	*	2,104	3.0
Hallucinogen-related disorders (MBD022)				
Treat-and-release ED visits	802	1.2	2,134	3.1
ED visits resulting in hospital admission	*	*	512	0.7
Alcohol-related disorders (MBD017)				
Treat-and-release ED visits	23,828	34.2	38,841	55.8
ED visits resulting in hospital admission	419	0.6	4,630	6.7
Tobacco-related disorders (MBD024)				
Treat-and-release ED visits	272	0.4	105,358	151.3
ED visits resulting in hospital admission	*	*	14,797	21.3
Other specified substance-related disorders (MBD025)				
Treat-and-release ED visits	5,989	8.6	14,627	21.0
ED visits resulting in hospital admission	349	0.5	2,397	3.4

* = The AHRQ said the "statistic is not reported because the reporting cell draws from fewer than 2 hospitals, contains fewer than 11 discharges, or has a relative standard error (standard error / weighted estimate) greater than 0.30 or equal to 0."

Between 2016 and 2023, the number of marijuana-related inpatient stays increased from 795,670 to 812,800, peaking at 964,049 in 2021 (Figure 5.5). Over this same period, the number of marijuana-related inpatient stays that recorded a marijuana-related disorder as the principal diagnosis increased from 5,950 to 8,030.

Figure 5.5. Marijuana-related inpatient stays, 2016–2023



In 2023, among the 855 marijuana-related inpatient stays that recorded a marijuana-related disorder as the principal diagnosis and involved individuals aged 1–17, the average length of stay was 5.9 days (Table 5.3). These 855 accounted for $8,037,385 in costs, averaging $9,400 each. Likewise, they accounted for $32,276,984 in charges, averaging $37,751 each.

Table 5.3. Outcomes associated with inpatient stays with a principal diagnosis of a marijuana-related disorder, 2023

Age	Number of discharges	Average length of stay	Aggregate hospital charges	Average hospital charges	Aggregate hospital costs	Average hospital costs
1–17	855	5.9 days	$32,276,984	$37,751	$8,037,385	$9,400
18–44	5,605	5.2 days	$184,609,550	$32,937	$40,999,573	$7,315
45–64	1,185	4.6 days	$43,090,009	$36,363	$9,530,822	$8,043
65–84	360	3.4 days	$17,125,453	$47,571	$3,416,423	$9,490

Emergency department visits due to cannabinoid hyperemesis syndrome

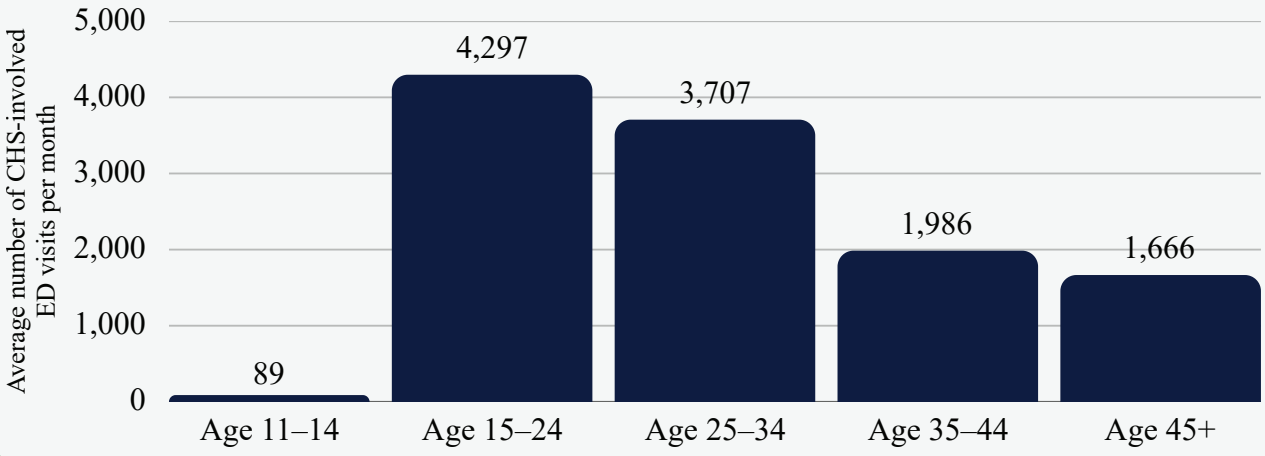
An August 2026 study from the Centers for Disease Control and Prevention (CDC) examined trends in ED visits that involved cannabinoid hyperemesis syndrome (CHS).[20] CHS is a condition characterized by cyclical vomiting and pain, often among heavy marijuana users—the condition is informally known as "scromiting." Between January 2023 and May 2026, the report noted that 199,565 CHS-involved ED visits were identified in the United States based on data from "3,636 (70.0%) of 5,190 ED facilities consistently reporting data."

A specific ICD-10-CM diagnostic code for CHS (R11.16) took effect in October 2025, which has improved its clinical identification and tracking. The CDC study explained, "for ED visits that occurred before introduction of the new code (January 2023–September 2025) CHS was identified using a definition consisting of a combination of codes for cyclical vomiting (R11.15) or nonspecific emesis (R11) in tandem with a code for a marijuana-related diagnosis (F12x or T40.7Xx)."

The proportion of CHS-involved ED visits increased from 3.19 per 10,000 ED visits in January 2023 to 3.35 per 10,000 ED visits in September 2025. Following the introduction of the new CHS code, the proportion increased to 11.26 per 10,000 ED visits in October 2025 and to 13.10 per 10,000 ED visits in May 2026. Recognizing the increase, the report cautioned, "the abruptness and sustained magnitude of the increase likely reflects, at least in part, improved clinical recognition and coding of CHS rather than a true and immediate rise in incidence."

The report said that "proportions of CHS-involved ED visits were high in younger age groups, particularly those aged 15–24 years." Between October 2025 and May 2026, the average number of CHS-involved ED visits per month was 89 among 11–14-year-olds, 4,297 among 15–24-year-olds, and 3,707 among 25–34-year-olds (Figure 5.6).

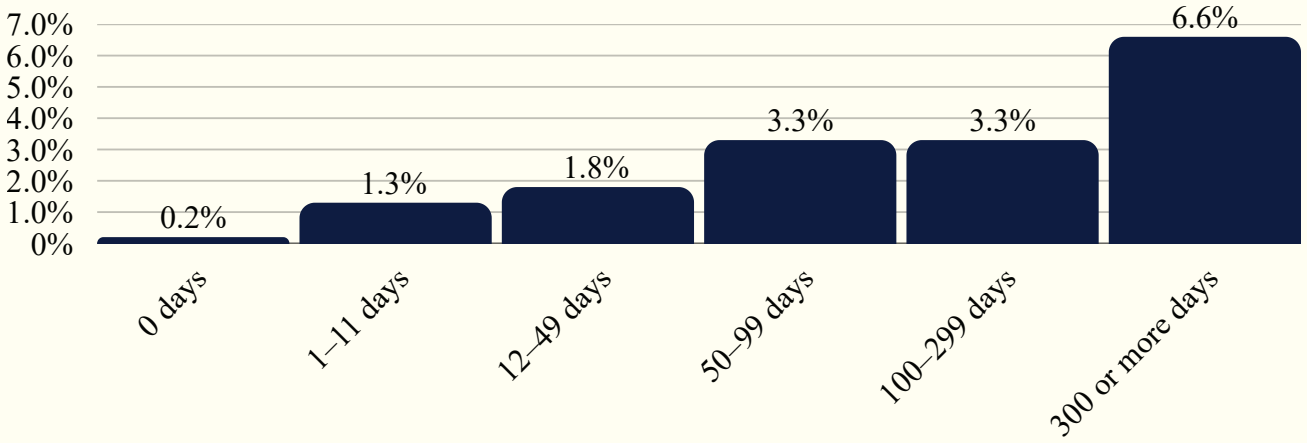
Figure 5.6. Average number of CHS-involved emergency department visits per month, October 2025–May 2026



National Survey on Drug Use and Health

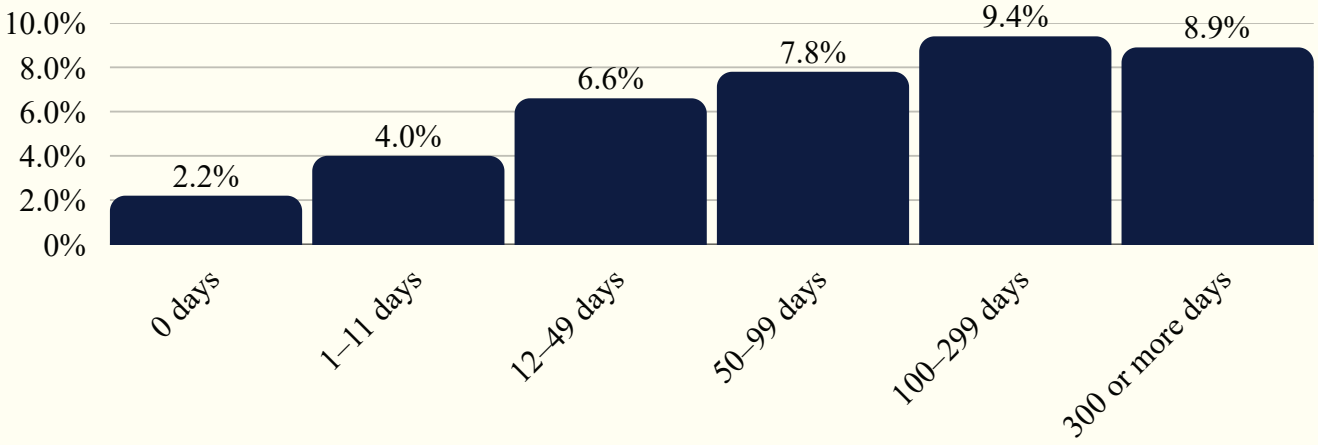
The National Survey on Drug Use and Health (NSDUH) estimated that 2.6% of past-year marijuana users between the ages of 12 and 17 in 2023–2024 were seen in an ED for substance use in the past year, ranging from 1.3% of those who used marijuana on 1–11 days in the past year to 6.6% of those who used it on 300 or more days (Figure 5.7).[21]

Figure 5.7. Emergency department visits for substance use in the past year by the frequency of marijuana use among 12–17-year-olds, 2023–2024



The survey estimated that 6.7% of past-year marijuana users between the ages of 12 and 17 in 2023–2024 were seen in an ED for mental health in the past year, ranging from 4.0% of those who used marijuana on 1–11 days in the past year to 9.4% of those who used it on 100–299 days (Figure 5.8).

Figure 5.8. Emergency department visits for mental health in the past year by the frequency of marijuana use among 12–17-year-olds, 2023–2024



The association between marijuana and psychiatric disorders

A 2026 study in *JAMA Health Forum* found that the past-year use of marijuana among 13–17-year-olds in northern California was associated with an increased risk of incident psychiatric disorders, including psychotic, bipolar, depressive, and anxiety disorders.[22] The authors explained, "these results are consistent with cannabis being a risk factor for or exacerbating the risk of psychiatric disorders rather than only resulting from preexisting psychiatric conditions."

B. State-Level Estimates

California

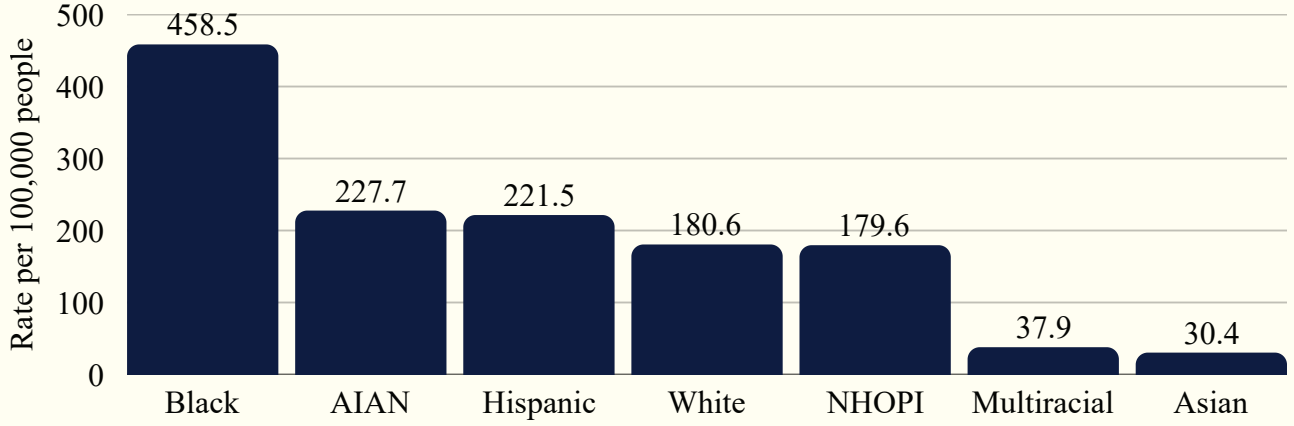
The number of marijuana-related ED visits in California among individuals aged 0–20 was 20,640 in 2016 and 20,810 in 2024, peaking at 25,150 in 2019 (Table 5.4).[23] Over this period, the number among children aged 0–4 more than quadrupled from 95 to 412, while the number among those aged 5–9 increased nearly fivefold from 37 to 183. Among those aged 15–20, the number decreased from 19,068 in 2016 to 17,555 in 2024, peaking at 22,301 in 2019.

Table 5.4. Marijuana-related emergency department visits in California among individuals aged 0–20, 2016–2024

Year	Age 0–4	Age 5–9	Age 10–14	Age 15–20	Age 0–20
2016	95	37	1,440	19,068	20,640
2017	145	81	1,797	20,691	22,714
2018	219	68	1,966	21,102	23,355
2019	222	99	2,528	22,301	25,150
2020	370	161	1,769	19,654	21,954
2021	459	202	1,734	18,655	21,050
2022	452	159	2,794	19,771	23,176
2023	469	176	3,023	18,741	22,409
2024	412	183	2,660	17,555	20,810

In 2024, the rate of marijuana-related ED visits among Californians aged 0–20 ranged from a low of 30.4 per 100,000 people among Asian people to a high of 458.5 per 100,000 people among Black people (Figure 5.9).

Figure 5.9. Marijuana-related emergency department visits in California among individuals aged 0–20 by race and ethnicity, 2024



Notes: AIAN = American Indian or Alaska Native. NHOPI = Native Hawaiian or Other Pacific Islander.

New York

Between 2016 and 2023, the rate of ED visits for marijuana-related poisoning among individuals aged 5–14 in New York State increased from 1.0 per 100,000 people to 14.0 per 100,000 people (Table 5.5).[24] Likewise, the rate of ED visits due to marijuana-related abuse, dependence, and use (misuse) among individuals aged 5–14 in New York State increased from 30.7 per 100,000 people in 2016 to 103.7 per 100,000 people in 2023.

The state's report said that "a pivotal shift occurred during 2020-2021, when younger age groups (0–4 and 5–14 years) saw sharp increases for cannabis-related poisoning emergency department visits. Most notably, visits among children aged 0-4 years old increased 3,736%."

Table 5.5. Rate of marijuana-related emergency department visits in New York among individuals aged 0–19 per 100,000 people, 2016–2023

Year	Age 0–4, Poisoning	Age 5–14, Poisoning	Age 15–19, Poisoning	Age 0–4, Misuse	Age 5–14, Misuse	Age 15–19, Misuse
2016	0.6	1.0	17.1	0.8	30.7	687.1
2017	1.5	1.2	16.9	0.9	33.2	756.5
2018	2.0	2.4	18.9	0.9	38.6	810.5
2019	2.8	3.4	23.4	1.2	49.1	898.6
2020	8.4	4.4	22.8	2.4	47.7	920.7
2021	13.9	7.7	22.7	3.0	54.3	962.7
2022	19.1	11.2	26.3	4.5	92.2	1,148.0
2023	22.9	14.0	26.4	5.2	103.7	1,158.7

Between 2016 and 2023, the rate of marijuana-related poisoning hospital discharges (inpatient stays) among individuals aged 0–4 in New York State increased from 0.4 per 100,000 people to 7.4 per 100,000 people, while the rate among 5–14-year-olds increased from 0.2 per 100,000 people to 2.0 per 100,000 people (Table 5.6).

Table 5.6. Rate of marijuana-related hospital discharges in New York among individuals aged 0–19 per 100,000 people, 2016–2023

Year	Age 0–4, Poisoning	Age 5–14, Poisoning	Age 15–19, Poisoning	Age 0–4, Misuse	Age 5–14, Misuse	Age 15–19, Misuse
2016	0.4	0.2	4.9	0.1	14.3	359.9
2017	0.8	0.4	5.1	0.1	13.6	367.3
2018	0.9	0.3	5.6	0.2	13.4	368.8
2019	1.4	0.7	9.0	0.2	15.8	374.3
2020	4.5	0.8	7.0	0.9	15.8	383.8
2021	5.4	1.6	3.9	1.2	20.1	381.5
2022	6.1	1.6	3.8	1.1	19.5	323.5
2023	7.4	2.0	2.5	0.7	19.9	304.8

Arizona

Between 2012 and 2020, the number of marijuana-induced emergency room admissions in Arizona for individuals of all ages increased from 630 to 2,313, according to a report from the Arizona High Intensity Drug Trafficking Area that cited the Arizona Department of Health Services (Table 5.7).[25] The report explained that "a marijuana-induced ER admission is when marijuana is determined to be the primary and direct contributor for the admissions."

Likewise, the number of marijuana-induced emergency room admissions that were for marijuana poisoning—as a subset of the total number of admissions—increased from 617 in 2012 to 1,637 in 2020. In 2020, poisoning accounted for 71% of the marijuana-induced emergency room admissions.

Table 5.7. Marijuana-induced emergency room admissions in Arizona, 2012–2020

Year	Marijuana-induced emergency room admissions for poisoning	Marijuana-induced emergency room admissions
2012	617	630
2013	672	679
2014	638	647
2015	701	713
2016	883	930
2017	1,190	1,355
2018	1,097	1,416
2019	1,362	1,903
2020	1,637	2,313

National Syndromic Surveillance Program

A 2023 study from the Centers for Disease Control and Prevention examined marijuana-involved ED visits between 2019 and 2022 among individuals younger than 25.[26] The study analyzed data from the National Syndromic Surveillance Program (NSSP). Of note, the NSSP is not nationally representative.

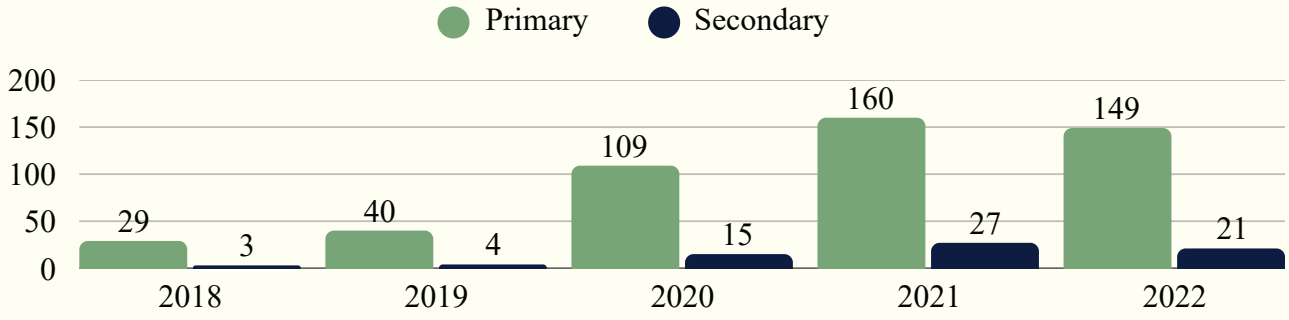
Between 2019 and 2022, 539,106 marijuana-involved ED visits occurred among individuals younger than 25, increasing through the period coinciding with the COVID-19 pandemic. Between the first 11 weeks of 2019 and the first 11 weeks of 2022, the average weekly number of marijuana-involved ED visits among 15–24-year-olds increased from 2,117.5 to 2,351.1. Over this same period, the weekly average increased from 105.1 to 184.5 among 11–14-year-olds and from 18.7 to 57.9 among those aged 10 or younger.

The study concluded that "increasing adults' knowledge regarding safe cannabis storage practices, strengthening youths' coping and problem-solving skills through evidence-based prevention programs, and modifying cannabis packaging to decrease appeal to youths might help prevent intentional and unintentional cannabis use."

Illinois

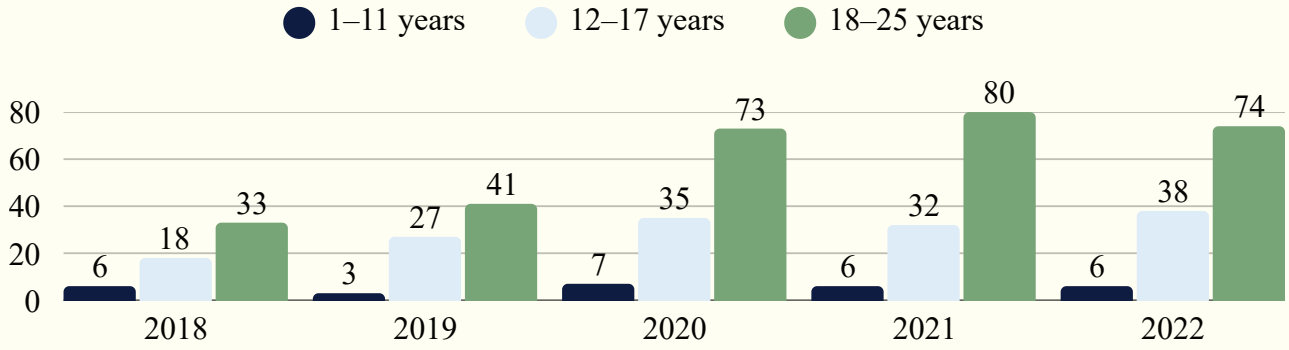
Between 2018 and 2022, the number of ED visits in Illinois among individuals aged 5 or younger that recorded marijuana poisoning as the primary diagnosis increased from 29 to 149, according to data analyzed by the Illinois Cannabis Project at the University of Illinois Chicago (Figure 5.10).[27] Likewise, the number of ED visits that recorded marijuana poisoning as a secondary diagnosis increased from 3 to 21.

Figure 5.10. Emergency department visits for marijuana poisoning among individuals aged 5 or younger in Illinois, 2018–2022



Between 2018 and 2022, the number of emergency medical services (EMS) runs for marijuana poisoning among individuals aged 12–17 increased from 18 to 38, while the number for those aged 18–25 increased from 33 to 74 (Figure 5.11).

Figure 5.11. EMS runs for marijuana poisoning among individuals between the ages of 1 and 25 in Illinois, 2018–2022



Marijuana-related emergency department visits in Illinois

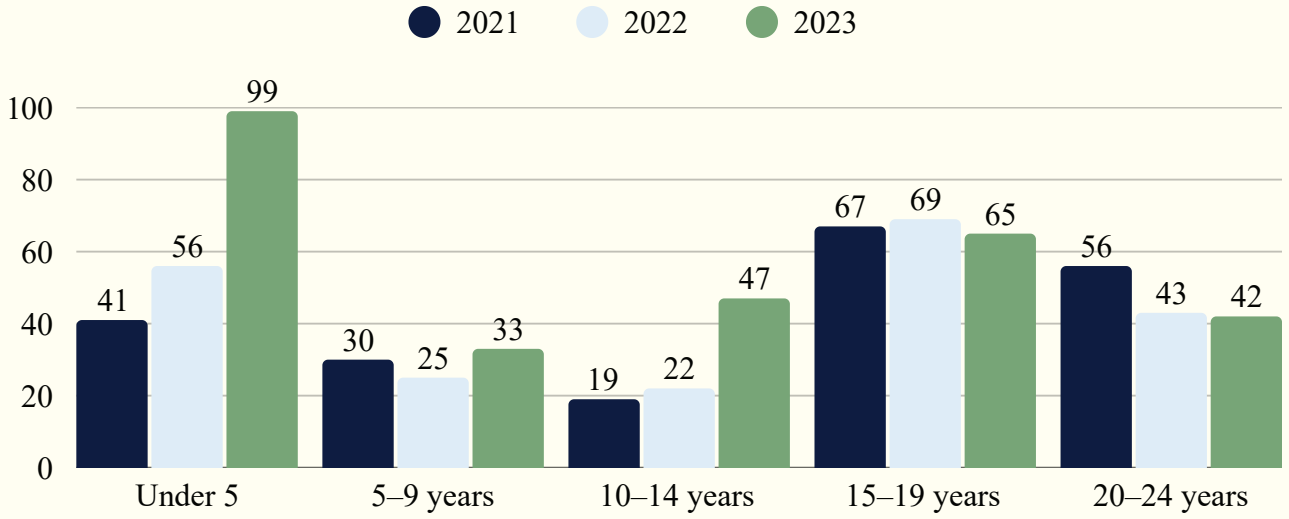
A 2024 International Cannabis Policy Study survey of 4,004 individuals in Illinois aged 16–65 found that 31.1% of past-year marijuana users experienced an adverse event related to marijuana in the past year.[28] Among them, 26.4% said they sought any medical help—and among the group that sought medical help, 70.9% said that they visited an emergency department, while 8.9% said they were hospitalized or extended an existing hospitalization.

Among past-year marijuana users who experienced an adverse effect pooled in 2023–2024 in Illinois, the survey also found that the most common adverse effects were feeling faint or dizzy or passing out (28.5%), panic reactions (27.4%), nausea or vomiting (25.7%), depression (22.7%), heart or blood pressure problems (19.6%), dissociation/depersonalization (11.9%), hallucinations/psychosis (10.5%), lung or breathing problems (10.4%), and flashbacks (5.6%). Many experienced multiple symptoms.

Minnesota

A 2025 report by the Minnesota Department of Health, citing data from the Minnesota Hospital Association, noted that the number of hospital visits with a discharge diagnosis for marijuana poisoning increased from 433 in 2021 to 450 in 2022 and 595 in 2023.[29] Among individuals younger than 5, the number increased from 41 in 2021 to 56 in 2022 and 99 in 2023 (Figure 5.12). Among those aged 15–19, the number was relatively stable at 67 in 2021, 69 in 2022, and 65 in 2023.

Figure 5.12. Hospital visits with a discharge diagnosis for marijuana poisoning among individuals aged 0–24 in Minnesota, 2021–2023

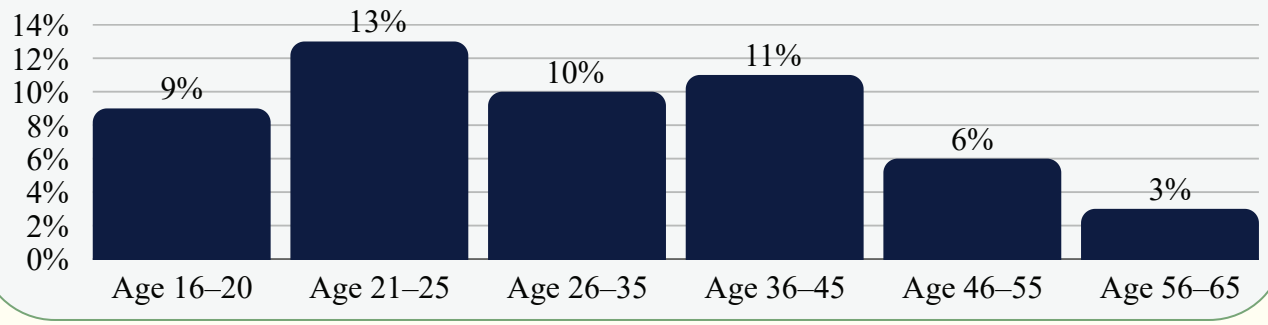


Seeking healthcare treatment after using marijuana in Massachusetts

The International Cannabis Policy Study asked past-year marijuana users aged 16–65 in Massachusetts in 2019–2023 whether they sought medical treatment for adverse health effects following marijuana use in the past year.[30] Among those aged 16–20, 9% said that they had sought medical treatment in the past year (Figure 5.13). The corresponding percentage was 13% among those aged 21–25. Past-year users aged 16–20 were three times as likely as those aged 56–65 to have sought healthcare treatment following their marijuana use.

Additionally, among those who identified as students (e.g., in high school or college) and used marijuana in the past year, 21% reported that they sought medical treatment in the past year for adverse effects following their marijuana use compared with 6% among those who were not students and 10% among those who did not disclose their student status.

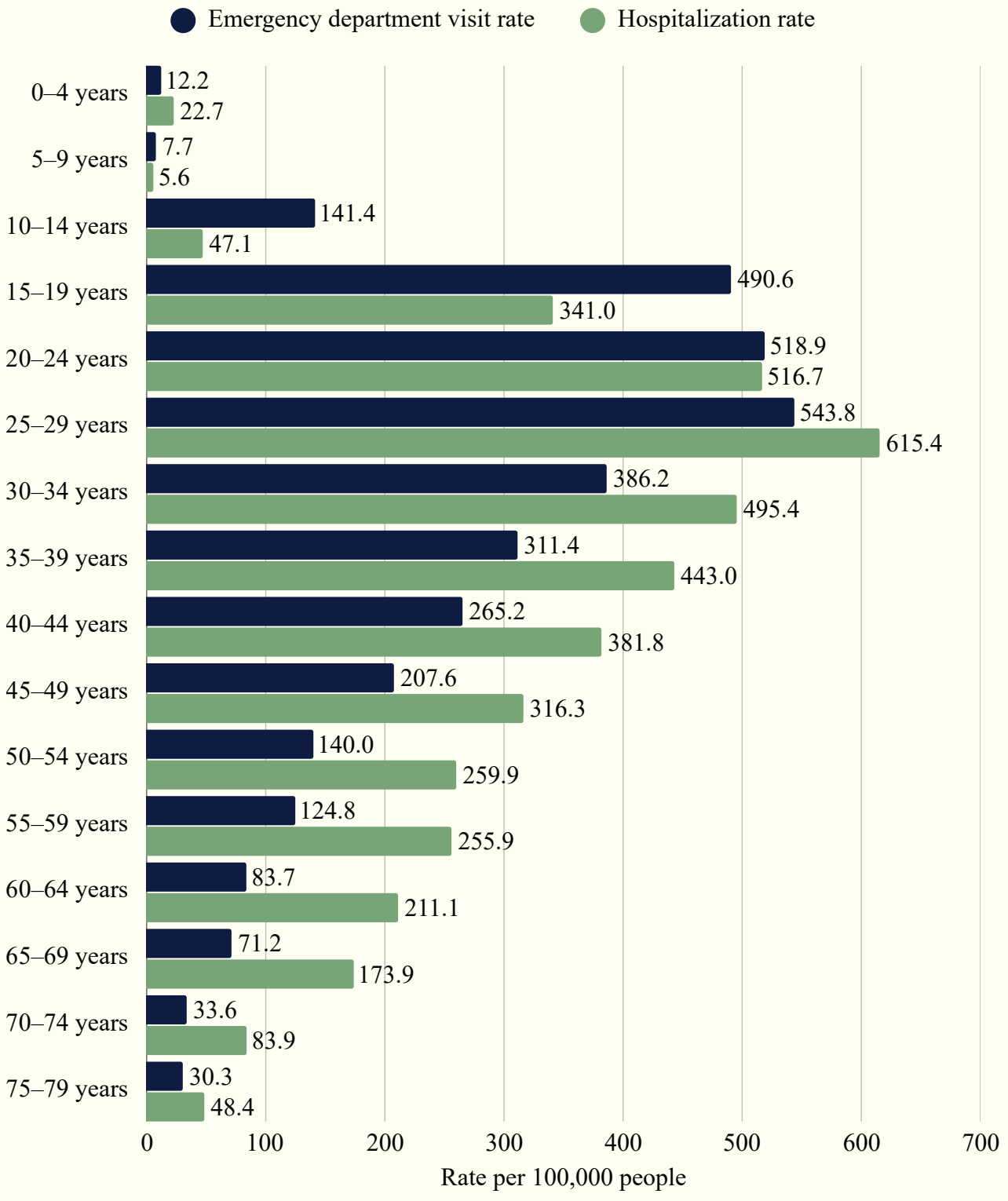
Figure 5.13. Past-year marijuana users seeking healthcare treatment after using marijuana in Massachusetts, 2019–2023



Connecticut

A 2025 report from the Connecticut Department of Public Health, citing the Connecticut Hospital Discharge Dataset, noted that the rate of marijuana-related ED visits in 2023 among 15–19-year-olds was 490.6 per 100,000 people, while the rate of marijuana-related hospitalizations among this age group was 341.0 per 100,000 (Figure 5.14).[31]

Figure 5.14. Rate of marijuana-related emergency department visits and hospitalizations per 100,000 people in Connecticut, 2023



Chapter 6. Additional Outcomes Associated with Youth Marijuana Use

Beyond estimates about youth marijuana use and its harms, various sources summarize additional outcomes related to marijuana use among minors, as well as how others' marijuana use impacts minors.

The CDC's 2019 Youth Risk Behavior Survey (YRBS) found that 21.8% of high school students were offered, sold, or given an illicit drug on school property.[1] The 2021–2022 School Survey on Crime and Safety, led by the National Center for Education Statistics, noted that 71.2% of high schools had at least one recorded incident related to the distribution, possession, or use of illegal drugs, such as marijuana.[2]

The Crime Data Explorer, managed by the Federal Bureau of Investigation (FBI), noted that there were 56,384 arrests involving people aged 20 or younger for the possession of marijuana in 2025.[3] There were also 3,472 arrests for the sale/manufacturing of marijuana among this age group.

The 2025 National Survey on Drug Use and Health (NSDUH), administered by the Substance Abuse and Mental Health Services Administration (SAMHSA), estimated that 19.4% of past-year marijuana users aged 16–20 drove under the influence of marijuana in the past year.[4] The survey also estimated that 6.7% of pregnant women aged 15–50 used marijuana in the past month, including 9.0% of pregnant women aged 18–25.

Among children aged 0–5 in 2023–2024, 3.4% had ever lived with someone who had a problem with alcohol or drugs compared to 7.8% of 6–11-year-olds and 11.8% of 12–17-year-olds, according to the National Survey of Children's Health.[5] The 2024 Maryland Medical Cannabis Patient Survey Report found that 22% of medical marijuana patients with at least one child under the age of 18 residing in the household smoked marijuana inside their home always or most of the time.[6]

In 2024, there were 11,450 single-substance exposures to marijuana edibles (i.e., they did not involve a second substance) reported to poison control centers, of which 4,736 involved children aged 5 or younger, 1,884 involved children aged 6–12, and 1,957 involved individuals aged 13–19, according to an annual report from the National Poison Data System.[7]

The National Institute on Drug Abuse (NIDA) reported that the tetrahydrocannabinol (THC) potency of marijuana increased from 3.96% in 1995 to 16.14% in 2022.[8]

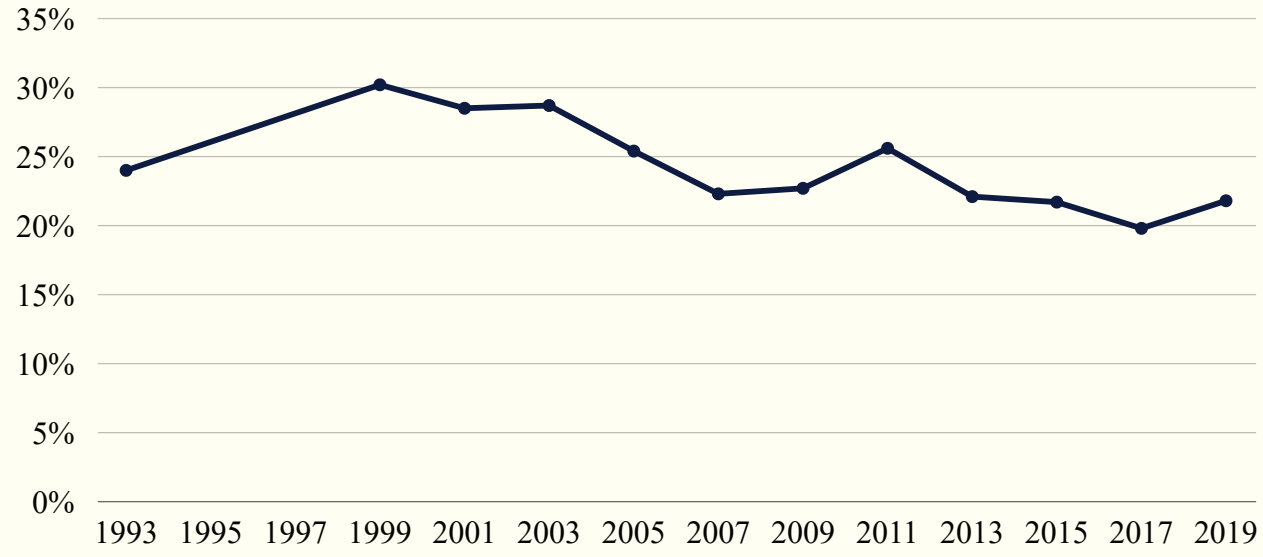
Regarding public opinion, 35.8% of 12th graders in 2025 thought that marijuana use should be entirely legal; 33.2% thought it should be a minor violation but not a crime; 13.1% thought it should be a crime; and 17.9% did not know, according to the Monitoring the Future (MTF) survey.[9]

A. Additional Outcomes

Availability of Drugs on School Property

According to the CDC's YRBS, the percentage of high school students who were offered, sold, or given an illicit drug on school property was 24.0% in 1993, 30.2% in 1999, 22.7% in 2009, and 21.8% in 2019 (Figure 6.1).[10] This question was not included in recent iterations of the survey.

Figure 6.1. High school students who were offered, sold, or given an illicit drug on school property in the past year, 1993–2019



In 2017, when the national average among high school students was 19.8%, this ranged from 17.7% among White students to 25.4% among Hispanic students (Figure 6.2).[11]

Figure 6.2. High school students who were offered, sold, or given an illicit drug on school property in the past year, 2017

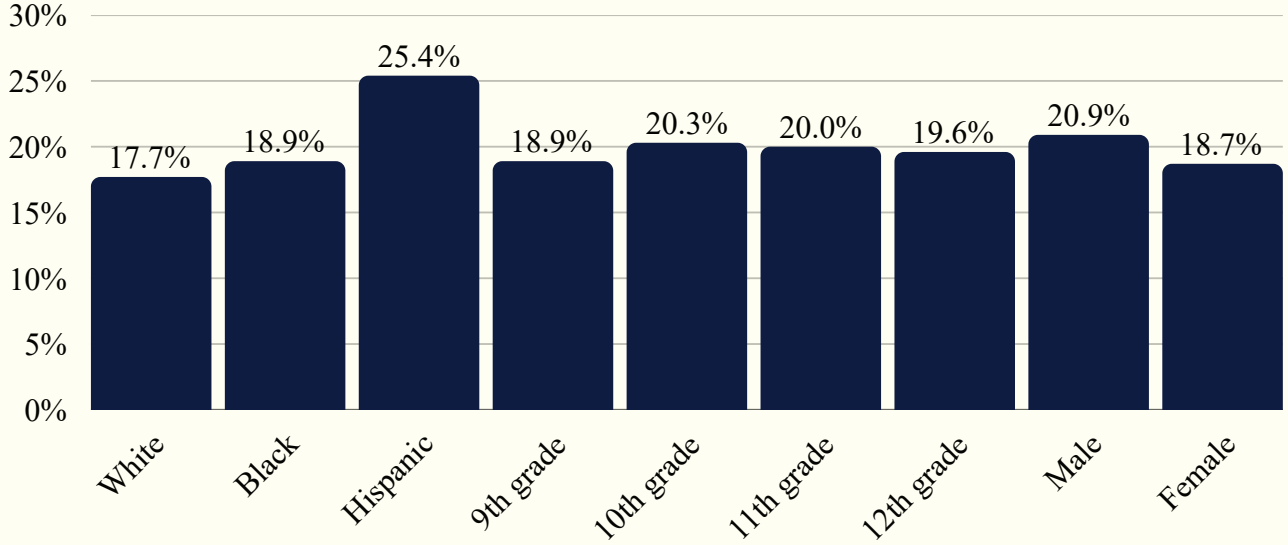


Table 6.1 summarizes state-level estimates of the percentage of high school students who were offered, sold, or given an illicit drug on school property in the past year in 2017.[12] Among states that participated, this ranged from a low of 12.1% in North Dakota to a high of 30.7% in Arkansas.

Table 6.1. High school students who were offered, sold, or given an illicit drug on school property in the past year by jurisdiction, 2017

Jurisdiction	High school students who were offered, sold, or given an illicit drug on school property in the past year
Total	**19.8%**
Alabama	N/A
Alaska	N/A
Arizona	29.1%
Arkansas	30.7%
California	27.0%
Colorado	18.0%
Connecticut	28.6%
Delaware	16.8%
District of Columbia	N/A
Florida	17.0%
Georgia	N/A
Hawaii	N/A
Idaho	22.2%
Illinois	25.3%
Indiana	N/A
Iowa	22.1%
Kansas	18.0%
Kentucky	22.4%
Louisiana	28.5%
Maine	14.0%
Maryland	23.5%
Massachusetts	20.1%
Michigan	26.0%
Minnesota	N/A
Mississippi	N/A
Missouri	N/A
Montana	21.7%
Nebraska	18.5%
Nevada	29.8%

(The table continues on the next page)

Table 6.1. High school students who were offered, sold, or given an illicit drug on school property in the past year by jurisdiction, 2017 (continued)

Jurisdiction	High school students who were offered, sold, or given an illicit drug on school property in the past year
New Hampshire	16.3%
New Jersey	N/A
New Mexico	26.2%
New York	N/A
North Carolina	21.9%
North Dakota	12.1%
Ohio	N/A
Oklahoma	22.5%
Oregon	N/A
Pennsylvania	17.9%
Rhode Island	N/A
South Carolina	26.0%
South Dakota	N/A
Tennessee	23.7%
Texas	26.7%
Utah	25.9%
Vermont	15.2%
Virginia	15.5%
Washington	N/A
West Virginia	24.0%
Wisconsin	18.4%
Wyoming	N/A

Table 6.2 summarizes local estimates of the percentage of high school students who were offered, sold, or given an illicit drug on school property in the past year in 2017. Among the school districts that participated in the YRBS that year and had representative data, this ranged from a low of 19.7% in Cleveland, Ohio, to a high of 32.2% in Chicago, Illinois.[13]

Table 6.2. High school students who were offered, sold, or given an illicit drug on school property in the past year by school district, 2017

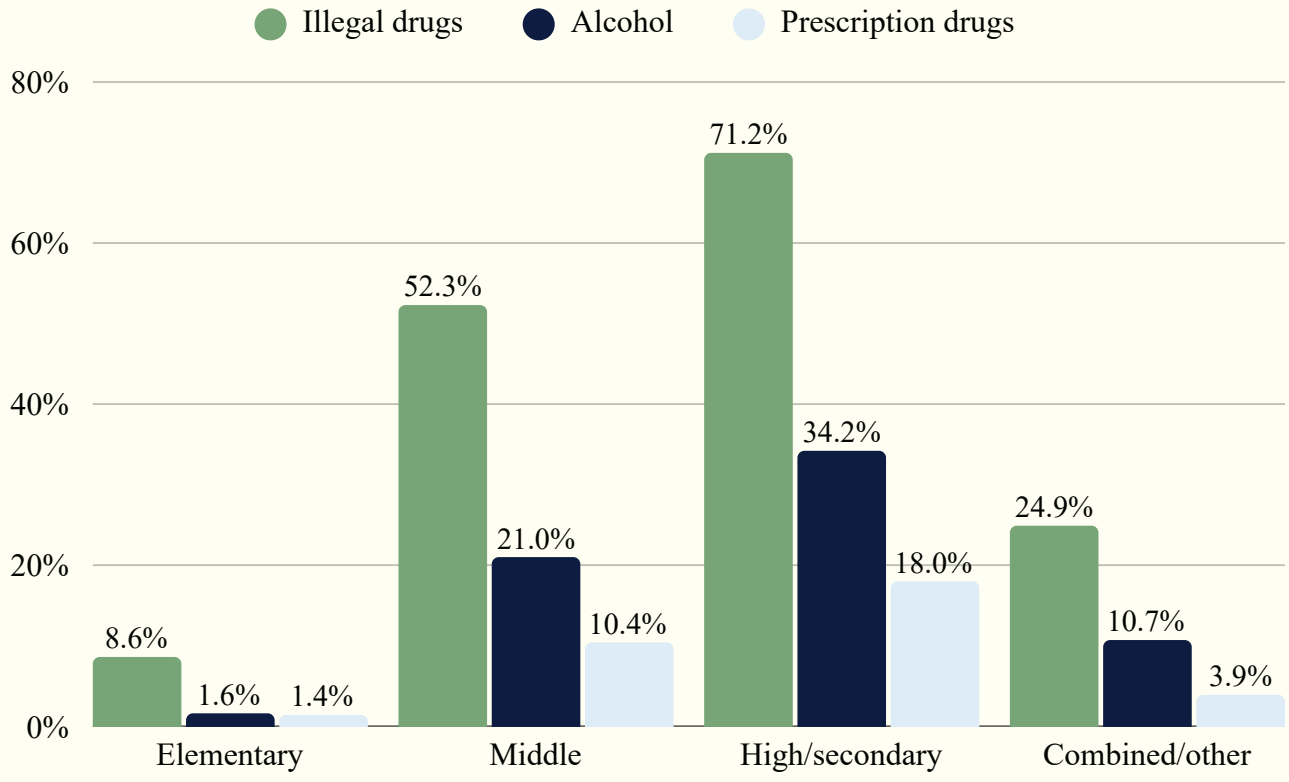
Jurisdiction	High school students who were offered, sold, or given an illicit drug on school property in the past year
United States average	**19.8%**
Baltimore, MD	27.8%
Boston, MA	21.0%
Broward County, FL	29.0%
Chicago, IL	32.2%
Cleveland, OH	19.7%
DeKalb County, GA	27.2%
Detroit, MI	31.1%
Duval County, FL	27.0%
Fort Worth, TX	27.6%
Houston, TX	27.5%
Los Angeles, CA	29.3%
Miami-Dade County, FL	30.5%
Oakland, CA	29.1%
Orange County, FL	29.3%
Palm Beach County, FL	24.5%
Philadelphia, PA	21.0%
San Diego, CA	27.3%
San Francisco, CA	21.7%
Shelby County, TN	29.1%

Recorded Incidents Related to Drugs at School

The School Survey on Crime and Safety, led by the federal National Center for Education Statistics, found that 29.2% of public schools during the 2021–2022 school year recorded at least one incident related to the distribution, possession, or use of illegal drugs.[14] This included 8.6% of elementary schools, 52.3% of middle schools, and 71.2% of high schools, as well as 24.9% of combined/other schools (Figure 6.3). In comparison, 11.8% of schools reported incidents related to alcohol and 6.4% reported incidents related to prescription drugs.

During that period, there were 159,000 illegal drug-related incidents, corresponding to a rate of 3.3 per 1,000 students. In comparison, there were 20,700 alcohol-related incidents, corresponding to a rate of 0.4 per 1,000 students, and 16,200 prescription drug-related incidents, corresponding to a rate of 0.3 per 1,000 students. High schools had a rate of 7.4 illegal drug-related incidents per 1,000 students, as well as a rate of 0.9 alcohol-related incidents per 1,000 students and 0.7 prescription drug-related incidents per 1,000 students.

Figure 6.3. Percentage of public schools that recorded at least one incident related to the distribution, possession, or use of substances, 2021–2022



Additionally, during the 2021–2022 school year, 23.1% of public schools reported that they conducted random sweeps for contraband (e.g., drugs or weapons), such as locker checks and dog sniffs, including 7.7% of elementary schools, 38.9% of middle schools, and 54.2% of high schools.

California parent and school staff surveys

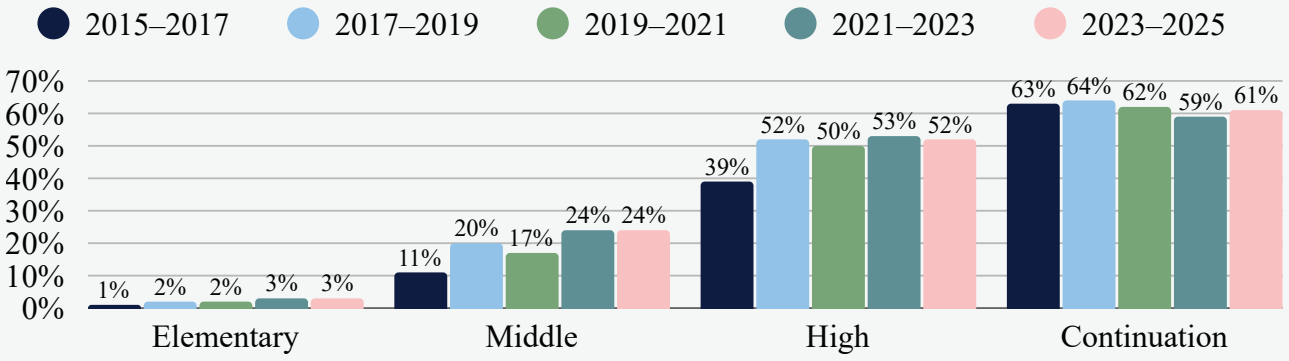
California is unique for surveying school staff and parents about their perceptions of drug-related problems in the schools.

According to the California School Staff Survey, based on data for 2023–2025, 22% of school staff members reported that alcohol and drug use was a moderate or severe problem "for students enrolled in this school."*[15] This included 3% of staff members at elementary schools, 24% of staff at middle schools, 52% of staff at high schools, and 61% of staff at continuation schools.

Among high school staff members, 44% of administrators reported that alcohol and drug use was a moderate or severe problem, in addition to 49% of classified staff, 50% of paraprofessionals, 52% of teachers, 57% of special education teachers, and 57% of those in an "other role."

Between 2015–2017 and 2023–2025, the percentage of high school staff members who reported that alcohol and drug use was a moderate or severe problem increased from 39% to 52%, while it increased from 11% to 24% among middle school staff members (Figure 6.4).

Figure 6.4. School staff members reporting that alcohol and drug use was a moderate or severe problem among students in California schools, 2015–2025



Based on the answers from staff members at all types of schools, the 2023–2025 survey found that 18% of staff members said that the school provides "a lot" of alcohol or drug use prevention, while 47% said that the school provides "some."[16] It also found that 31% of staff members strongly agreed with the statement that the school considers substance use prevention an important goal, 26% strongly agreed that the school "collaborates well with community organizations to address substance use or other problems," and 25% strongly agreed that the school has sufficient resources to address substance use prevention needs.

Additionally, the California School Parent Survey, based on data for 2023–2025, found that 38% of parents of high school students said that student alcohol and drug use is "somewhat a problem" or a "large problem."*[17] This compared to 18% of parents of middle school students, 9% of parents of elementary school students, and 25% of parents of students at continuation schools.

* = The California School Staff Survey asked, "for students enrolled in this school, how much of a problem is student alcohol and drug use?" The California School Parent Survey asked, "based on your experience, how much of a problem at this school is student alcohol and drug use?"

Arrests on College Campuses

Colleges are required by the Clery Act to report campus crime data to the federal Department of Education, which posts this information on a dashboard. The number of arrests for "drug abuse violations" on college campuses increased from 23,385 in 2005 to a peak of 31,251 in 2012, then declined to 9,740 in 2024 (Figure 6.5).[18] This category includes the unlawful possession, use, production, and sale of drugs.

The states that accounted for the most drug-related arrests in 2024 were Texas (1,616), California (1,181), Pennsylvania (469), North Carolina (463), and Florida (415) (Table 6.3).

For comparison, in 2024, there were 8,507 arrests on college campuses for "liquor law violations." This category includes the unlawful possession, use, production, and sale of alcoholic beverages, though it does not include driving under the influence or "drunkenness."

In 2024, there were also 25,254 non-arrest "disciplinary actions" for drug abuse violations, in addition to 89,095 for liquor law violations.

Figure 6.5. Drug-related arrests on college campuses, 2005–2024

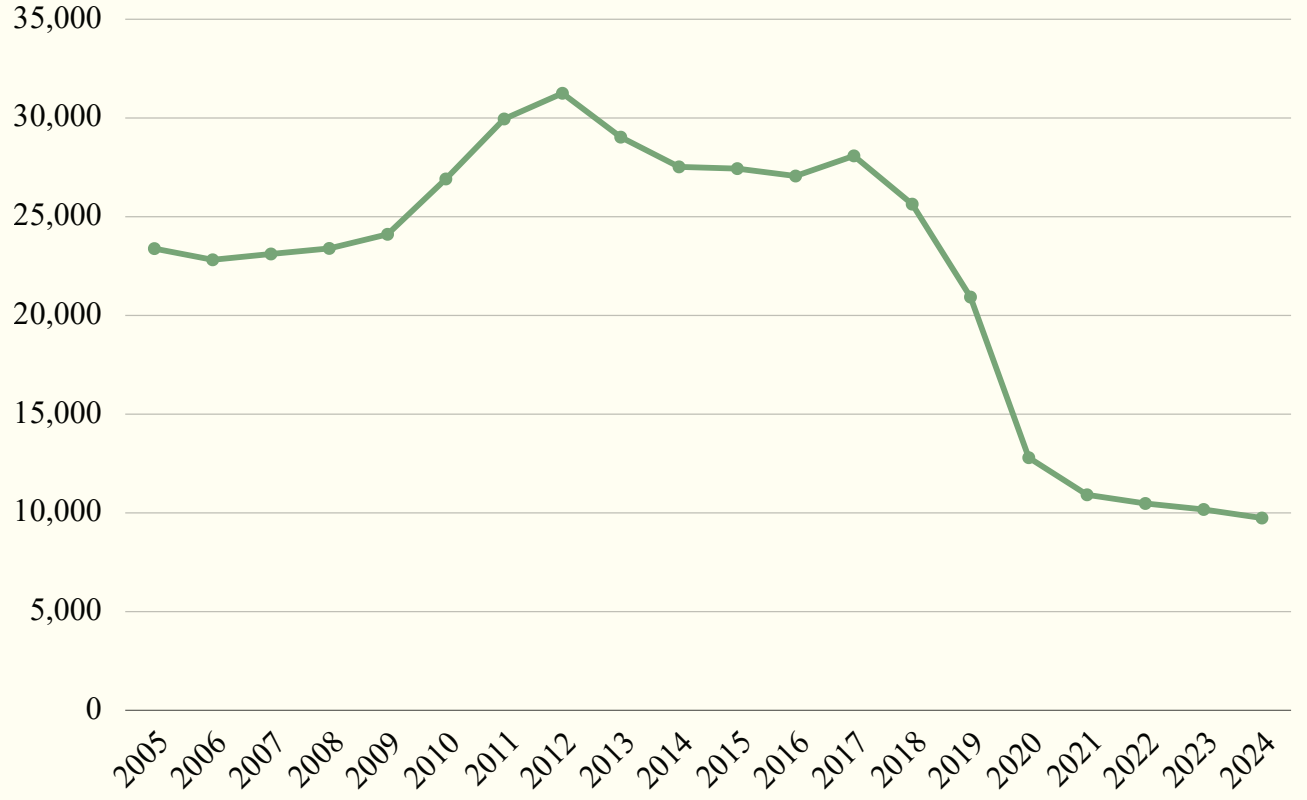


Table 6.3. Drug-related arrests on college campuses, 2024

Jurisdiction	Arrests on college campuses for drug abuse violations
Total	**9,740**
Alabama	214
Alaska	9
Arizona	268
Arkansas	164
California	1,181
Colorado	181
Connecticut	15
Delaware	45
District of Columbia	13
Florida	415
Georgia	349
Hawaii	2
Idaho	95
Illinois	125
Indiana	413
Iowa	238
Kansas	123
Kentucky	215
Louisiana	200
Maine	4
Maryland	35
Massachusetts	63
Michigan	52
Minnesota	52
Mississippi	78
Missouri	168
Montana	42
Nebraska	134
Nevada	73
New Hampshire	8
New Jersey	63
New Mexico	63
New York	157

(The table continues on the next page)

Table 6.3. Drug-related arrests on college campuses, 2024 (continued)

Jurisdiction	Arrests on college campuses for drug abuse violations
North Carolina	463
North Dakota	57
Ohio	164
Oklahoma	238
Oregon	142
Pennsylvania	469
Rhode Island	7
South Carolina	277
South Dakota	30
Tennessee	213
Texas	1,616
Utah	149
Vermont	1
Virginia	220
Washington	55
West Virginia	104
Wisconsin	231
Wyoming	47

Juvenile court cases

The National Center for Juvenile Justice, with support from the Department of Justice, reported that in 2023 there were 653,800 cases handled by juvenile courts related to delinquency among individuals aged 17 or younger.[19] Among these, 69,500 were for drug law violations. The report said this category "includes unlawful sale, purchase, distribution, manufacture, cultivation, transport, possession, or use of a controlled or prohibited substance or drug or drug paraphernalia, or attempt to commit these acts. Sniffing of glue, paint, gasoline, and other inhalants is also included." It did not specify which drugs were involved in the cases.

Among the 69,500 cases for drug law violations in 2023, the report noted that 49% involved people younger than age 16, 31% involved females, and 49% involved individuals who were White. It added that 88% of these drug-related cases in 2023 were referred by law enforcement. The remainder came from other sources, including social service agencies, schools, parents, probation officers, and victims.

Arrests for the Sale and Possession of Marijuana

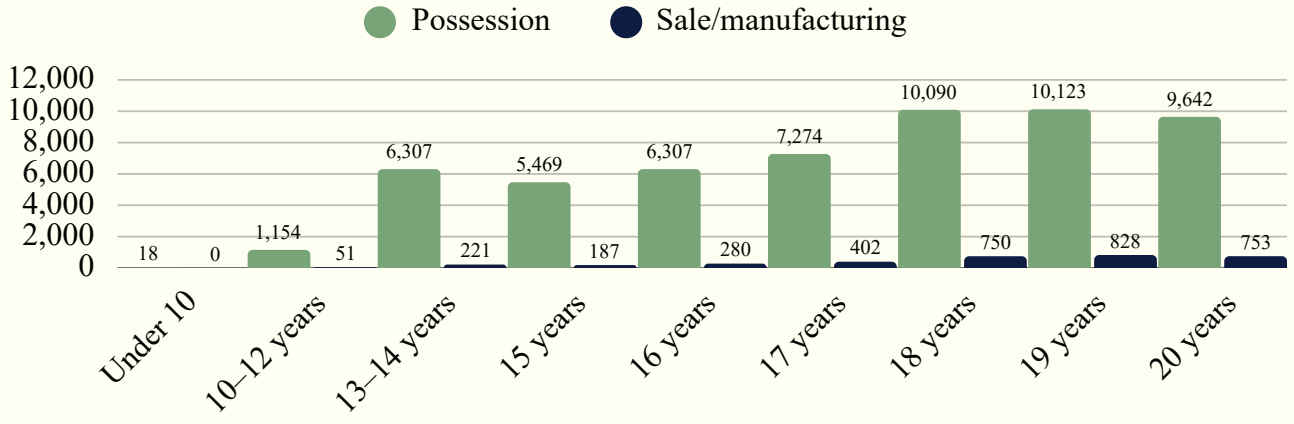
The Crime Data Explorer, managed by the FBI, noted that there were 200,960 arrests for the possession of marijuana in 2025, of which 56,384 involved individuals aged 20 or younger.[20] Among these 56,384 arrests involving people aged 20 or younger, 42,022 involved males and 14,362 involved females. That year, 10,090 arrests for the possession of marijuana involved 18-year-olds, while 6,307 involved individuals aged 13–14 (Figure 6.6).

Additionally, the Crime Data Explorer reported 17,192 arrests for the sale/manufacturing of marijuana, of which 3,472 involved individuals aged 20 or younger. Among these 3,472 arrests involving people aged 20 or younger, 3,034 involved males and 438 involved females. That year, 750 arrests for the sale/manufacturing of marijuana involved 18-year-olds, while 221 involved individuals aged 13–14.

These estimates include data submitted to the FBI as of August 15, 2026; the number of arrests for 2025 will likely increase slightly as additional records are submitted and processed. Additionally, the numbers represent the number of arrests, not the number of individuals who were arrested, given that individuals could have been arrested more than one time.

There were 218,152 arrests for the possession or sale/manufacturing of marijuana in 2025.[21] For context, the National Organization for the Reform of Marijuana Laws (NORML) said that "marijuana arrests peaked in the United States in 2007, when police made over 870,000 marijuana-related arrests."[22]

Figure 6.6. Arrests for the possession and sale/manufacturing of marijuana among individuals aged 20 or younger, 2025



Racial disparities

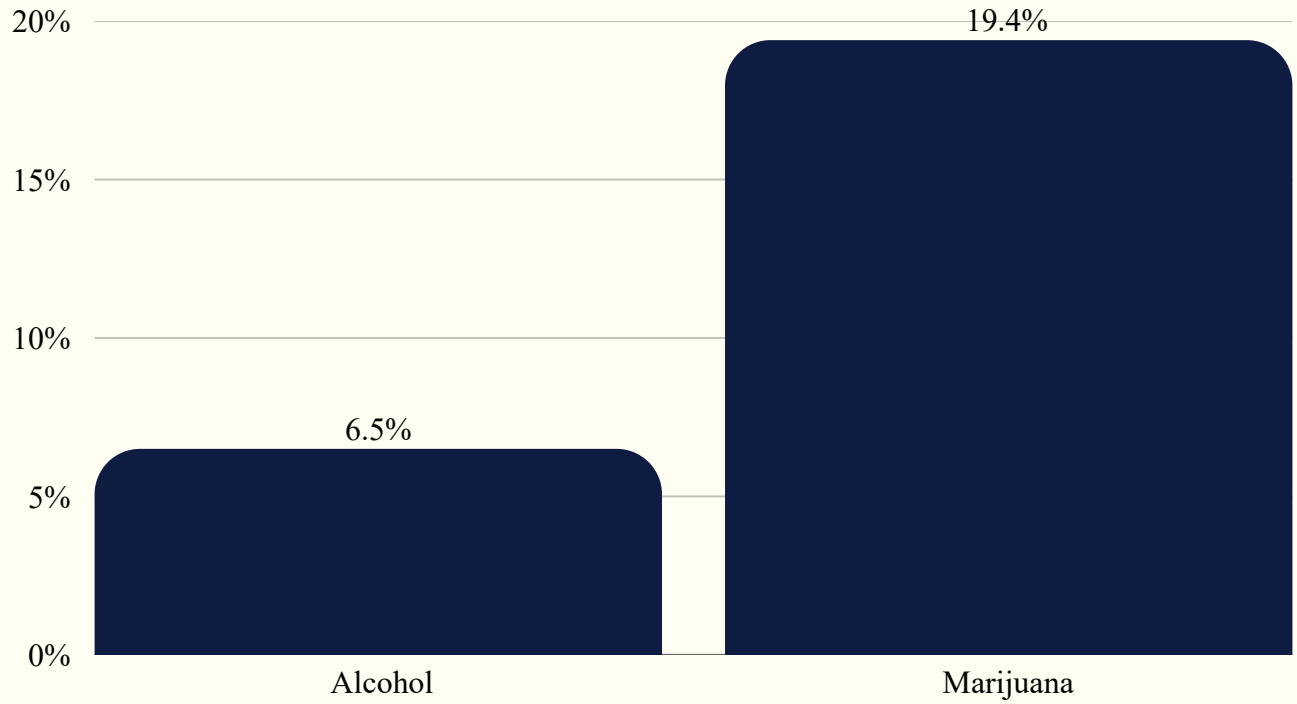
Analyzing data for 2018, the American Civil Liberties Union (ACLU) found that "on average, a Black person is 3.64 times more likely to be arrested for marijuana possession than a white person, even though Black and white people use marijuana at similar rates."[23] They added, "though legalization and decriminalization appear to reduce the overall number of marijuana possession arrests for Black and White people alike, such laws have not substantially reduced, let alone eliminated, the significantly larger arrest rates of Black people."

Using the ACLU's methodology, the *State of Substance Use* report recalculated the disparity for 2024 and found that it had widened: Black people were 4.49 times more likely than White people to be arrested for the possession of marijuana.[24]

Impaired Driving

The 2025 NSDUH estimated that 19.4% of past-year marijuana users aged 16–20 drove under the influence of marijuana in the past year (1,046,000 drove under the influence of marijuana out of 5,391,000 past-year marijuana users in that age group) (Figure 6.7).[25] In comparison, 6.5% of past-year alcohol users aged 16–20 drove under the influence of alcohol in the past year (552,000 drove under the influence of alcohol out of 8,531,000 past-year alcohol users in the age group).[26]

Figure 6.7. Prevalence of impaired driving among past-year marijuana and alcohol users aged 16–20, 2025



Additional context

AAA's 2024 Traffic Safety Index found that only 70% of drivers thought it would be very or extremely dangerous to drive within one hour of using marijuana, including 79% of 16–18-year-olds.[27] In comparison, 93% of drivers, including 96% of 16–18-year-olds, thought it would be very or extremely dangerous to drive after drinking enough alcohol to be over the legal limit. Additionally, 60% of people thought someone would likely be apprehended by the police after driving under the influence of alcohol compared to 25% who felt this way about individuals who drove under the influence of marijuana.

The report noted that 97% of respondents thought that driving after drinking enough alcohol to be over the legal limit would be socially disapproved of compared to 95% who felt this way about driving within an hour of using marijuana. The survey found that 7% of drivers admitted to having driven when they had enough alcohol to be over the legal limit in the past month compared to 6% who drove within an hour of using marijuana.

According to SAMHSA's Data Analysis System, the percentage of 18–25-year-olds—not only marijuana users—who drove under the influence of marijuana in the past year ranged from a low of 3.8% in West Virginia to a high of 22.7% in Vermont in 2023–2024 (Table 6.4).[28] Of note, the system suppressed comparable state-level data for 16–20-year-olds.

Table 6.4. Marijuana-impaired driving among 18–25-year-olds by jurisdiction, 2023–2024

Jurisdiction	Percentage of 18–25-year-olds who drove under the influence of marijuana in the past year
Total	**8.4%**
Alabama	7.4%
Alaska	6.3%
Arizona	4.4%
Arkansas	6.6%
California	8.2%
Colorado	9.8%
Connecticut	9.0%
Delaware	7.9%
District of Columbia	4.2%
Florida	9.4%
Georgia	8.0%
Hawaii	4.7%
Idaho	6.4%
Illinois	10.4%
Indiana	7.4%
Iowa	8.5%
Kansas	8.2%
Kentucky	6.6%
Louisiana	8.5%
Maine	18.8%
Maryland	10.5%
Massachusetts	10.0%
Michigan	8.3%
Minnesota	9.8%
Mississippi	7.0%

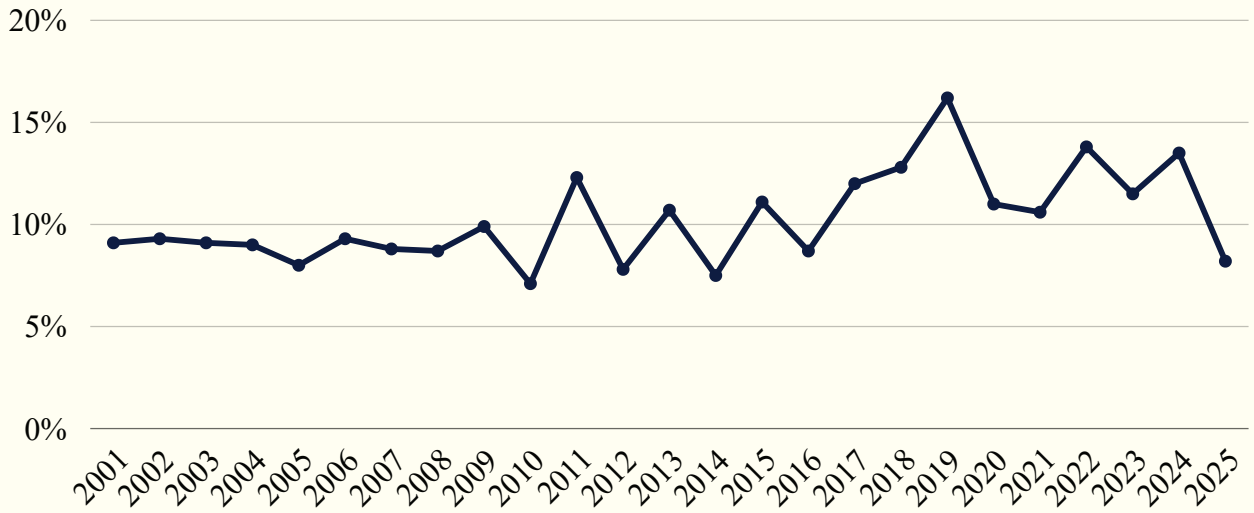
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Table 6.4. Marijuana-impaired driving among 18–25-year-olds by jurisdiction, 2023–2024 (continued)

Jurisdiction	Percentage of 18–25-year-olds who drove under the influence of marijuana in the past year
Missouri	11.6%
Montana	15.3%
Nebraska	4.4%
Nevada	8.2%
New Hampshire	10.5%
New Jersey	10.2%
New Mexico	12.3%
New York	5.3%
North Carolina	9.5%
North Dakota	9.2%
Ohio	11.1%
Oklahoma	7.6%
Oregon	10.6%
Pennsylvania	7.9%
Rhode Island	12.5%
South Carolina	9.4%
South Dakota	7.4%
Tennessee	8.0%
Texas	6.2%
Utah	4.1%
Vermont	22.7%
Virginia	9.1%
Washington	10.8%
West Virginia	3.8%
Wisconsin	10.6%
Wyoming	10.0%

According to the MTF survey's panel study, the percentage of 19–30-year-olds who drove under the influence of marijuana in the past two weeks was 9.1% in 2001, 7.8% in 2012, and 8.2% in 2025, peaking at 16.2% in 2019 (Figure 6.8).[29]

Figure 6.8. Percentage of 19–30-year-olds who drove under the influence of marijuana in the past two weeks, 2001–2025



According to the 2025 Pennsylvania Youth Survey, 17.8% of 12th graders in Pennsylvania who used marijuana more than once a day in the past month said that they drove "while or shortly after using marijuana" almost every day (Table 6.5).[30]

Table 6.5. Marijuana-impaired driving among 12th graders in Pennsylvania, 2025

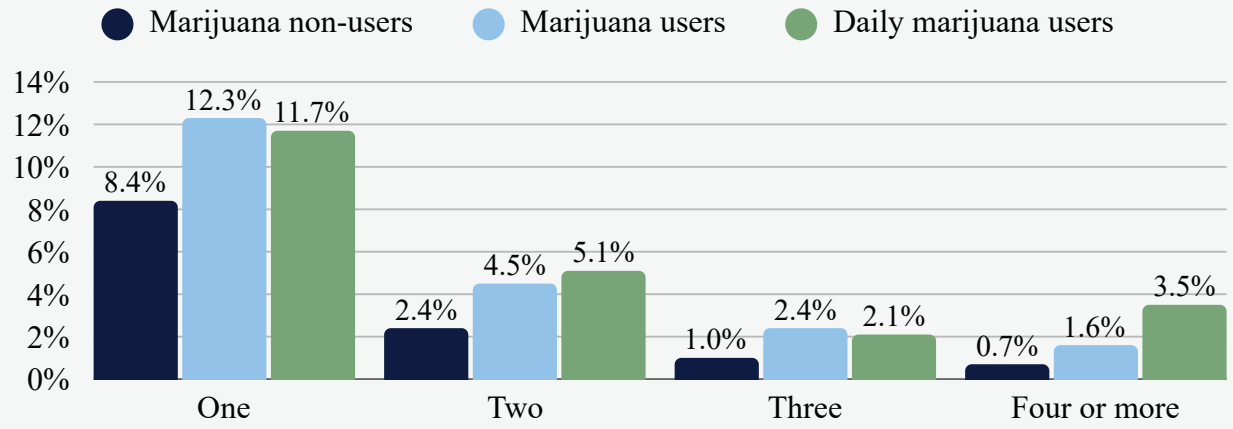
How often have you driven a motor vehicle while or shortly after using marijuana?	I don't drive	Never	Before but not in the past year	About once or twice a year	About once or twice a month	About once or twice a week	Almost every day
No marijuana use in the past month	2.3%	96.9%	0.4%	0.2%	0.1%	0.0%	0.1%
Used marijuana once or twice	24.7%	56.7%	6.3%	8.7%	2.0%	1.3%	0.3%
Used marijuana once or twice per week	23.1%	51.6%	3.3%	8.8%	4.4%	6.6%	2.2%
Used marijuana about once a day	32.3%	41.5%	1.5%	7.7%	9.2%	4.6%	3.1%
Used marijuana more than once a day	26.0%	23.3%	11.0%	9.6%	5.5%	6.9%	17.8%

The association between youth marijuana use and traffic safety

In 2024, among 12th graders, 12.5% of those who did not use marijuana in the past month and 20.8% of those who used marijuana in the past month, including 22.4% of those who were daily marijuana users in the past month, received a ticket or warning for driving violations in the past year (e.g., for speeding or running a red light), according to the Monitoring the Future survey.[31]

That year, 3.5% of 12th graders who were daily marijuana users in the past month received 4 or more tickets or warnings for driving violations in the past year compared to 0.7% of those who did not use marijuana in the past month (Figure 6.9).

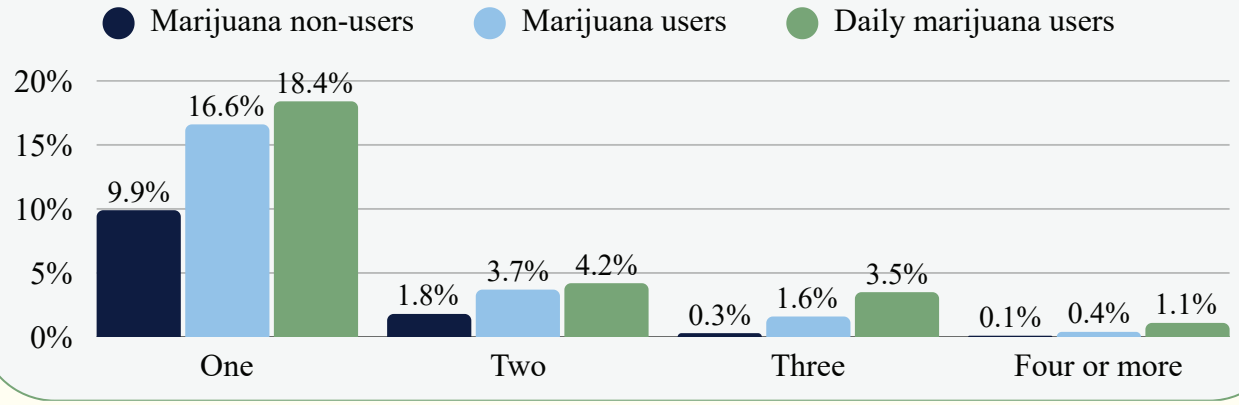
Figure 6.9. Tickets or warnings for driving violations among 12th graders by marijuana use, 2024



The survey also asked, "During the last 12 months, how many accidents have you had while you were driving (whether or not you were responsible)?" noting that "'accidents' means a collision involving property damage or personal injury—not bumps or scratches in parking lots."

In 2024, among 12th graders, 12.2% of those who did not use marijuana in the past month and 22.3% of those who used marijuana in the past month, including 27.2% of those who were daily users in the past month, were in an accident while they were driving in the past year. Additionally, 1.1% of 12th graders who were daily users in the past month were in 4 or more accidents in the past year compared to 0.1% of those who did not use marijuana in the past month (Figure 6.10).

Figure 6.10. Traffic accidents among 12th graders by marijuana use, 2024



The 2025 report from Illinois's Adult Use Cannabis Health Advisory Committee, led by professor James Swartz from the University of Illinois Chicago, highlighted the percentage of positive tests for marijuana among drivers who were involved in fatal traffic crashes and were tested for marijuana.[32] In 2023, 25.5% of tested drivers were positive for marijuana, up from 19.6% in 2018–2019 (Figure 6.11). The report drew on data from the National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS).

The report noted that "a positive test does not indicate impairment at the time of the crash, only that cannabis metabolites were present. Still, the rising trend raises concerns about poly-substance use, driver safety, and evolving driving behaviors post-legalization."

The report also included estimates for Illinois and its neighboring states. In Illinois, the percentage of drivers who were positive for marijuana increased from 25.3% in 2018–2019 to 30.3% in 2023, while the percentage in Indiana increased from 7.2% to 21.3% (Table 6.6).

Figure 6.11. Positive tests for marijuana among tested drivers in fatal traffic crashes in the United States, 2018–2023

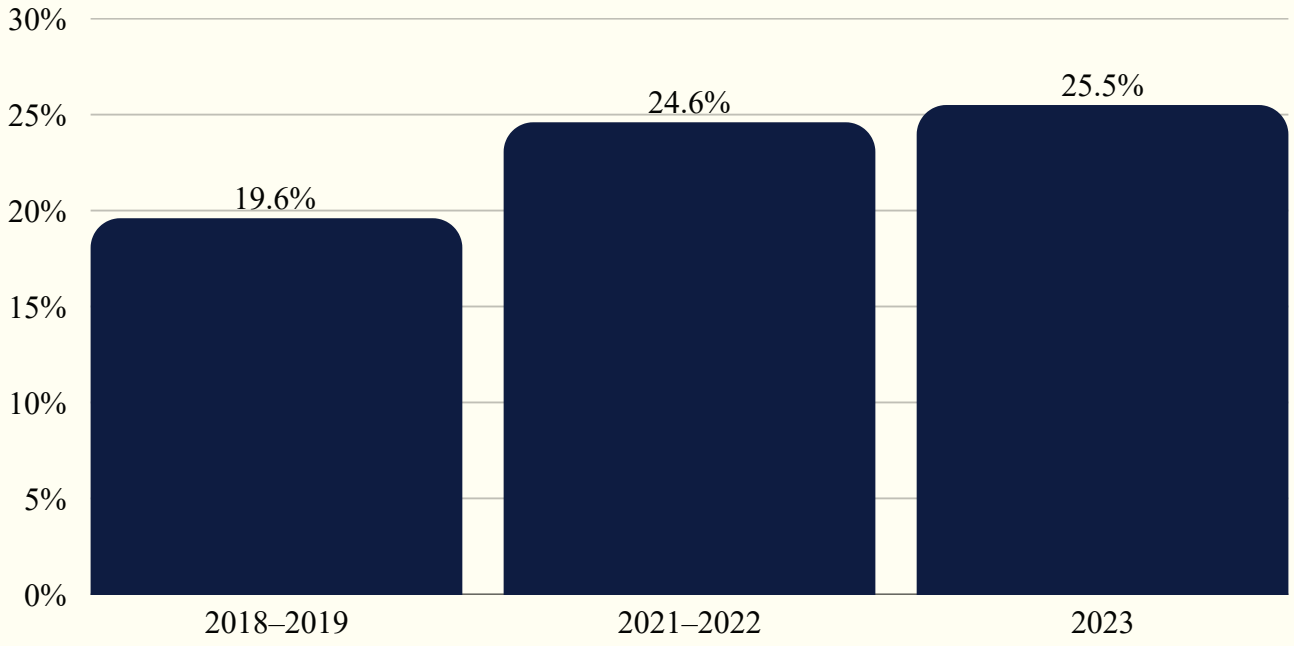


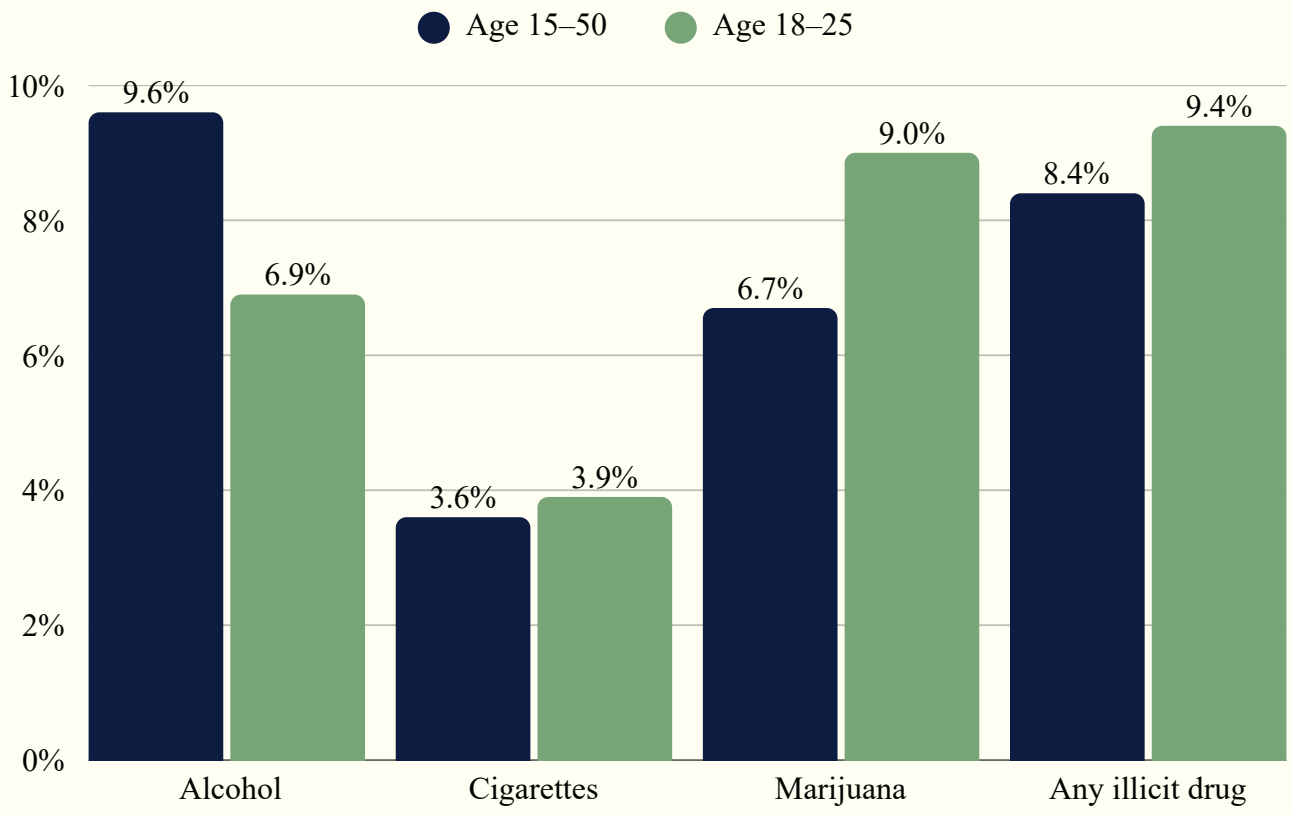
Table 6.6. Positive tests for marijuana among tested drivers in fatal traffic crashes in selected states, 2018–2023

State	2018–2019	2021–2022	2023
Illinois	25.3%	28.3%	30.3%
Indiana	7.2%	17.3%	21.3%
Iowa	24.7%	23.4%	29.4%
Michigan	22.3%	28.1%	28.7%
Missouri	28.2%	29.2%	29.3%
Wisconsin	19.3%	22.5%	22.2%

Pregnancy

The 2025 NSDUH estimated that 6.7% of pregnant women aged 15–50 used marijuana in the past month, including 9.0% of pregnant women aged 18–25 (Figure 6.12).[33] In comparison, 3.6% of pregnant women aged 15–50 smoked cigarettes in the past month, including 3.9% of those aged 18–25. The survey also found that 9.6% of pregnant women aged 15–50 drank alcohol in the past month, including 6.9% of those aged 18–25.

Figure 6.12. Past-month substance use among pregnant women aged 15–50, 2025



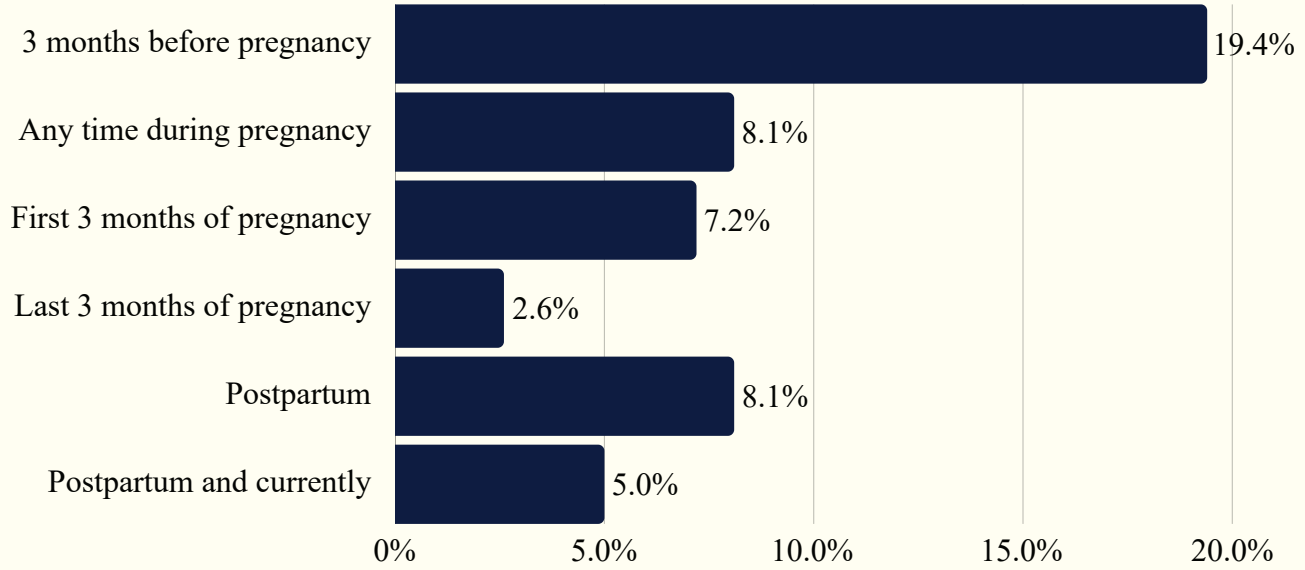
The harms of marijuana use during pregnancy

SAMHSA, which conducts the NSDUH survey, warned that "marijuana use during pregnancy can be harmful to a baby's health and cause many serious problems, including stillbirth, preterm birth, and growth and development issues ... marijuana use during pregnancy is not safe and comes with serious, potentially deadly risks."[34] The CDC warned that the use of marijuana during pregnancy may be linked to problems in children as they grow up, including issues with attention, memory, problem-solving skills, and behavior.[35]

In 2019, then-Surgeon General Dr. Jerome Adams issued an advisory that emphasized "the importance of protecting our Nation from the health risks of marijuana use in adolescence and during pregnancy. Recent increases in access to marijuana and in its potency, along with misperceptions of safety of marijuana endanger our most precious resource, our nation's youth."[36]

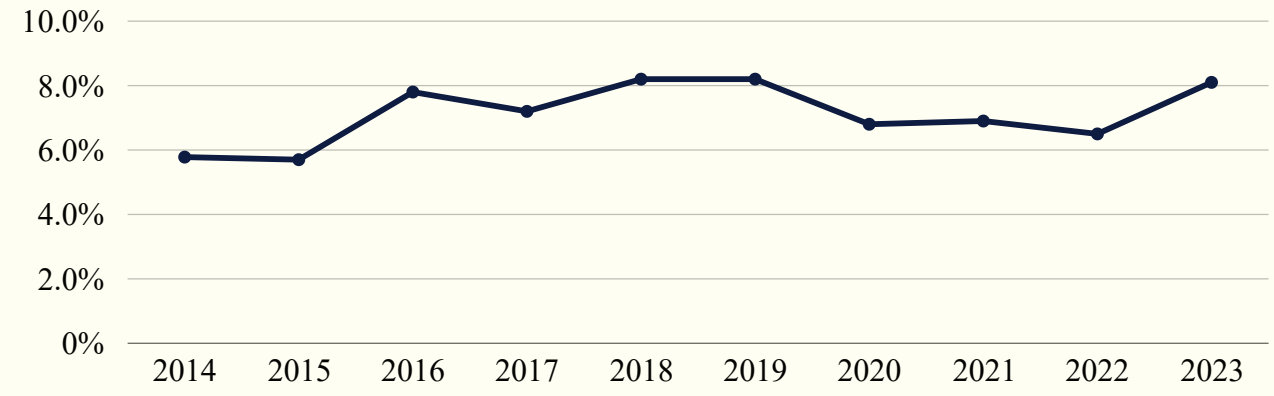
Colorado's Pregnancy Risk Assessment Monitoring System (PRAMS) asked women who recently gave birth, "during any of the following time periods, did you use marijuana or cannabis in any form," finding that in 2023 19.4% of respondents reported using marijuana during the 3-month period before their pregnancy, 8.1% used it during their pregnancy, and 8.1% used it during the postpartum period (Figure 6.13).[37]

Figure 6.13. Marijuana use before, during, and after pregnancy among women in Colorado, 2023



Colorado's PRAMS, which received funding from the Centers for Disease Control and Prevention, also found that the percentage of respondents who reported using marijuana during their pregnancy increased from 5.7% in 2014 to 8.1% in 2023 (Figure 6.14). Colorado added questions about marijuana to the survey in 2014.

Figure 6.14. Marijuana use during pregnancy among women in Colorado, 2014–2023



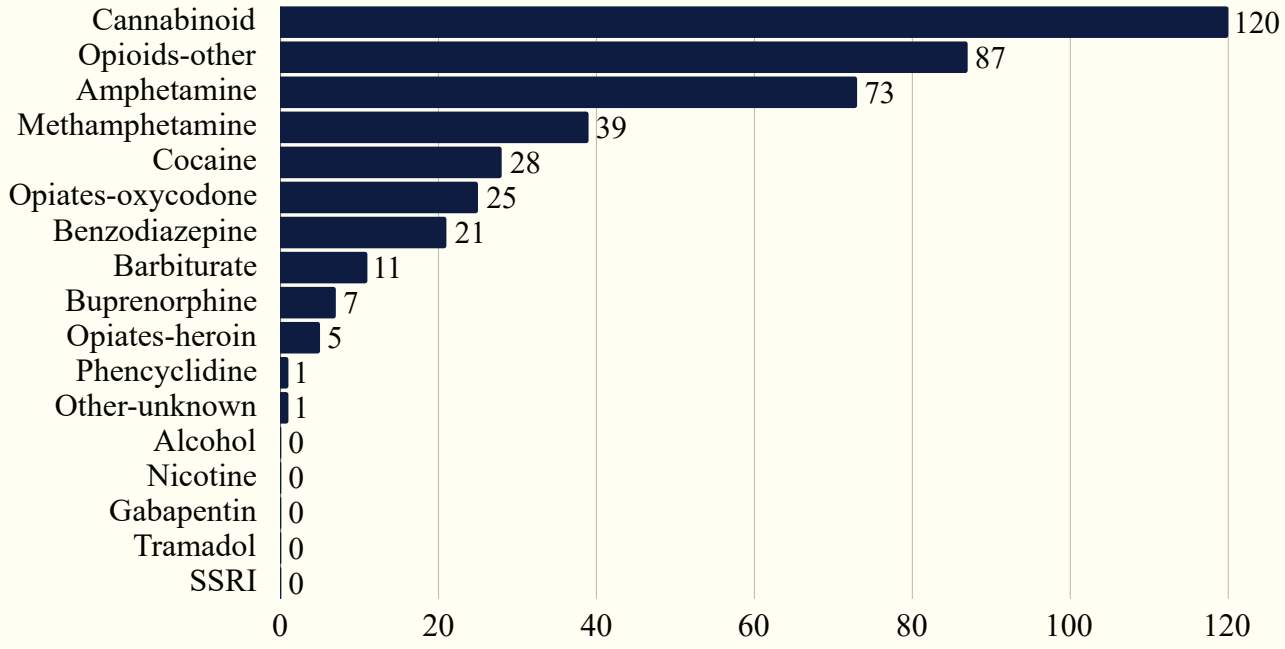
After averaging responses from 2020–2022, Colorado's PRAMS reported that 11.2% of respondents who had fewer than 12 years of education used marijuana during their pregnancy compared to 10.6% of those who had 12 years of education (likely corresponding to graduating from high school) and 5.1% of those who had more than 12 years of education (likely corresponding to enrollment at college). Additionally, during 2020–2022, 11.5% of respondents who had an unintended pregnancy used marijuana during their pregnancy compared to 4.1% of those who had an intended pregnancy.

Neonatal Abstinence Syndrome

Georgia released a report on confirmed cases of neonatal abstinence syndrome (NAS) that said that "cannabinoids were by far the most commonly identified substance (n=120), followed by Opioids-Other* (n=87), and Amphetamines (n=73)" in 2016 (Figure 6.15).[38] NAS is a condition that occurs when a newborn experiences withdrawal from a substance after being exposed to it in utero.

Of note, these cases could have involved more than one substance: 72.1% of cases involved one substance, 22.1% involved two, 3.9% involved three, and 1.9% involved four. Georgia's report also said that "forty-two percent of cases were identified by the presence of both clinical symptoms and a positive substance test. The remainder were confirmed by presence of clinical symptoms only (24.9%) or by positive substance test only (32.9%)."

Figure 6.15. Substances in confirmed cases of neonatal abstinence syndrome in Georgia, 2016



The Minnesota Department of Health, citing data from the Minnesota Hospital Association, reported that the number of hospital visits involving newborns affected by the birthing parent's marijuana use was 262 each year in 2021 and 2022 and then decreased to 191 in 2023.[39] This outcome was based on the ICD-10-CM diagnosis code P04.81.

Likewise, Arizona's Maricopa County reported that the P04.81 ICD-10-CM code was referenced in 6.9% of the cases of NAS—189 of 2,720—between 2020 and 2024.[40] For comparison, opiates (P04.14) were in 35.6% (967), amphetamines (P04.16) were in 16.9% (461), cocaine (P04.41) was in 1.9% (52), and alcohol (P04.3) was in 0.5% (13). The category of "other drugs of addiction" (P04.49) was in 44.1% (1,199), and the category of "other maternal medication" (P04.18) was in 40.7% (1,107).

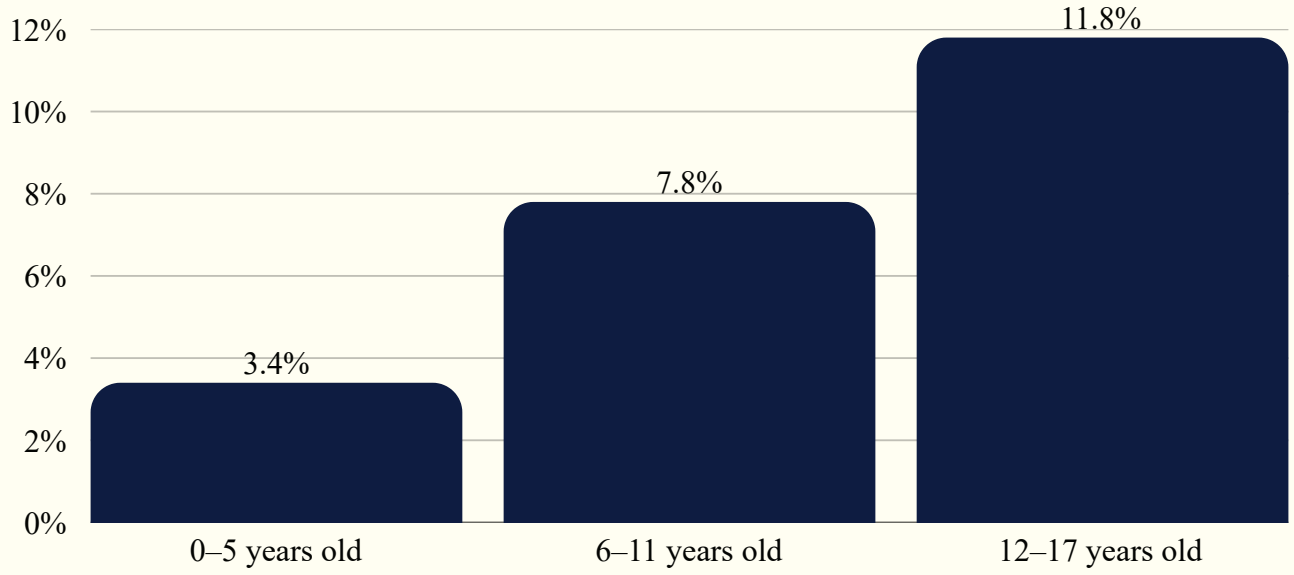
Among 241 infants at five hospitals in Pennsylvania in 2018 with confirmed NAS, as well as prenatal opioid exposure, a 2021 study led by the CDC found that 63 (26%) included prenatal exposure to marijuana.[41]

Children Living with Someone Who Had a Problem with Drugs or Alcohol

The National Survey of Children's Health, led by the Health Resources and Services Administration, estimated that, in 2023–2024, 7.9% of children aged 0–17 had ever lived with someone who had a problem with drugs or alcohol.[42] The survey is answered by the parent or caregiver of the child after an initial screener determines that at least one child lives in the household that received the survey.

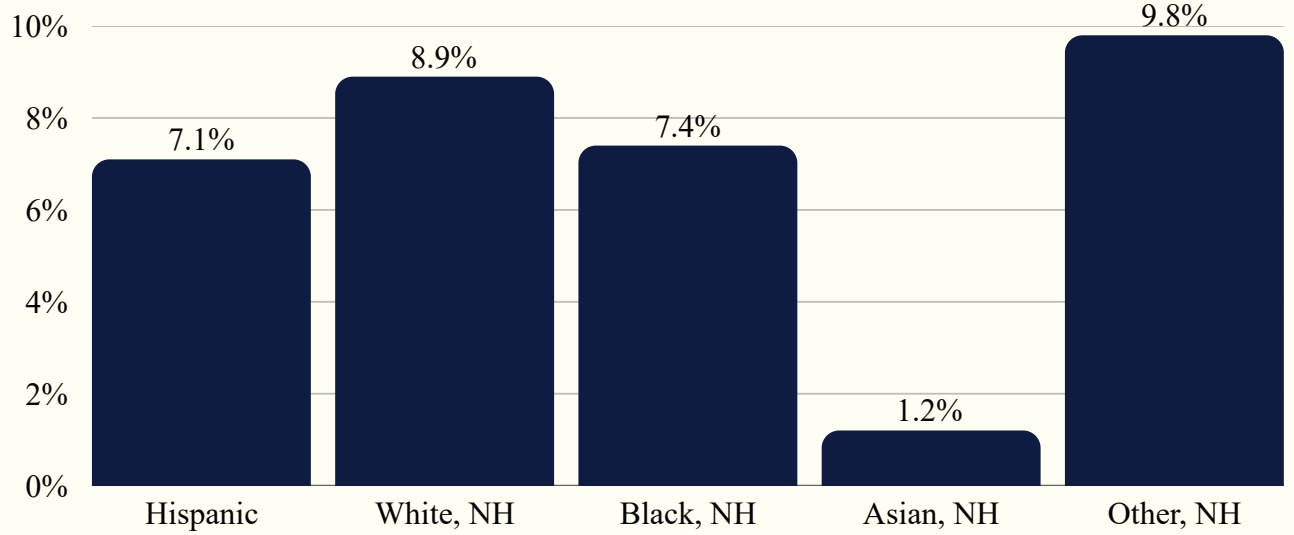
Among children aged 0–5, 3.4% had ever lived with someone who had a problem with alcohol or drugs compared to 7.8% of 6–11-year-olds and 11.8% of 12–17-year-olds (Figure 6.16).

Figure 6.16. Children who have lived with someone who had a drug or alcohol problem by age, 2023–2024



Rates also varied by race from a low of 1.2% of Asian children to a high of 9.8% of those classified in the racial group of "other" (Figure 6.17).

Figure 6.17. Children who have lived with someone who had a drug or alcohol problem by race and ethnicity, 2023–2024



Note: NH = non-Hispanic.

The jurisdictions with the highest percentages of 12–17-year-olds who had ever lived with someone who had a problem with drugs or alcohol were Alaska (26.6%), Wyoming (21.9%), Montana (21.0%), West Virginia (20.9%), and North Dakota and Kentucky (both at 20.0%) (Table 6.7). The jurisdictions with the lowest percentages among 12–17-year-olds were New York (8.0%), Massachusetts (8.4%), Maryland (8.6%), Texas (8.8%), and Connecticut (9.1%).

Table 6.7. Children who have lived with someone who had a drug or alcohol problem by jurisdiction, 2023–2024

Jurisdiction	0–5 years	6–11 years	12–17 years	0–17 years
Total	**3.4%**	**7.8%**	**11.8%**	**7.9%**
Alabama	5.9%	7.9%	12.5%	8.9%
Alaska	5.0%*	14.6%	26.6%	15.6%
Arizona	4.2%	5.6%	12.4%	7.6%
Arkansas	3.1%*	11.1%	15.0%	10.0%
California	3.6%	6.9%	9.6%	6.9%
Colorado	3.5%*	9.6%	16.6%	10.3%
Connecticut	1.8%*	7.3%	9.1%	6.4%
Delaware	3.1%*	6.1%	16.8%	9.0%
District of Columbia	1.9%*	7.3%	10.2%	6.0%
Florida	1.6%*	8.1%	9.9%	6.7%
Georgia	4.7%	8.2%	11.8%	8.5%
Hawaii	4.1%	8.5%	9.9%	7.6%
Idaho	7.0%	11.5%	18.0%	12.6%
Illinois	2.4%	5.6%	9.9%	6.2%
Indiana	5.0%	9.9%	16.7%	10.8%
Iowa	5.0%*	10.9%	14.8%	10.5%
Kansas	2.8%	8.5%	14.3%	8.9%
Kentucky	4.5%*	11.0%	20.0%	12.2%
Louisiana	3.4%	7.7%	11.4%	7.7%
Maine	6.1%	9.4%	15.9%	10.8%
Maryland	3.9%*	5.8%	8.6%	6.2%
Massachusetts	2.8%*	7.5%	8.4%	6.4%
Michigan	4.2%*	9.2%	14.6%	9.6%
Minnesota	3.7%	7.7%	14.5%	8.9%
Mississippi	4.0%	8.4%	10.4%	7.9%
Missouri	4.4%*	12.3%	16.4%	11.3%
Montana	6.7%	12.0%	21.0%	13.7%

(The table continues on the next page)

Table 6.7. Children who have lived with someone who had a drug or alcohol problem by jurisdiction, 2023–2024 (continued)

Jurisdiction	0–5 years	6–11 years	12–17 years	0–17 years
Nebraska	4.4%	5.9%	14.2%	8.3%
Nevada	4.0%*	8.9%	9.9%	7.8%
New Hampshire	2.9%*	10.7%	17.3%	10.9%
New Jersey	1.8%*	4.8%*	10.4%	5.9%
New Mexico	6.3%	11.1%	15.8%	11.5%
New York	3.9%*	4.6%*	8.0%	5.6%
North Carolina	2.1%*	8.3%	12.0%	7.7%
North Dakota	9.5%	8.0%	20.0%	12.6%
Ohio	3.6%	8.3%	14.1%	8.9%
Oklahoma	3.0%*	8.0%	16.2%	9.5%
Oregon	3.0%*	11.3%	11.2%	8.8%
Pennsylvania	3.1%	8.7%	11.0%	7.8%
Rhode Island	3.4%*	7.8%	11.3%	7.6%
South Carolina	3.7%	9.5%	11.4%	8.4%
South Dakota	8.4%	14.5%	18.0%	13.9%
Tennessee	5.7%	11.4%	15.9%	11.2%
Texas	1.9%*	7.1%	8.8%	6.1%
Utah	3.0%*	6.1%	9.8%	6.5%
Vermont	3.4%*	12.9%	19.3%	12.6%
Virginia	2.2%*	7.1%	12.3%	7.4%
Washington	4.2%*	8.3%	13.7%	8.9%
West Virginia	7.0%	12.4%	20.9%	14.0%
Wisconsin	2.8%	5.7%	16.0%	8.6%
Wyoming	6.6%	15.3%	21.9%	15.2%

* = given the sample size, the Health Resources and Services Administration said, "Please interpret with caution: estimate has a 95% confidence interval width exceeding 20 percentage points or 1.2 times the estimate and may not be reliable."

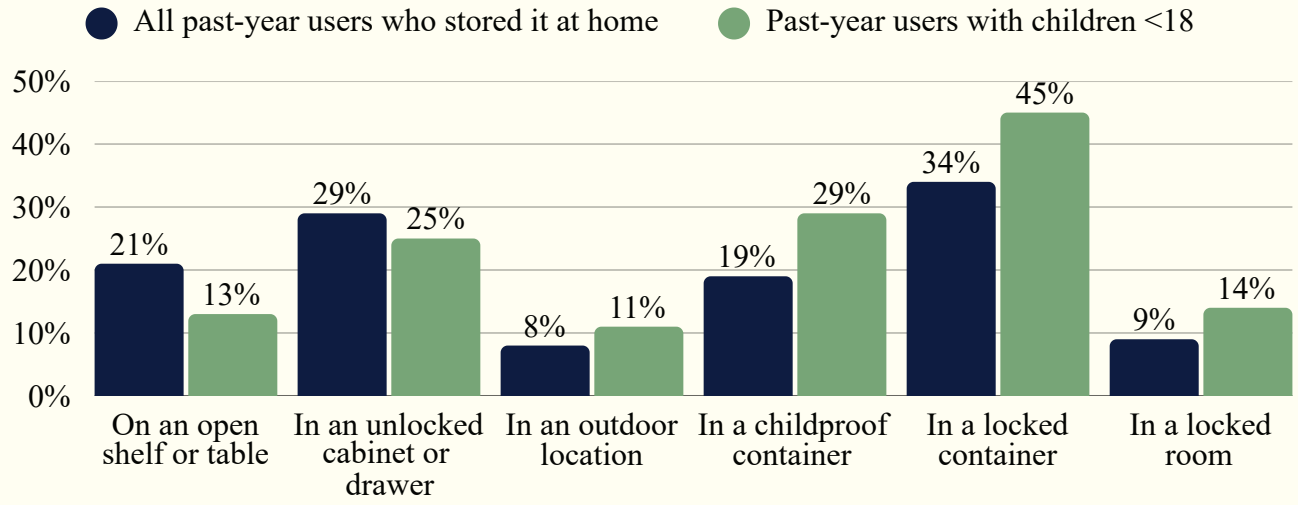
Additional estimates

While the National Survey of Children's Health is answered by the parent or caregiver of the child, other surveys ask children whether they had ever lived with someone who had a problem with drugs or alcohol. The 2025 Vermont Youth Risk Behavior Survey estimated that 27% of high school students had ever lived with a parent or guardian who had a problem with drugs or alcohol, noting that it "did not differ statistically by grade or race and ethnicity."[43] The 2023 North Dakota Youth Risk Behavior Survey estimated that 31.5% of high school students had ever lived with someone who had a problem with drugs or alcohol, ranging from 12.4% of Black students to 58.5% of Native American students.[44]

Storage of Marijuana

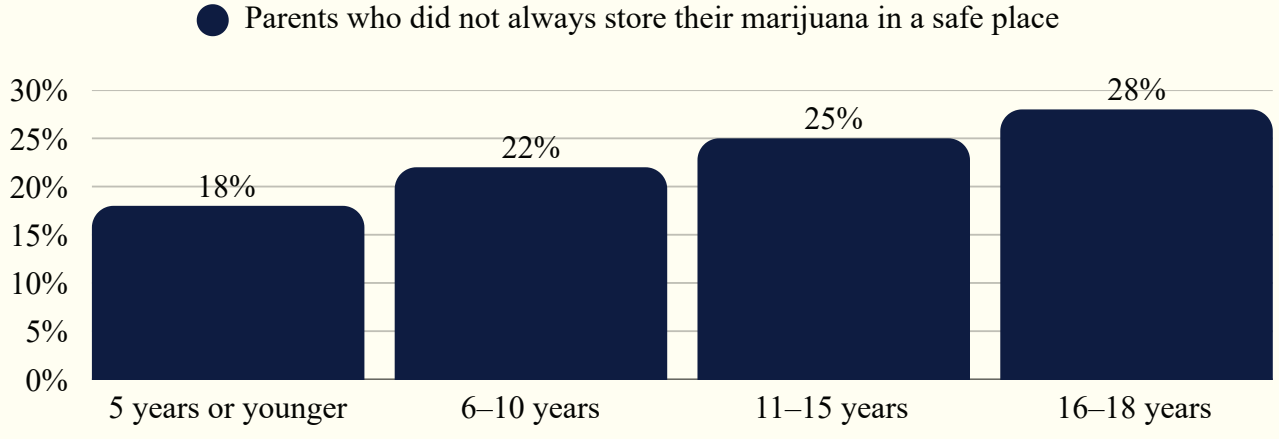
In 2023, 63% of past-year marijuana users in the United States aged 16–65 said that they stored marijuana in their home, according to the International Cannabis Policy Study (ICPS).[45] When those who used marijuana in the past year and stored marijuana in their home were asked how it was stored, 21% said that they kept it on an open shelf or table. Among parents who used marijuana in the past year and had children younger than age 18, 13% said they kept it on an open shelf or table (Figure 6.18). The study also found that 29% stored it in an unlocked cabinet or drawer, including 25% of parents with children younger than 18. Conversely, 34% said that they stored it in a locked container, including 45% of parents with children younger than 18.

Figure 6.18. Storage locations of marijuana among past-year users, 2023



The 2024 Maryland Medical Cannabis Patient Survey Report, which was commissioned by the Maryland Cannabis Administration and featured responses from certified medical marijuana users aged 18 or older, asked respondents how often they stored their marijuana in a safe place.[46] Among those with at least 1 child under the age of 18 residing in their household, 76% said that they "always" stored their marijuana in a locked, safe location, while 11% reported storing it this way "most of the time" and 8% said they "never" did, with the remainder doing it "sometimes" or "half the time." Among those with children aged 5 or younger, 18% reported an answer other than that they "always" stored their marijuana in a safe place compared to 28% of those with children aged 16–18 (Figure 6.19).

Figure 6.19. Safe storage of marijuana among medical marijuana patients in Maryland, 2024



Cases Reported to Poison Centers

America's Poison Centers, an organization representing the 53 accredited poison control centers in the United States, manages the National Poison Data System and publishes an annual report with findings. According to the 2024 report, there were 11,450 single-substance exposures to marijuana edibles (i.e., they did not involve a second substance), of which 4,736 involved children aged 5 or younger, 1,884 involved children aged 6–12, and 1,957 involved individuals aged 13–19 (Table 6.8).[47]

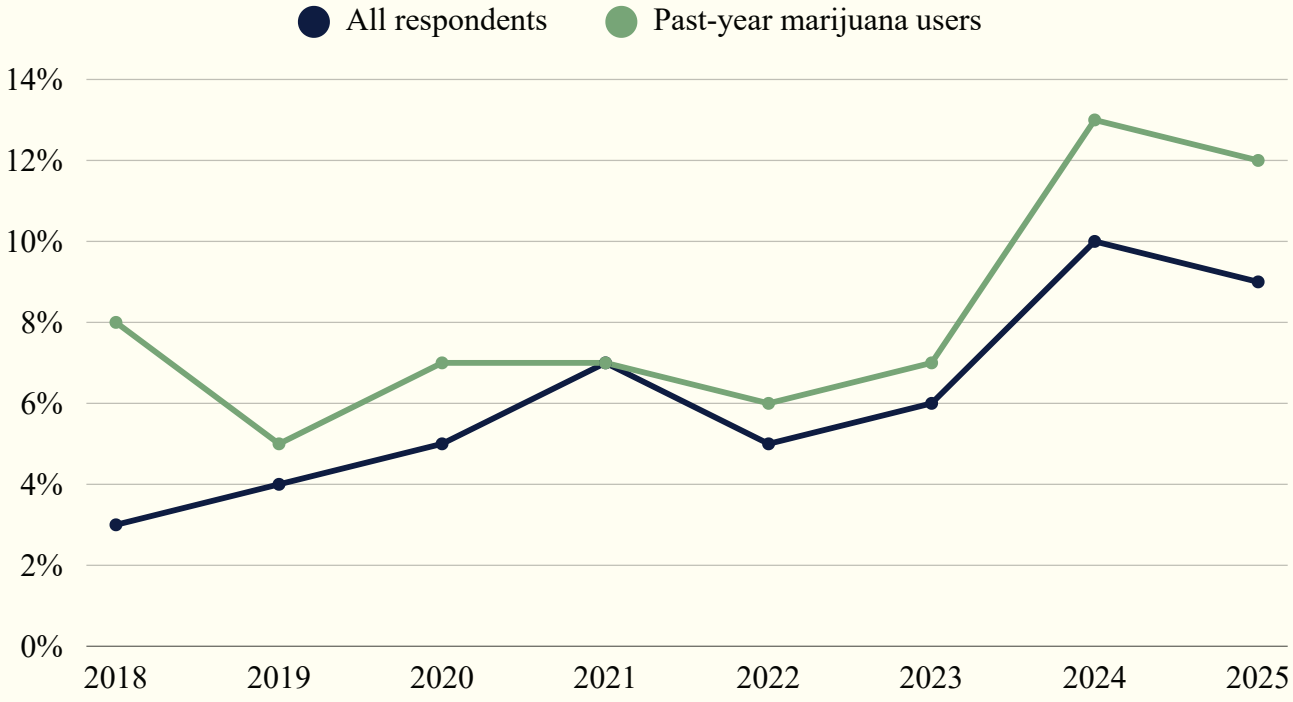
Table 6.8. Single-substance exposures reported to poison centers involving marijuana, 2024

Product category	Age 0–5	Age 6–12	Age 13–19	All ages
Cannabidiol (CBD)	835	200	138	1,707
Delta-9 tetrahydrocannabinol in combination with other psychoactive substances	4	1	0	8
E-cigarettes: marijuana device with flavor unknown	367	57	324	842
E-cigarettes: marijuana device with added flavors	33	4	15	55
E-cigarettes: marijuana device without added flavors	26	1	8	40
E-cigarettes: marijuana liquid flavor unknown	32	4	15	53
E-cigarettes: marijuana liquid with added flavors	4	0	1	5
E-cigarettes: marijuana liquid without added flavors	4	0	2	7
Marijuana: concentrated extract (including oils and tinctures)	251	40	144	679
Marijuana: dried plant	1,273	335	586	3,282
Marijuana: edible preparation	4,736	1,884	1,957	11,450
Marijuana: oral capsule or pill preparation	30	14	12	99
Marijuana: other or unknown preparation	437	100	112	840
Marijuana: pharmaceutical preparation	5	0	2	19
Marijuana: topical preparation	13	2	1	35
Marijuana: undried plant	8	0	3	18
Minor cannabinoids	1,212	452	607	3,459
Synthetic cannabinoids, analogs, and precursors	39	14	62	427

Accidental Ingestion

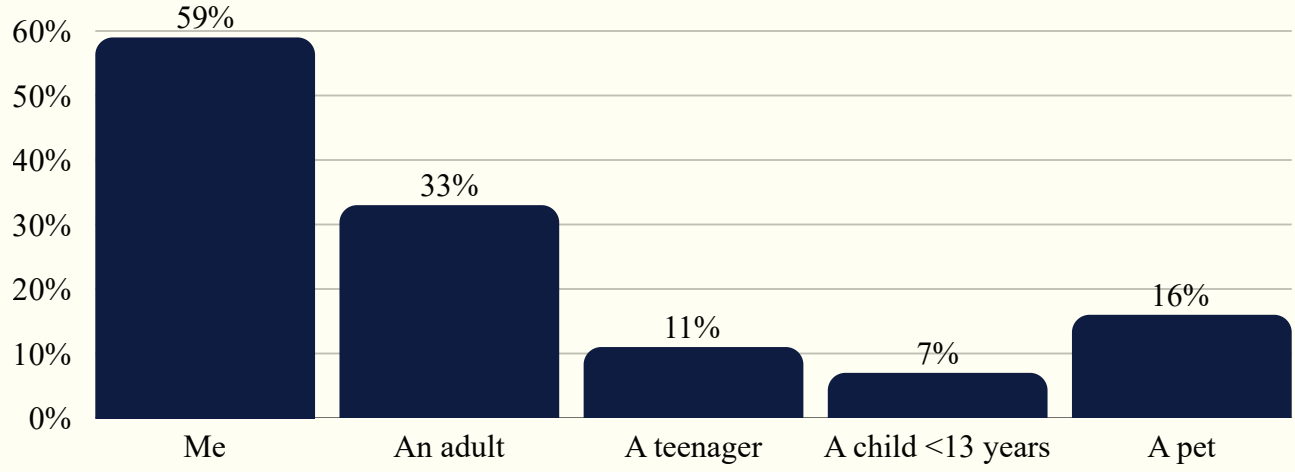
The ICPS asked individuals in Washington State aged 16–65, "In the past 12 months, has anyone in your household accidentally consumed marijuana?" The survey found that the percentage of respondents who answered "yes" increased from 3% in 2018 to 9% in 2025 (Figure 6.20).[48] Among past-year marijuana users only, 8% answered "yes" in 2018 and 12% answered "yes" in 2025.

Figure 6.20. Accidental ingestion of marijuana in Washington, 2018–2025



In 2025, when those who reported that marijuana was accidentally ingested by someone in their household were asked who accidentally consumed it, 59% answered "me," while 11% said it was a teenager, 7% said it was a child younger than age 13, and 16% said it was a pet (Figure 6.21).

Figure 6.21. Accidental ingestion of marijuana in Washington by person or pet, 2025



The *2026–2027 Impact Report* from Smart Approaches to Marijuana, citing data obtained from the ASPCA's Animal Poison Control Center, reported that the number of cases involving pets eating marijuana increased from 330 in 2012 to 5,811 in 2021.[49]

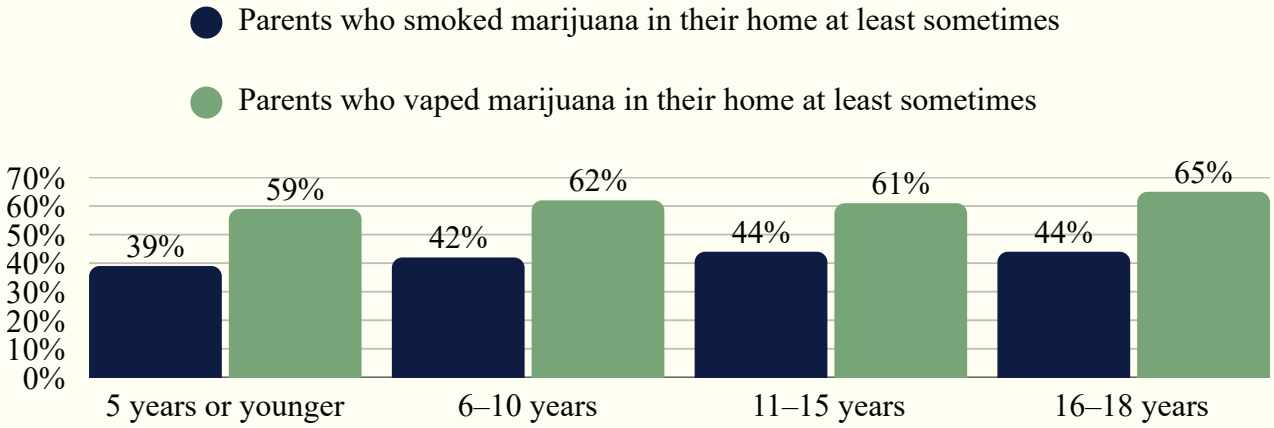
Smoking Indoors

A 2021 report from the state of Colorado, citing 2018–2019 data from the state's Child Health Survey, noted that 8.0% of adults with children between the ages of 1 and 14 reported using marijuana in their home.[50] Among these adults who used marijuana in their home, 71% smoked, vaped, or dabbed it, while 49% used products that were eaten in food or consumed in beverages.

The 2024 Maryland Medical Cannabis Patient Survey Report found that 22% of medical marijuana patients with at least one child under the age of 18 who was residing in the household smoked marijuana inside their home always or most of the time, while 56% said that they never did it.[51] Among parents with at least one child aged 5 or younger residing in the household, 61% said that they never smoked marijuana in the home, implying that 39% did at least some of the time (Figure 6.22).

Likewise, 28% of these patients reported that they vaped marijuana in their household always or most of the time, while 38% said that they never did. Among parents with at least one child aged 5 or younger residing in the household, 41% said that they never vaped marijuana in the home, implying that 59% did at least some of the time.

Figure 6.22. Marijuana use in a home among medical marijuana patients in Maryland, 2024



The harms of secondhand marijuana smoke

The Centers for Disease Control and Prevention (CDC) warned that "secondhand cannabis smoke contains many of the same toxic and cancer-causing chemicals found in tobacco smoke and some in higher amounts."[52] The agency noted that secondhand marijuana smoke also contains THC, the high-inducing compound in marijuana. Notably, the state of California added marijuana smoke to its list of cancer-causing chemicals.[53]

An article from UCLA Health noted that the particulate matter in marijuana smoke includes ammonia, cadmium, chromium, hydrogen cyanide, lead, mercury, and nickel, explaining that it may also contain mold, insecticides, or pesticides from the plant.[54] The article added that the side effects of secondhand marijuana smoke include anxiety, paranoia, burning eyes, coughing, dry mouth, fatigue, headaches, nausea, and restlessness.

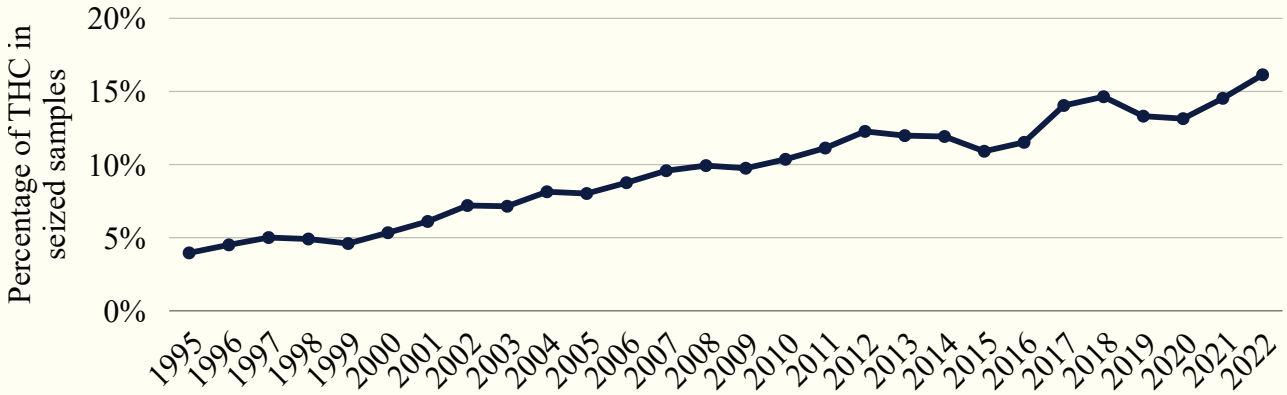
In April 2026, the Environmental Protection Agency (EPA) said that "prohibiting marijuana smoking inside or near buildings, vehicles and other enclosed spaces is the only way to eliminate secondhand exposures and health risks that may come with it."[55]

The Potency of Marijuana Products

According to the NIDA—based on illicit samples of marijuana seized by the Drug Enforcement Administration (DEA) that were analyzed at the University of Mississippi—the average tetrahydrocannabinol (THC) potency of marijuana increased from 3.96% in 1995 to 16.14% in 2022 (Figure 6.23).[56] THC is the psychoactive ("high"-inducing) component of marijuana. Citing NIDA's data, Smart Approaches to Marijuana developed a model that predicted that the average THC potency of marijuana would reach 18.40% in 2030 and 20.92% in 2035.[57]

The products sold by the marijuana industry are often stronger than the products sold in the illicit market. Washington state's Liquor and Cannabis Board reported, "in 2022, the average THC concentration for flower was 21% and for concentrates it was 69%."[58] A 2020 report about Colorado's regulated market noted that the average potency was 19% for marijuana flower and 68% for concentrates, including 80% for cartridges, 74% for oils, and 61% for hash.[59]

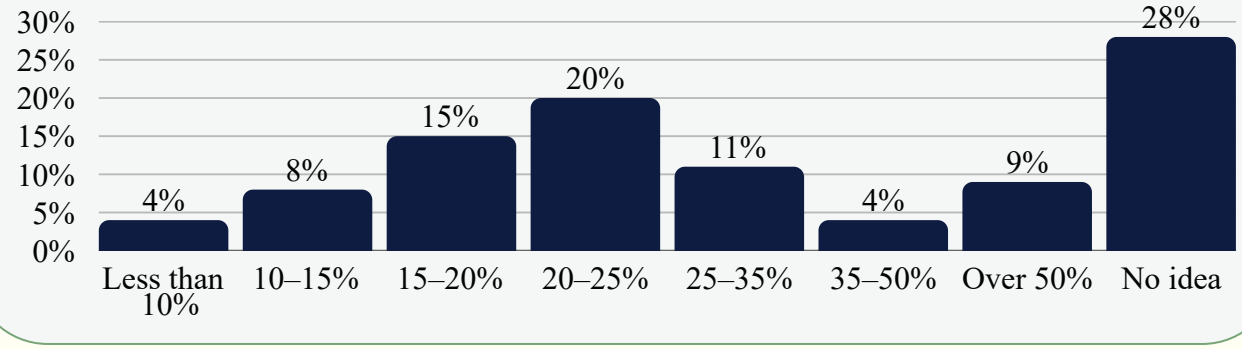
Figure 6.23. Percentage of THC in seized samples of marijuana, 1995–2022



Consumer preferences

Unlike surveys about preferred products (e.g., vapes and edibles), no national or statewide source appears to have examined potency preferences specifically among minors. However, a 2022 survey commissioned by the Maine Office of Cannabis Policy touched on the potencies of products typically used by individuals aged 21 or older. Among respondents in Maine who used marijuana in the past month, 4% said they typically used products that were less than 10% THC, while 20% said they typically used products containing 20–25% THC and 9% typically used products greater than 50% THC (Figure 6.24).[60] The survey also found that 28% did not know the potency of the products that they typically used.

Figure 6.24. Typical THC potency among past-month marijuana users in Maine, 2022



The Prices of Marijuana Products

Headset, a company focused on point-of-sale marijuana data, reported that the average item price for marijuana flower in June 2026 was $25.39 compared to $17.36 for concentrates and $10.77 for edibles (Table 6.9).[61]

Table 6.9. Average item price for marijuana products, June 2026

Category	Average item price
Flower	$25.39
Vapor pen	$21.56
Concentrate	$17.36
Edible	$10.77
Pre-roll	$8.41
Beverage	$8.36
Topical	$31.27
Tincture & sublingual	$30.20
Capsule	$25.22

Headset explained that "state lines move cannabis prices more than any other variable ... Mature Western markets with open licensing and heavy cultivation supply sit at the bottom of the table; newer, limited-license Midwest and East Coast markets sit at the top." The average price of an eighth of an ounce of marijuana among the 12 states highlighted by Headset ranged from a low of $11.55 in Oregon in June 2026 to a high of $31.11 in Ohio (Table 6.10).

Table 6.10. Average price of an eighth of an ounce of marijuana by state, June 2026

State	Average price of an eighth of an ounce of marijuana
Oregon	$11.55
Michigan	$14.35
Arizona	$15.43
Washington	$16.03
Colorado	$17.00
Massachusetts	$18.17
Nevada	$21.63
California	$22.08
Missouri	$25.50
Illinois	$26.59
Maryland	$29.52
Ohio	$31.11

The Colorado Marijuana Enforcement Division reported that the average price per gram of recreational marijuana flower sold through licensed dispensaries in Colorado declined from $9.00 in June 2015 to $4.61 in June 2020 and $3.14 in June 2026 (Figure 6.25).[62] Likewise, the average price per gram of recreational marijuana concentrate declined from $36.27 in June 2015 to $16.63 in June 2020 and $10.22 in June 2026 (Figure 6.26).

Figure 6.25. Average price per gram of marijuana flower in Colorado, June 2015–June 2026

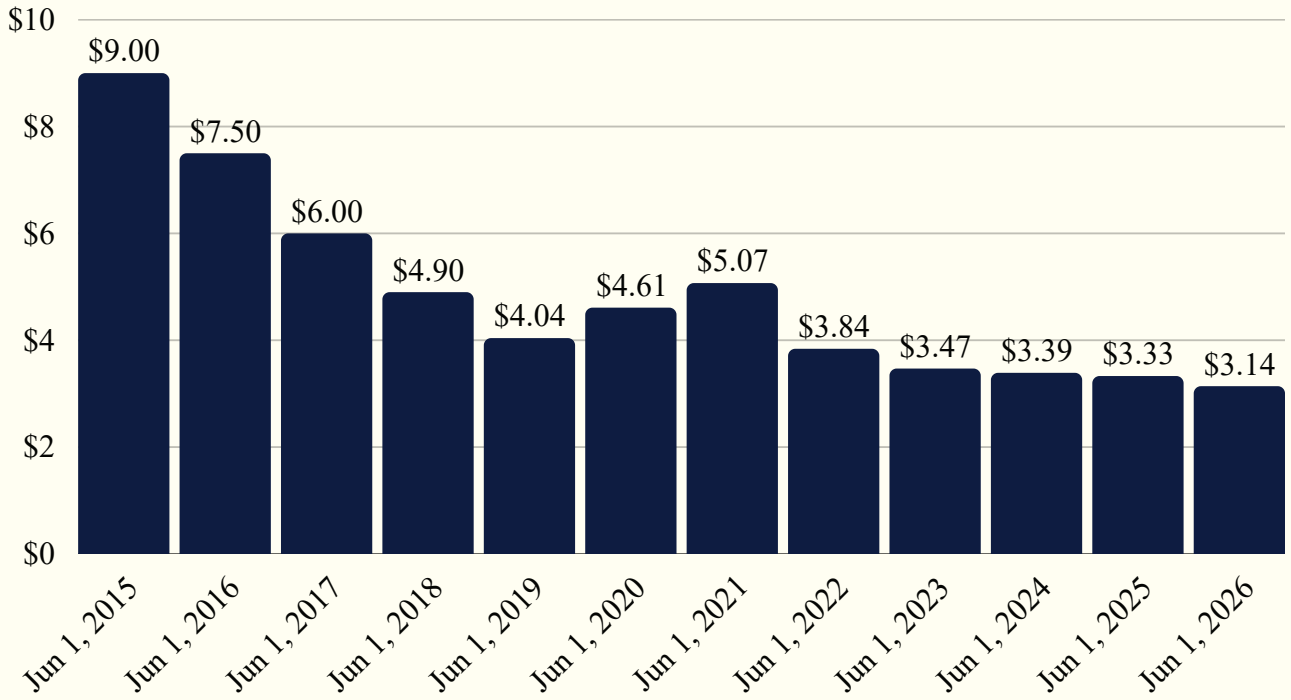
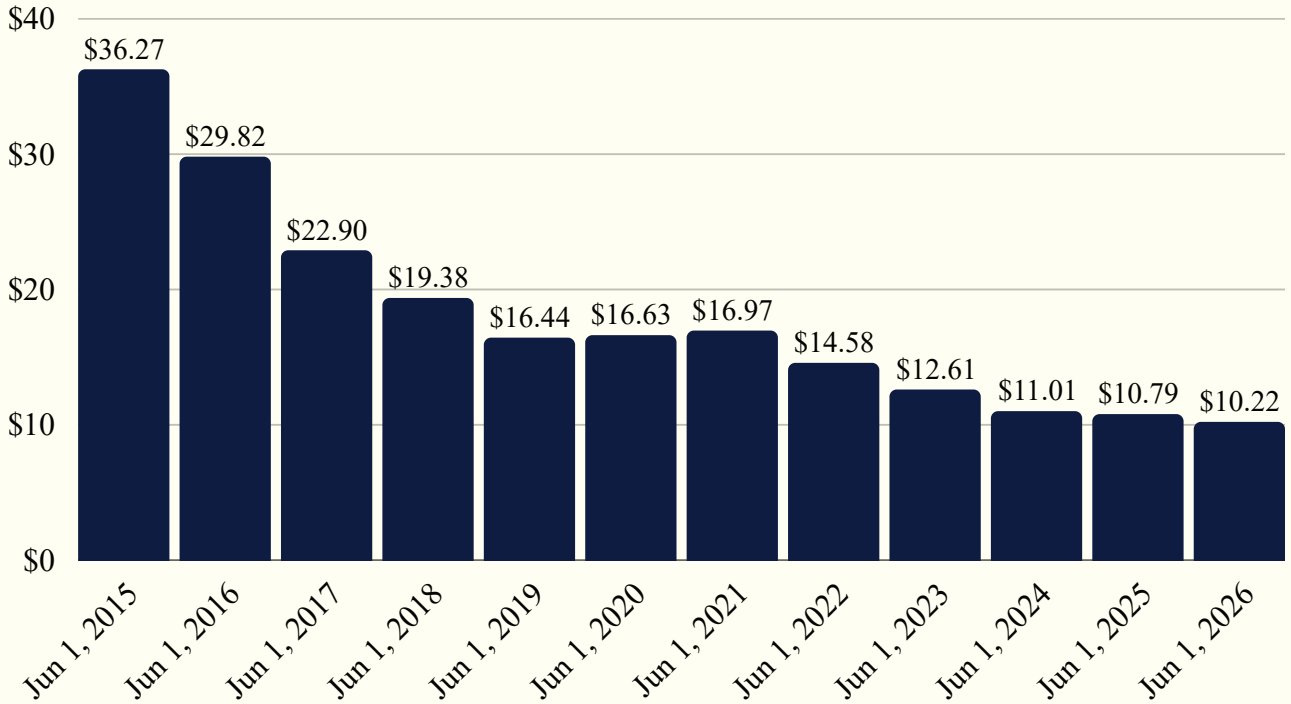


Figure 6.26. Average price per gram of marijuana concentrate in Colorado, June 2015–June 2026



Commercial determinants of health

The World Health Organization (WHO) defined commercial determinants of health as "the private sector activities that affect people's health, directly or indirectly, positively or negatively," pointing to examples, including supply chains, labor conditions, product design, packaging, research funding, lobbying, and preference shaping.[63] The WHO noted that commercial determinants of health fit into the category of social determinants of health.

Dr. Nora Volkow, the director of the National Institute on Drug Abuse, said, "The cannabis industry has presented new opportunities for commercial interests to drive drug consumption across all ages and demographics," adding that "The success of these industries is maximized by their products being able to trigger compulsive consumption, including consumption that results in addiction."[64]

Concern about the influence of commercial interests is increasingly shared by many of the drug policy field's most vocal activists. Kevin Sabet, who helped establish Smart Approaches to Marijuana to oppose the legalization of marijuana, told *UPI* in 2013, "The issue is we are on the brink of creating the big tobacco of our time, which would be called big marijuana."[65] The Drug Policy Alliance, which advocates for the legalization of marijuana, published a report in 2025 that said, "The growth of the commercial cannabis market has advanced faster than regulators can manage in some places … Advocates fear that the reform movement's original intent is being overshadowed by commercial interests seeking to expand consumer markets."[66]

The marijuana reform movement was initially funded by philanthropists, but the marijuana industry has since become its primary source of funding. Dan Riffle, the then-director of federal policy for the pro-legalization Marijuana Policy Project (MPP), resigned in 2015, stating that the "industry is taking over the legalization movement and I'm not interested in the industry."[67] He explained, "The industry's goal is to make money, but from a public health perspective, we might have other goals that are at odds with the industry's goal of making money." The marijuana industry "might lobby for preferential tax treatment that drives down prices, they might lobby for less regulation," Riffle said.

Matthew Schweich, the then-deputy director of the MPP, told *Marijuana Moment* in 2022, "The future of cannabis reform ballot initiatives is going to be 100 percent industry-funded."[68] Indeed, according to Ballotpedia, the campaign behind Florida's unsuccessful 2024 ballot measure to legalize recreational marijuana received $153.8 million in contributions, of which $153.4 million (99.7%) came from four marijuana companies (Trulieve, Verano Holdings, Curaleaf, and Green Thumb Industries).[69]

Highlighting New Hampshire's unsuccessful 2024 proposal to establish state-run marijuana dispensaries, Charles Fain Lehman, a fellow at the Manhattan Institute, said, "such approaches are prudentially preferable to full commercial legalization."[70] To "get out in front" of emerging industries like the marijuana industry, Volkow's position is that officials can adopt policies that have been applied to the tobacco and alcohol industries, including smoke-free workplace laws, restrictions on advertising, raising taxes, and raising the minimum age for legal use.[71]

Hemp-Derived Products

Hemp-derived marijuana products have proliferated throughout the nation due to a loophole in the 2018 federal farm bill, which defined hemp as a cannabis plant containing less than 0.3% delta-9 THC. This has inadvertently permitted the sale of hemp-derived cannabinoids, of which delta-8 THC has become the most common. Hemp-derived CBD, which is not intoxicating, is often chemically converted into delta-8 THC. Jordan Davidson, the government affairs director of Smart Approaches to Marijuana, told *Straight Arrow News* in 2025 that "no legislator at the time of creating the 2018 farm bill intended for this industry to be created," adding that "this was created by bad actors who exploited the legislative intent."[72]

In 2021, the CDC issued a Health Advisory about increases in the availability of delta-8 THC products and related adverse events, noting that these products are available "even in states, territories, and tribal nations where non-medical adult cannabis use is not permitted under law."[73]

America's Poison Centers reported that it managed 10,434 exposure cases involving delta-8 THC between January 1, 2021, and April 30, 2025.[74] The organization explained, "similar to cannabis, children are more likely to experience severe toxicity from delta-8 THC poisoning."

In 2022, the Food and Drug Administration (FDA), summarizing the harms of marijuana edibles, said, "one pediatric case was coded with a medical outcome of death following the ingestion of a suspected delta-8 THC edible."[75] The FDA also warned that delta-8 THC products "have not been evaluated or approved by the FDA for safe use in any context."

In 2023, the Federal Trade Commission and the FDA jointly sent cease and desist letters to six companies selling delta-8 products. The press release about the letters noted that the products were "in packaging that is almost identical to many snacks and candy children eat, including Doritos tortilla chips, Cheetos cheese-flavored snacks, and Nerds candy."[76]

Pointing to hemp-derived products, as well as psychedelics and kratom, the White House's 2026 National Drug Control Strategy stated that "shutting down these domestic sources of harmful substances is crucial to degrading the overall availability of illicit drugs within our communities."[77]

According to the Marijuana Policy Project, 13 states—including Colorado, Montana, New York, Vermont, and Washington—have banned delta-8.[78] In 2025, President Donald Trump signed a bill that, among other things, closed the hemp loophole and is scheduled to take effect in December 2026. Forbes reported that this would "effectively shut down" the hemp industry.[79]

Child Fatalities

The Administration for Children and Families' 2024 Child Maltreatment report noted that there were 1,036 child fatalities due to maltreatment in 33 states, of which 248 (23.9%) involved a caregiver with a risk factor of "drug abuse."[80] However, the report did not specify which substances were involved.

Arizona's Child Fatality Review Program reported 791 child deaths (ages 0–17) in 2024, of which 113 were due to neglect or abuse.[81] The report explained that "marijuana was the most commonly identified substance, contributing to 19% of child neglect/abuse-related deaths, followed by alcohol (18%)." Marijuana contributed to 21 child deaths due to neglect or abuse in Arizona, while alcohol contributed to 20. The report noted that more than one substance could have contributed to each death.

Arizona also reported 118 substance-related deaths, of which marijuana was again the most commonly involved substance. In 2024, 36 deaths identified the child as the user of marijuana, while 43 deaths identified someone else as the user of marijuana.

Table 6.11 summarizes the top risk factors that were identified in the 118 substance-related deaths in Arizona in 2024. Deaths could have involved more than one risk factor.

Table 6.11. Risk factors of substance-related child deaths in Arizona, 2024

Risk factor	Number of deaths	Percentage of deaths
CPS history with family	79	67%
Parental substance use history	78	66%
Poverty	53	45%
History of trauma/violence	43	36%
Child relationship issues	43	36%
Lack of supervision	33	28%
Criminal activity	23	19%
Child's chronic condition	22	19%
Child's inadequate treatment	11	9%
Mental health/substance use disorder	7	6%

Texas' report on child maltreatment fatalities noted that "87 of the 124 child fatalities, or 70.2 percent, caused by abuse or neglect involved a parent or caregiver actively using a substance and/or who was under the influence of at least one substance that affected their ability to care for the child."[82] Marijuana was the most commonly identified substance in these substance-related deaths. In FY 2025, 45 child deaths in Texas identified the "active use" of marijuana by the perpetrator or parent, while 68 identified the past use of marijuana by the perpetrator or parent. In comparison, 16 deaths identified the active use of alcohol, while 17 identified the past use of alcohol.

Though specific substances have not been mentioned in more recent versions of the annual report, the 2021 report of Florida's Child Abuse Death Review Committee noted, "regardless of maltreatment verification status, the majority of caregivers with a substance abuse history (n=141), 67.4% had a history of marijuana use, 20.6% had abused alcohol and 17.0% had used cocaine."[83]

The Arc of the Drug Policy Field

Although there have been minor differences between presidential administrations, federal drug policy goals have recently transitioned through three broad stages: from focusing on criminal justice measures like arrests and drug seizures, to focusing on reducing the prevalence of drug use (Bush 41, Clinton, and Bush 43), then to focusing on reducing the number of drug overdose deaths (Obama, Trump 45, Biden, and Trump 47).[84]

Measuring progress through criminal justice measures like arrests and drug seizures

- The White House Office of National Drug Control Policy was established in 1988 and said, "heretofore, our progress in fighting drugs was frequently measured in terms of the number of arrests, conviction rates, and quantities of drugs seized."[85]

Measuring progress through reductions in drug use (Bush 41, Clinton, and Bush 43)

- The 1989 National Drug Control Strategy said, "the highest priority of our drug policy must be a stubborn determination further to reduce the overall level of drug use nationwide."[86]
- The 2002 National Drug Control Strategy said, "all Strategy goals seek to reduce 'current' use of 'any illicit drug,' as defined by the Household Survey" (i.e., past-month use).[87]

Measuring progress through reductions in drug overdose deaths (Obama, Trump 45, Biden, Trump 47)

- The 2020 National Drug Control Strategy said, "this Strategy is focused on achieving a singular and overarching purpose: to prevent Americans from dying of a drug overdose."[88]
- The 2026 National Drug Control Strategy said, "the Strategy's single, overarching goal" is "to reduce fatal drug overdoses and save American lives."[89]

A 2024 Viewpoint in the *Journal of the American Medical Association* argued that future versions of the White House's National Drug Control Strategy and the Department of Health and Human Services' Healthy People should adopt broader overarching drug policy goals.[90] They could be modeled after the approach in Australia's National Drug Strategy, which used the disability-adjusted life year (DALY) metric to account for fatal and non-fatal health loss due to drugs.[91] Additionally, Australia's approach includes marijuana-attributable conditions like schizophrenia, anxiety disorder, depressive disorder, poisoning, cannabis use disorder, and traffic injuries. The Viewpoint was co-authored by former U.S. Assistant Secretary for Health Dr. Howard Koh and Dr. Vaughan Rees, the director of Harvard's Center for Global Tobacco Control, as well as Connor Kubeisy, the author of this report. They explained:

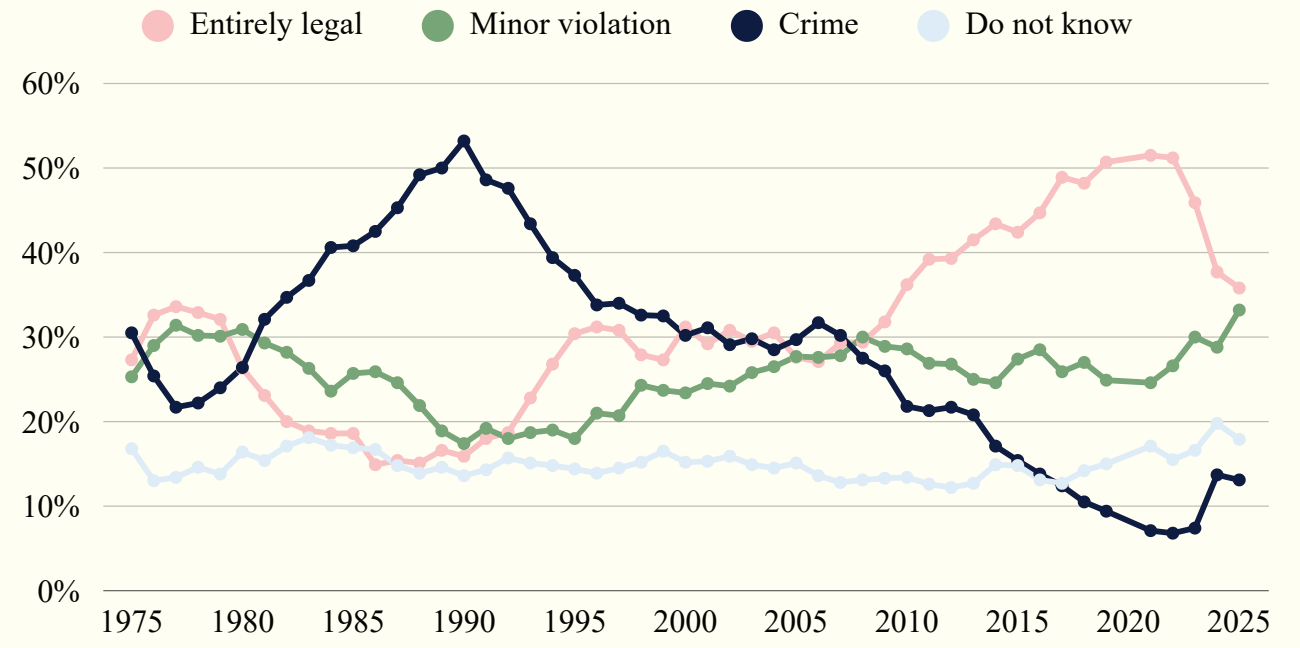
- "While overdose deaths and related outcomes, such as the prevalence of substance use disorders (SUDs), are helpful indices, they fail to capture the broader dimensions of drug-attributable harm, including non-overdose deaths, chronic disease morbidity, and other conditions that cause people who use drugs to live in a state of less than full health."
- "This focus on reducing the drug-attributable burden of harm, alongside a commitment to restoring health, represents a new health-first drug policy platform."

B. Public Opinion

The Monitoring the Future (MTF) survey estimated that the percentage of 12th graders who thought that marijuana use should be entirely legal was 27.3% in 1975, 30.4% in 1995, 27.6% in 2005, and 35.8% in 2025, peaking at 51.2% in 2022 (Figure 6.27).[92] The percentage of 12th graders who thought that marijuana use should be a crime was 30.5% in 1975, 29.7% in 2005, 15.4% in 2015, and 13.1% in 2025, peaking at 53.2% in 1990. The percentage who thought that marijuana use should be a minor violation like a parking ticket but not a crime was 25.3% in 1975, 18.0% in 1995, and 27.7% in 2005, reaching a peak of 33.2% in 2025. The remaining students answered that they do not know.

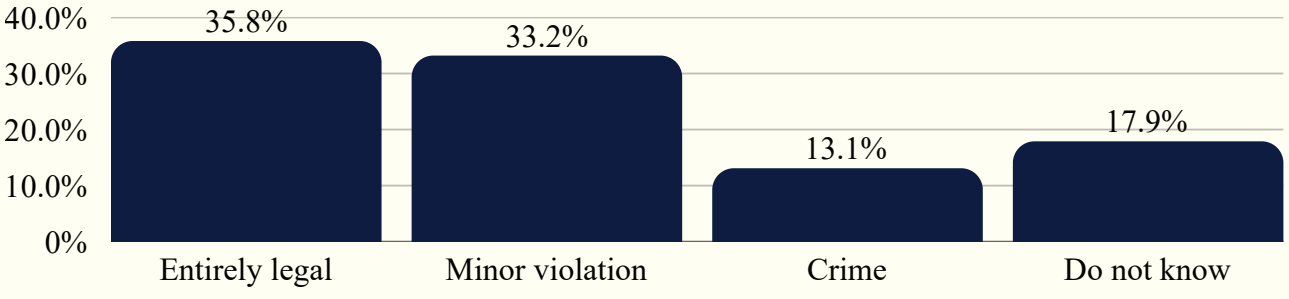
The report for the MTF survey explained that "these declines [in support for legalization] in recent years mark an abrupt departure from the almost steady rise in support of legalization since the mid 1980s, when it rose from 15% in 1986 to 51% in 2022 ... Decreasing support for legalization of cannabis use among 12th grade students coincides with their decreasing levels of use in recent years."

Figure 6.27. Attitudes regarding marijuana laws among 12th graders, 1975–2025



In 2025, 35.8% of 12th graders thought that marijuana use should be entirely legal; 33.2% thought it should be a minor violation but not a crime; 13.1% thought it should be a crime; and 17.9% did not know (Figure 6.28).

Figure 6.28. Attitudes regarding marijuana laws among 12th graders, 2025



A 2025 poll from Gallup asked the binary question, "Do you think the use of marijuana should be legal, or not?"[93] Among respondents aged 18–34, 72% answered that they supported legalization, while 26% did not and the remainder said that they did not know or did not answer the question. In comparison, 68% of 35–54-year-olds and 57% of those aged 55 or older supported legalization.

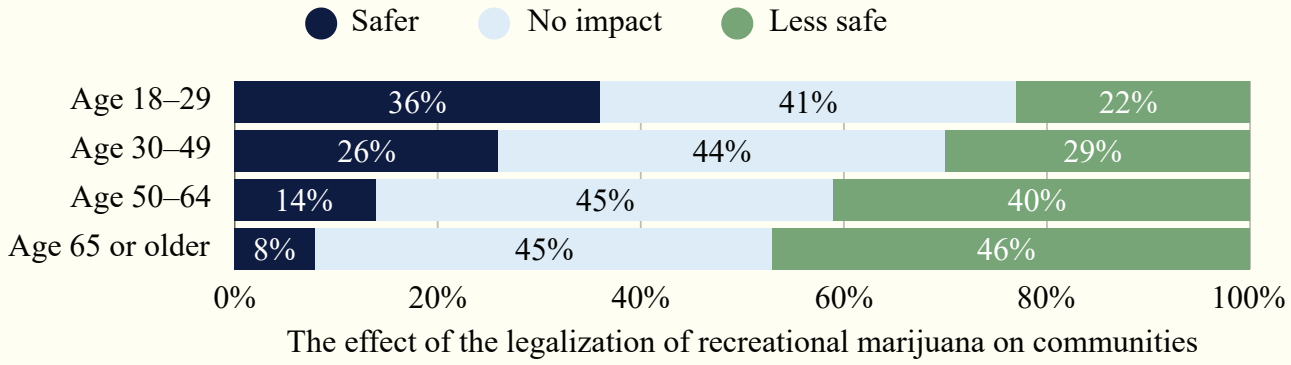
Relatedly, when a 2026 poll from Pew included a third option for legalizing medical marijuana, support among 18–29-year-olds for the legalization of recreational and medical marijuana was 63%, while 27% thought it should be legal for medical use only and 8% thought it should not be legal, with the remainder not answering.[94] In comparison, among those aged 75 or older, 34% supported the legalization of recreational and medical marijuana, 51% supported only the legalization of medical marijuana, and 13% thought it should not be legal.

When a separate 2022 poll from Emerson College included a fourth option about decriminalizing the possession of marijuana, support for the legalization of recreational marijuana was lower.[95] Among 18–34-year-olds, the poll found that 42.6% favored the legalization of recreational marijuana, 16.2% favored the legalization of medical marijuana only, 24.7% favored the decriminalization of marijuana, and 16.6% favored keeping marijuana illegal federally. Taken together, 57.4% of 18–34-year-olds favored policies other than the legalization of recreational marijuana.

A 2024 poll from Pew helps to explain the elevated levels of support for legalization among younger individuals.[96] Among 18–29-year-olds, 71% thought that the legalization of recreational marijuana would be good for local economies, compared to 33% of those aged 65 or older; the remainder thought it would have no impact or be bad. When asked how it would impact the criminal justice system, 59% of 18–29-year-olds thought that it would make it fairer, compared to 32% of those aged 65 or older; the remainder thought it would have no impact or make it less fair.

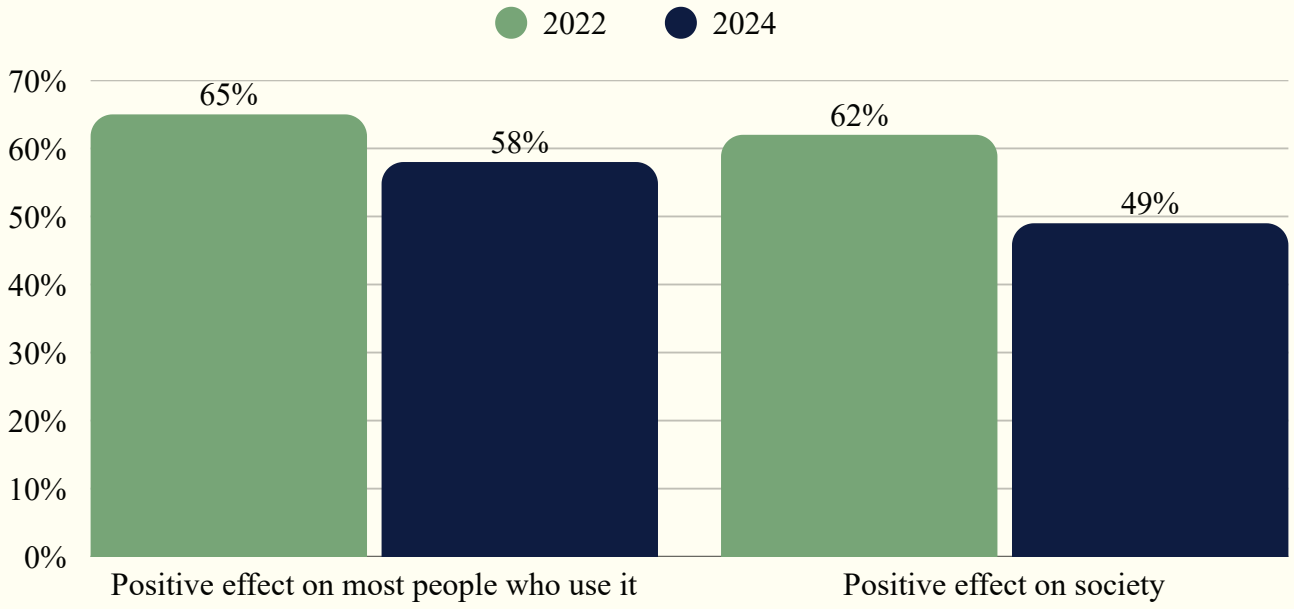
When the 2024 Pew poll asked how the legalization of recreational marijuana would influence the use of other drugs like heroin and cocaine, 46% of 18–29-year-olds thought that it would decrease it, compared to 14% of those aged 65 or older; the remainder thought it would have no impact or increase it. When asked how legalization would influence communities, 36% of 18–29-year-olds thought that it would make them safer, compared to 8% of those aged 65 or older; the remainder thought it would have no impact or make them less safe (Figure 6.29).

Figure 6.29. Beliefs about how the legalization of recreational marijuana would impact communities by age, 2024



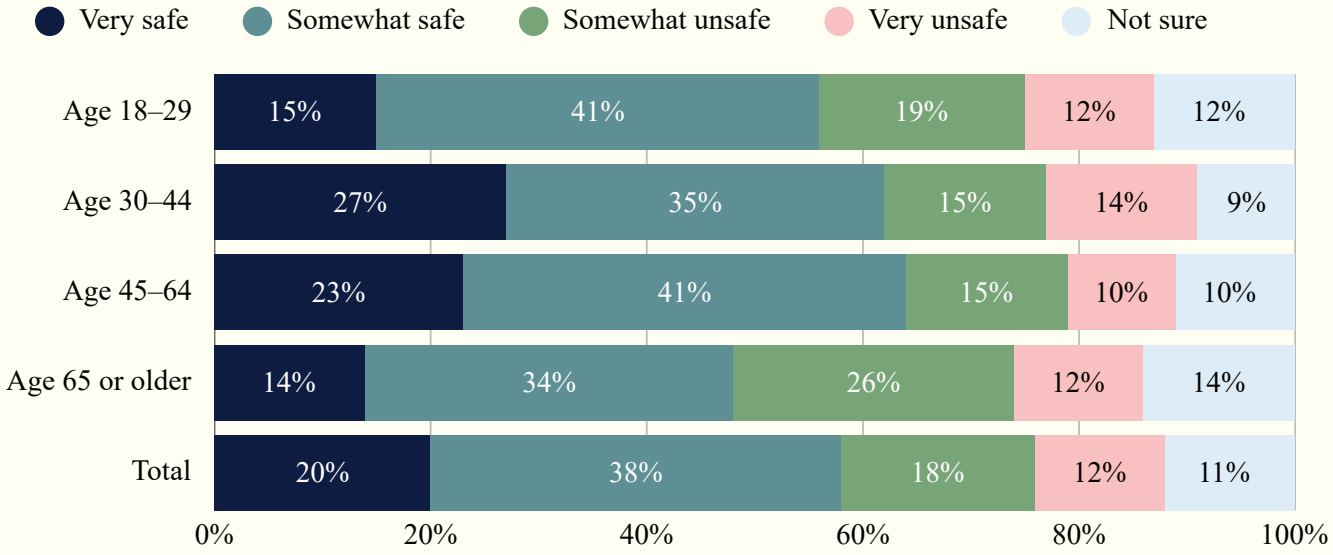
After asking the same questions in 2022 and 2024, Gallup found that the percentage of 18–34-year-olds who thought that marijuana has a very or somewhat positive effect on most people who use it decreased from 65% in 2022 to 58% in 2024, while it decreased from 53% to 43% among all adult age groups (Figure 6.30).[97,98] Likewise, the poll found that the percentage of 18–34-year-olds who thought that marijuana has a very or somewhat positive effect on society decreased from 62% in 2022 to 49% in 2024, while it decreased from 49% to 41% among all adult age groups.

Figure 6.30. Beliefs about the effects of marijuana among 18–34-year-olds, 2022–2024



Among 18–29-year-olds, 15% thought marijuana use was "very safe," 41% thought it was "somewhat safe," 19% thought it was "somewhat unsafe," and 12% thought it was "very unsafe," while 12% were not sure, according to a 2024 poll from YouGov (Figure 6.31).[99]

Figure 6.31. Beliefs about the safety of marijuana by age, 2024



A 2024 survey from the Manhattan Institute asked people how worried they were about the potential consequences of legal marijuana.[100] Among 18–44-year-olds, 16% were extremely worried about growing mental illness, whereas 53% were not worried at all about this outcome (Table 6.12).

Table 6.12. Concerns about the potential consequences of legal marijuana among 18–44-year-olds, 2024

Potential consequences	Extremely worried	Very worried	Somewhat worried	Not worried at all
The use of marijuana by kids	19%	17%	35%	28%
Car crashes resulting from people under the influence	18%	17%	34%	31%
Growing mental illness	16%	10%	21%	53%
The loss of motivation	13%	14%	25%	49%
Rising addiction to marijuana	12%	14%	25%	49%

The survey also asked how people felt about the legality of various marijuana-related behaviors and policies. It found that 16% thought that smoking marijuana within 30 yards of a school should be legal, while 75% thought it should be illegal (Table 6.13).

Table 6.13. Positions on various marijuana policies among 18–44-year-olds, 2024

Marijuana policies	Should be legal	Should be illegal	Not sure
Smoking marijuana in an individual's home	77%	12%	11%
Possessing marijuana	74%	16%	10%
Purchasing marijuana	71%	17%	12%
Selling marijuana	56%	26%	17%
Smoking marijuana in a public park	36%	44%	19%
Smoking marijuana	26%	53%	22%
Smoking marijuana in a bar or restaurant	26%	61%	13%
Smoking marijuana within 30 yards of a school	16%	75%	9%
Smoking marijuana on a public bus or train	15%	73%	11%
Smoking marijuana while driving a vehicle	14%	74%	12%

A 2019 poll from Gallup asked supporters and opponents of the legalization of marijuana to rate the importance of various arguments.[101] Among supporters of legalization between the ages of 18 and 34, 89% said that the argument that marijuana helps people who use it for medical reasons was "very important" (Table 6.14). Likewise, 75% said the argument that legalization would free up law enforcement to focus on other types of crime was "very important."

Table 6.14. Importance of arguments in favor of the legalization of marijuana among 18–34-year-olds in support of the legalization of marijuana, 2019

Arguments	Very important	Somewhat important	Not important
Marijuana helps people who use it for medical reasons	89%	10%	1%
It would free up law enforcement to focus on other types of crime	75%	19%	6%
It is a matter of freedom and personal choice	65%	26%	8%
Government regulation of marijuana would make it safer for those who use it	57%	32%	11%
It will provide a good source of tax revenue for state and local governments	56%	31%	13%
You do not believe marijuana is harmful to people who use it	42%	44%	13%

In comparison, among opponents of legalization between the ages of 18 and 34, 77% said that the argument that legalization would lead to more people using stronger and more addictive drugs was "very important" (Table 6.15). The survey also found that 69% said that the argument that legalization would increase the number of car accidents involving drivers who use marijuana was "very important."

Table 6.15. Importance of arguments against the legalization of marijuana among 18–34-year-olds against the legalization of marijuana, 2019

Arguments	Very important	Somewhat important	Not important
It would lead to more people using stronger and more addictive drugs	77%	8%	15%
It would increase the number of car accidents involving drivers who use marijuana	69%	13%	18%
Legalizing marijuana would not benefit society or individuals much	57%	17%	25%
You believe the use of drugs, including marijuana, is immoral	54%	24%	21%
It would encourage more people to use marijuana	53%	24%	23%
You believe marijuana is harmful to people who use it	38%	27%	35%

The Canadian Postsecondary Education Alcohol and Drug Use Survey, which included 17–25-year-olds enrolled in college, asked a series of questions about their beliefs about marijuana.[102] During the 2024–2025 school year, 92.3% answered "yes" to the claim that "vaping cannabis can be harmful," while 86.7% answered "yes" to the claim that "daily cannabis use increases risk of mental health problems" (Table 6.16).

Table 6.16. Beliefs about marijuana among postsecondary students in Canada, 2024–2025

Claim	Percentage that answered yes
Vaping cannabis can be harmful	92.3%
Cannabis smoke can be harmful	89.9%
Cannabis can be habit-forming for some people	95.2%
Legal cannabis products are tested for contaminants	41.0%
Cannabis poses greater risks to younger adults than adults	86.0%
Daily cannabis use increases risk of mental health problems	86.7%
Cannabis use can be harmful when pregnant or breastfeeding	94.6%
Cannabis can change the way other medications work in the body	83.8%
Effects of inhaling cannabis last longer than ingesting cannabis*	17.6%
It can take up to 4 hours to feel the full effects of ingested cannabis	62.7%
Cannabis products with lower THC levels lead to greater impairment*	24.2%

* = The survey said that "the bars for 'Effects of inhaling cannabis last longer than ingesting cannabis' and 'Cannabis products with lower THC levels lead to greater impairment' are lower because these were the only untrue statements. The numbers shown represent the share of people who held inaccurate beliefs on these cannabis topics."

Chapter 7. Interventions

Various interventions throughout the continuum of care help minors avoid initiating marijuana use and support minors who use marijuana in quitting.

The National Survey on Drug Use and Health (NSDUH), conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA), found that 68.3% of 12–17-year-olds in 2023–2024 received school-based drug education in the past year.[1] In 2024, among 8th and 10th graders who said that they received any drug education in school, 68.1% said that the information made them less interested in trying drugs, while 2.3% said that it made them more interested in trying drugs, according to the Monitoring the Future survey.[2]

In FY 2025, there were 543 federally funded Drug-Free Communities (DFC) coalitions, which focus on preventing substance use among minors, across the 50 states, the District of Columbia, Puerto Rico, and Guam.[3] The DFC program's 2024 national evaluation report noted that marijuana was a focus of 91% of the DFC coalitions, which was second only to alcohol at 95%.[4]

Between 2014 and 2024, the number of treatment admissions that recorded marijuana as the primary substance among 12–14-year-olds decreased from 10,472 to 4,708, while the number among 15–17-year-olds decreased from 50,762 in 2014 to 16,368 in 2024, according to SAMHSA's Treatment Episode Data Set.[5]

Among 15,953 substance use treatment facilities in 2024, 4,026 (25.2%) offered special programs or groups for adolescents (ages 13–17) and 6,329 (39.7%) offered special programs or groups for young adults (ages 18–25), according to SAMHSA's National Substance Use and Mental Health Services Survey.[6]

As of August 2026, 31 recovery high schools in the United States located in 18 states were members of the Association of Recovery Schools.[7] This compares to 39 in 2019 and 45 in 2022. As of June 2026, there were 180 collegiate recovery programs, of which 174 were in the United States, according to the Association of Recovery in Higher Education.[8]

A. Prevention

School-Based Prevention

The NSDUH, conducted by SAMHSA, found that 68.3% of 12–17-year-olds in 2023–2024 received school-based drug education in the past year.[9] The five states with the highest percentages were Connecticut (85.9%), Maryland (79.2%), New Jersey (79.1%), Virginia (78.8%), and Rhode Island (76.9%) (Table 7.1). The five states with the lowest percentages were Tennessee (55.3%), Nevada (58.0%), Arizona (58.7%), Mississippi (59.7%), and Wyoming (60.0%).

This estimate was based on the percentage of adolescents aged 12–17 who answered yes to at least one of three prevention-related questions: 1) whether they had a special class about drugs or alcohol in school in the past year, 2) whether they had films, lectures, discussions, or printed information about drugs or alcohol in one of their regular classes in the past year (e.g., in a health class), and 3) whether they had films, lectures, discussions, or printed information about drugs or alcohol outside of their regular classes in the past year (e.g., during an assembly).

Table 7.1. The percentage of 12–17-year-olds who reported receiving drug education in school in the past year, 2023–2024

Jurisdiction	Percentage
Total	**68.3%**
Alabama	65.3%
Alaska	66.0%
Arizona	58.7%
Arkansas	62.9%
California	69.0%
Colorado	64.3%
Connecticut	85.9%
Delaware	64.5%
District of Columbia	60.3%
Florida	65.0%
Georgia	62.1%
Hawaii	71.5%
Idaho	64.5%
Illinois	75.3%
Indiana	66.3%
Iowa	76.3%
Kansas	67.3%
Kentucky	69.6%

(The table continues on the next page)

Table 7.1. The percentage of 12–17-year-olds who reported receiving drug education in school in the past year, 2023–2024 (continued)

Jurisdiction	Percentage
Louisiana	62.2%
Maine	71.0%
Maryland	79.2%
Massachusetts	69.8%
Michigan	61.9%
Minnesota	71.7%
Mississippi	59.7%
Missouri	71.4%
Montana	72.7%
Nebraska	69.4%
Nevada	58.0%
New Hampshire	74.4%
New Jersey	79.1%
New Mexico	71.0%
New York	71.8%
North Carolina	67.1%
North Dakota	73.8%
Ohio	67.0%
Oklahoma	62.3%
Oregon	76.2%
Pennsylvania	70.1%
Rhode Island	76.9%
South Carolina	72.3%
South Dakota	65.2%
Tennessee	55.3%
Texas	64.1%
Utah	73.6%
Vermont	76.8%
Virginia	78.8%
Washington	69.4%
West Virginia	73.2%
Wisconsin	65.9%
Wyoming	60.0%

The CDC's School Health Profiles, conducted every two years in alternating years with the Youth Risk Behavior Survey (YRBS), surveys principals and lead health education teachers at schools with students in grades 6–12.[10] As with the YRBS, not every state participated in the School Health Profiles survey.

Certain questions ask whether specific health-related topics are taught in a required course in any grade from 6 through 12 (e.g., a required 9th-grade health class). In 2024, based on responses from lead health education teachers across 31 states, the School Health Profiles survey found that 86.2% of secondary schools taught students about the short- and long-term physical, psychological, and social effects of using alcohol and other drugs. This ranged from a low of 36.1% of secondary schools in Arizona to a high of 99.1% in New York (Table 7.2).

The School Health Profiles survey also found that 85.7% of secondary schools taught students about the social influences on alcohol and drug use, including media, family, peers, and culture. This ranged from a low of 35.2% of secondary schools in Arizona to a high of 98.8% in New York. Additionally, in 2024, 84.8% of secondary schools taught students about using interpersonal communication skills to avoid alcohol and other drug use (e.g., refusal skills and assertiveness). This ranged from a low of 33.8% in Arizona to a high of 98.8% in New York.

The survey of lead health education teachers also found that 52.5% of secondary schools provided parents and families with health information about alcohol- or other drug-use prevention. This ranged from a low of 33.4% in Arizona to a high of 70.2% in Arkansas (Table 7.3).

Based on surveys answered by principals only, 24.8% of secondary schools provided "assessment for alcohol or other drug use, abuse, or dependency to students," ranging from a low of 7.7% in North Dakota to a high of 54.0% in Delaware (Table 7.3). The principal survey also found that 59.3% of secondary schools provided referrals to students for alcohol or drug use treatment outside of the school. This ranged from a low of 34.5% in Tennessee to a high of 75.1% in Vermont.

The effect of prevention on students' interest in using drugs

In 2024, among 8th and 10th graders who said that they received any drug education in school, 68.1% said that the information made them less interested in trying drugs, while 2.3% said that it made them more interested in trying drugs, according to the Monitoring the Future survey. The remaining 29.6% said that the information did not affect their interest in trying drugs.

Table 7.2. School-based alcohol and drug use prevention topics by jurisdiction, 2024

Jurisdiction	Taught students about the short- and long-term effects of drugs and alcohol	Taught students about the social influences on alcohol and drug use	Taught students about using interpersonal communication skills to avoid substance use
Total	**86.2%**	**85.7%**	**84.8%**
Alaska	71.3%	71.9%	69.1%
Arizona	36.1%	35.2%	33.8%
Arkansas	97.7%	98.3%	96.5%
California	72.3%	70.5%	70.8%
Connecticut	90.4%	90.4%	88.1%
Delaware	96.4%	96.4%	94.4%
Hawaii	79.9%	77.3%	78.2%
Illinois	93.7%	94.3%	94.1%
Indiana	87.8%	86.1%	87.4%
Iowa	85.5%	85.4%	84.6%
Maine	88.4%	89.8%	88.1%
Maryland	97.1%	98.3%	97.5%
Massachusetts	86.3%	85.3%	84.4%
Michigan	86.7%	87.9%	85.5%
Minnesota	93.1%	92.7%	90.8%
Missouri	91.7%	89.7%	88.8%
Montana	94.9%	95.5%	88.5%
Nebraska	91.7%	89.3%	88.7%
Nevada	82.7%	81.5%	80.2%
New Mexico	84.1%	84.8%	85.1%
New York	99.1%	98.8%	98.8%
North Carolina	90.5%	89.7%	88.9%
North Dakota	95.0%	93.0%	94.3%
Ohio	84.4%	84.6%	84.5%
Oklahoma	61.9%	62.5%	60.8%
Oregon	93.1%	94.2%	92.2%
Rhode Island	94.0%	90.7%	90.7%
Tennessee	75.7%	75.9%	74.6%
Utah	N/A	N/A	N/A
Vermont	84.9%	84.1%	84.8%
Washington	86.3%	85.2%	86.1%
Wisconsin	93.0%	92.1%	91.1%

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Table 7.2. School-based alcohol and drug use prevention topics by jurisdiction, 2024 (continued)

Jurisdiction	Taught identifying reasons why individuals choose to use or not to use alcohol and other drugs	Taught about situations that lead to the use of alcohol and other drugs	Taught the differences between proper use and abuse of over-the-counter medicines and prescription medicines
Total	**84.7%**	**85.3%**	**81.3%**
Alaska	68.9%	73.0%	63.8%
Arizona	32.2%	34.0%	28.1%
Arkansas	95.8%	97.1%	94.1%
California	70.1%	70.9%	62.4%
Connecticut	88.1%	89.5%	87.6%
Delaware	96.4%	96.4%	90.7%
Hawaii	79.0%	76.1%	70.9%
Illinois	93.9%	94.9%	90.5%
Indiana	85.6%	86.0%	83.6%
Iowa	85.0%	85.0%	78.9%
Maine	88.2%	88.2%	82.8%
Maryland	96.7%	97.5%	94.5%
Massachusetts	85.1%	85.1%	77.6%
Michigan	84.4%	86.9%	83.6%
Minnesota	91.3%	92.3%	90.1%
Missouri	89.9%	89.0%	86.1%
Montana	85.9%	91.6%	85.2%
Nebraska	89.4%	88.2%	81.5%
Nevada	80.1%	82.0%	83.5%
New Mexico	82.0%	83.2%	79.5%
New York	98.8%	99.1%	97.3%
North Carolina	89.9%	89.3%	84.6%
North Dakota	94.3%	93.7%	81.1%
Ohio	83.4%	83.7%	82.9%
Oklahoma	59.8%	60.5%	57.2%
Oregon	93.5%	93.3%	87.1%
Rhode Island	88.4%	90.4%	81.9%
Tennessee	74.8%	74.8%	71.4%
Utah	N/A	N/A	N/A
Vermont	87.4%	86.7%	73.5%
Washington	85.4%	83.8%	79.1%
Wisconsin	92.0%	91.9%	87.6%

(The table continues on the next page)

Table 7.2. School-based alcohol and drug use prevention topics by jurisdiction, 2024 (continued)

Jurisdiction	Taught supporting others who abstain from or want to quit using alcohol and other drugs	Taught how to persuade and support others to be alcohol and other drug free	Taught alcohol and other drug use as an unhealthy way to manage weight
Total	**80.5%**	**81.3%**	**68.1%**
Alaska	66.9%	66.2%	52.6%
Arizona	30.6%	34.3%	24.5%
Arkansas	95.9%	95.9%	88.8%
California	66.8%	66.5%	51.2%
Connecticut	80.7%	84.4%	61.0%
Delaware	90.3%	86.7%	76.4%
Hawaii	74.5%	74.4%	62.9%
Illinois	87.6%	88.5%	75.8%
Indiana	83.0%	82.2%	73.1%
Iowa	78.3%	81.0%	72.0%
Maine	80.8%	80.6%	54.7%
Maryland	93.8%	92.2%	73.3%
Massachusetts	76.0%	74.1%	58.5%
Michigan	81.6%	83.1%	70.6%
Minnesota	85.4%	87.4%	71.6%
Missouri	85.9%	86.9%	76.3%
Montana	86.1%	89.8%	65.5%
Nebraska	85.8%	86.0%	77.6%
Nevada	79.1%	79.8%	70.3%
New Mexico	79.5%	81.0%	73.6%
New York	94.3%	94.3%	79.1%
North Carolina	86.3%	85.5%	77.2%
North Dakota	89.5%	90.5%	68.8%
Ohio	80.7%	81.1%	70.3%
Oklahoma	55.8%	59.6%	48.2%
Oregon	87.7%	89.9%	69.4%
Rhode Island	78.7%	85.8%	67.5%
Tennessee	72.4%	74.2%	63.5%
Utah	N/A	N/A	N/A
Vermont	75.9%	75.0%	47.6%
Washington	79.0%	78.7%	56.3%
Wisconsin	81.7%	83.7%	58.3%

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Table 7.2. School-based alcohol and drug use prevention topics by jurisdiction, 2024 (continued)

Jurisdiction	Tried to increase student knowledge on alcohol- or other drug-use prevention	Tried to increase student knowledge on mental and emotional health	Taught the relationship between alcohol and other drug use and sexual risk behaviors
Total	**92.6%**	**95.4%**	**87.0%**
Alaska	85.1%	88.9%	58.0%
Arizona	54.2%	71.7%	50.2%
Arkansas	98.8%	98.8%	N/A
California	87.0%	94.1%	90.2%
Connecticut	91.1%	98.0%	96.6%
Delaware	98.4%	96.5%	90.4%
Hawaii	86.5%	94.4%	84.1%
Illinois	97.8%	99.1%	100%
Indiana	95.5%	97.8%	91.0%
Iowa	90.8%	93.6%	85.0%
Maine	93.7%	97.0%	93.9%
Maryland	99.6%	100%	98.9%
Massachusetts	91.8%	97.3%	83.5%
Michigan	93.4%	96.7%	95.2%
Minnesota	96.3%	97.6%	91.7%
Missouri	96.1%	98.9%	88.9%
Montana	98.8%	100%	74.7%
Nebraska	94.6%	94.4%	81.0%
Nevada	87.3%	90.9%	87.0%
New Mexico	89.4%	92.4%	84.0%
New York	100%	100%	98.3%
North Carolina	92.9%	96.2%	85.8%
North Dakota	97.1%	100%	80.2%
Ohio	88.1%	94.7%	93.1%
Oklahoma	82.4%	83.0%	41.8%
Oregon	97.2%	99.1%	97.7%
Rhode Island	98.4%	100%	92.5%
Tennessee	86.2%	91.2%	93.8%
Utah	N/A	N/A	N/A
Vermont	91.8%	97.6%	93.5%
Washington	93.7%	97.1%	91.2%
Wisconsin	95.3%	98.1%	89.4%

Table 7.3. School-based alcohol and drug use responses by jurisdiction, 2024

Jurisdiction	Provided parents and families with health information about alcohol- or other drug-use prevention	Provided assessment for alcohol or other drug use, abuse, or dependency to students	Provided referrals for alcohol or other drug use treatment to students
Total	**52.5%**	**24.8%**	**59.3%**
Alaska	42.2%	10.0%	48.8%
Arizona	33.4%	11.5%	39.9%
Arkansas	70.2%	N/A	N/A
California	61.2%	N/A	N/A
Connecticut	52.3%	33.6%	59.3%
Delaware	56.5%	54.0%	69.4%
Hawaii	48.7%	49.2%	63.9%
Illinois	42.5%	18.3%	52.6%
Indiana	44.9%	21.4%	55.3%
Iowa	43.2%	13.3%	66.0%
Maine	42.2%	35.3%	58.4%
Maryland	63.7%	26.5%	68.5%
Massachusetts	51.5%	53.0%	65.8%
Michigan	42.0%	14.5%	51.4%
Minnesota	50.1%	22.7%	59.3%
Missouri	43.3%	20.2%	52.7%
Montana	47.6%	8.2%	44.1%
Nebraska	44.6%	N/A	N/A
Nevada	59.6%	23.1%	73.1%
New Mexico	49.2%	36.1%	68.2%
New York	63.3%	35.8%	69.2%
North Carolina	49.8%	8.1%	51.2%
North Dakota	45.1%	7.7%	54.3%
Ohio	48.7%	17.0%	63.5%
Oklahoma	52.9%	15.7%	52.6%
Oregon	47.1%	33.3%	69.1%
Rhode Island	44.3%	43.4%	71.6%
Tennessee	47.6%	10.4%	34.5%
Utah	N/A	16.4%	55.3%
Vermont	42.3%	51.2%	75.1%
Virginia	N/A	28.1%	52.1%
Washington	47.8%	35.4%	74.6%
Wisconsin	49.6%	28.9%	56.4%

Community-Based Prevention

The Drug-Free Communities (DFC) grant program, managed by the CDC and the Office of National Drug Control Policy, provides multi-year grants to local coalitions to implement youth-focused, community-based substance use prevention programs. Each coalition consists of representatives from at least 12 sectors: youth, parents, business, media, schools, youth-serving organizations, law enforcement, religious or fraternal organizations, civic or volunteer groups, healthcare professionals, state or local agencies, and other local organizations.

The CDC maintains a dashboard that indicates that there were 543 coalitions across the 50 states, the District of Columbia, Puerto Rico, and Guam in FY 2025.[11] New York (40) and Massachusetts (29) had the most DFC coalitions, while North Dakota and Guam each had only 1 (Table 7.4).

The DFC program's 2024 national evaluation report noted that marijuana was a focus of 91% of the DFC coalitions, which was second only to alcohol at 95%. The report also noted that the prevalence of past-month marijuana use among high school students in DFC communities in 2023 was 10%, whereas the national average for this population was 17%.[12]

Table 7.4. DFC coalitions by jurisdiction, 2025

Jurisdiction	Number of DFC coalitions
Total	**543**
Alabama	4
Alaska	3
Arizona	17
Arkansas	11
California	15
Colorado	6
Connecticut	16
Delaware	3
District of Columbia	3
Florida	14
Georgia	19
Hawaii	2
Idaho	3
Illinois	11
Indiana	17
Iowa	6
Kansas	8
Kentucky	14

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Table 7.4. DFC coalitions by jurisdiction, 2025 (continued)

Jurisdiction	Number of DFC coalitions
Louisiana	11
Maine	7
Maryland	10
Massachusetts	29
Michigan	21
Minnesota	12
Mississippi	5
Missouri	22
Montana	6
Nebraska	2
Nevada	3
New Hampshire	7
New Jersey	21
New Mexico	4
New York	40
North Carolina	15
North Dakota	1
Ohio	15
Oklahoma	10
Oregon	5
Pennsylvania	8
Rhode Island	7
South Carolina	6
South Dakota	3
Tennessee	13
Texas	12
Utah	10
Vermont	4
Virginia	4
Washington	17
West Virginia	10
Wisconsin	21
Wyoming	5
Guam	1
Puerto Rico	4

Community-based organizations can also host events for National Drug and Alcohol Facts Week, which is led by the National Institute on Drug Abuse (NIDA). NIDA said that "National Drug and Alcohol Facts Week (NDAFW) is an annual event focused on the science of drug use and addiction that educates and empowers youth to make informed decisions about substance use and their health."[13]

In the United States in 2025, 178 organizations registered to host 910 events in 44 states and the District of Columbia (Table 7.5). Kansas, Maine, New Hampshire, North Dakota, Utah, and Wyoming did not have any registered events. Of note, additional organizations may have hosted unofficial events that were not registered with NIDA. Some organizations hosted only one event, while others hosted many. For example, in Massachusetts, NIDA reported that 1 event was hosted by the Harvard Chan Student Drug Policy Forum, 3 were hosted by STEP Nation, 6 were hosted by DA Early's Office, and 20 were hosted by A Healthy Lynnfield.

Table 7.5. Organizations participating in NDAFW by jurisdiction, 2025

Jurisdiction	Number of organizations participating in NDAFW	Registered events for NDAFW
Total	**178**	**910**
Alabama	4	23
Alaska	1	4
Arizona	6	60
Arkansas	1	4
California	13	87
Colorado	2	2
Connecticut	2	7
Delaware	1	7
District of Columbia	2	14
Florida	9	43
Georgia	2	8
Hawaii	1	6
Idaho	2	15
Illinois	7	42
Indiana	5	33
Iowa	3	3
Kansas	0	0
Kentucky	3	8
Louisiana	6	15
Maine	0	0
Maryland	4	8
Massachusetts	4	30

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Table 7.5. Organizations participating in NDAFW by jurisdiction, 2025 (continued)

Jurisdiction	Number of organizations participating in NDAFW	Registered events for NDAFW
Michigan	6	16
Minnesota	1	1
Mississippi	1	1
Missouri	2	4
Montana	1	1
Nebraska	2	23
Nevada	3	81
New Hampshire	0	0
New Jersey	3	10
New Mexico	2	13
New York	16	52
North Carolina	3	19
North Dakota	0	0
Ohio	7	36
Oklahoma	4	15
Oregon	2	34
Pennsylvania	4	12
Rhode Island	5	29
South Carolina	4	7
South Dakota	1	6
Tennessee	5	19
Texas	4	11
Utah	0	0
Vermont	1	1
Virginia	9	41
Washington	7	34
West Virginia	3	4
Wisconsin	4	21
Wyoming	0	0

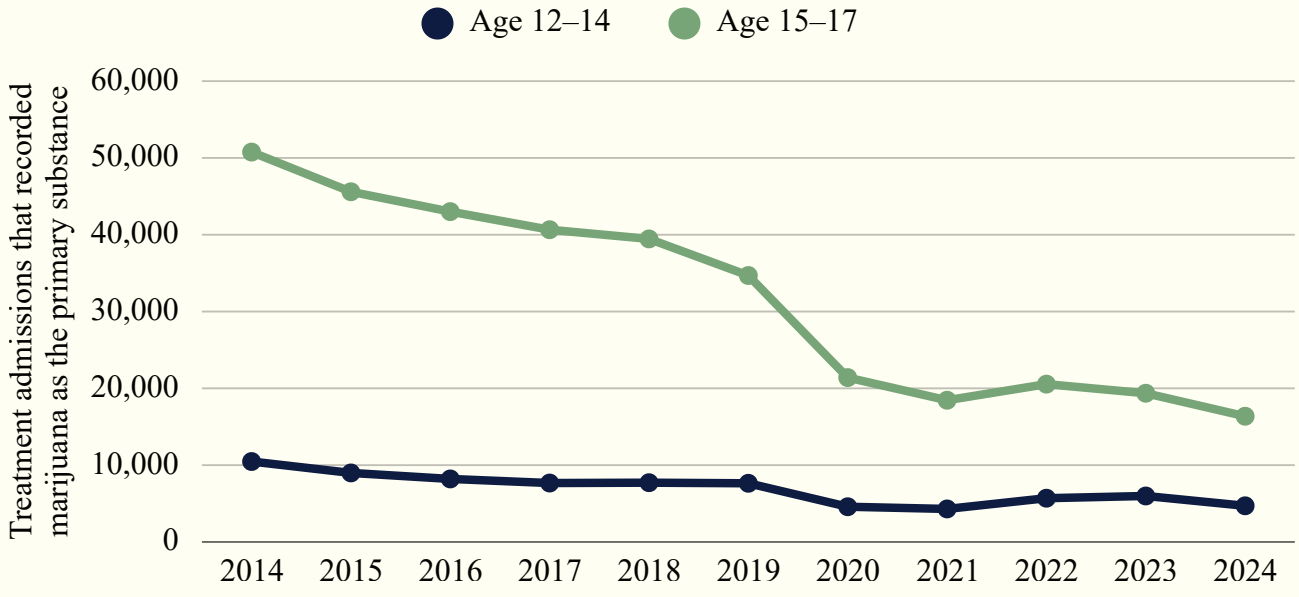
B. Treatment

Treatment Admissions

SAMHSA's Treatment Episode Data Set (TEDS) includes data about treatment admissions for drugs and alcohol for individuals aged 12 or older. The data for 2024 included 48 states, the District of Columbia, and Puerto Rico; South Carolina and Washington were not included.

Between 2014 and 2024, the number of treatment admissions that recorded marijuana as the primary substance among 12–14-year-olds decreased from 10,472 to 4,708 (Figure 7.1).[14] Likewise, the number of treatment admissions that recorded marijuana as the primary substance among 15–17-year-olds decreased from 50,762 in 2014 to 16,368 in 2024.

Figure 7.1. Treatment admissions that recorded marijuana as the primary substance among individuals between the ages of 12 and 17, 2014–2024



In 2024, there were 115,913 treatment admissions among individuals aged 12 or older that recorded marijuana as the primary substance, of which 29,518 (25.5%) involved individuals between the ages of 12 and 20 (Figure 7.2).

Figure 7.2. Age distribution of primary marijuana admissions, 2024

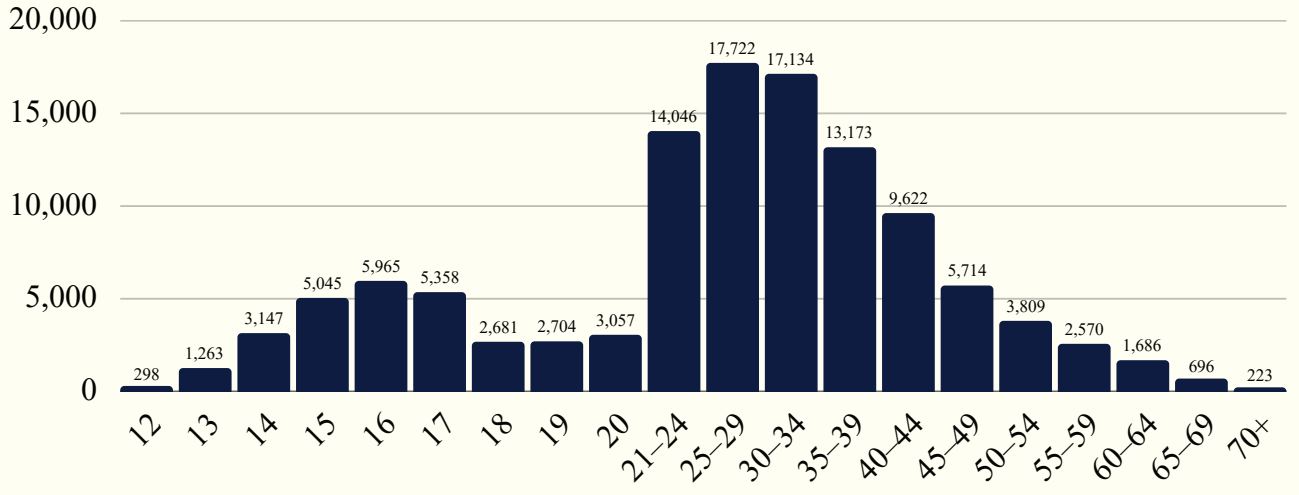


Table 7.6 includes demographic information about individuals aged 12–17 who were admitted to treatment in 2024 with marijuana as their primary substance. Among 12–14-year-olds, 59.9% were male, 54.3% were White, and 60.6% were not of Hispanic or Latino origin. Among 15–17-year-olds, 31.9% were female, 23.8% were Black or African American, and 34.3% were of Hispanic or Latino origin.

Table 7.6. Treatment admissions for marijuana as the primary substance by demographics, 2024

Demographic	Age 12–14	Age 15–17
Total	**4,708**	**16,368**
Sex		
Male	2,818 (59.9%)	11,137 (68.1%)
Female	1,885 (40.1%)	5,215 (31.9%)
Race		
American Indian or Alaska Native	144 (3.1%)	340 (2.1%)
Asian	36 (0.8%)	123 (0.8%)
Black or African American	934 (20.4%)	3,806 (23.8%)
Native Hawaiian or Other Pacific Islander	13 (0.3%)	86 (0.5%)
White	2,483 (54.3%)	8,632 (54.0%)
Other	966 (21.1%)	3,002 (18.8%)
Ethnicity		
Hispanic or Latino origin	1,801 (39.4%)	5,446 (34.3%)
Mexican	688 (15.0%)	2,081 (13.1%)
Puerto Rican	74 (1.6%)	369 (2.3%)
Cuban	18 (0.4%)	77 (0.5%)
Other	1,021 (22.3%)	2,919 (18.4%)
Not of Hispanic or Latino origin	2,775 (60.6%)	10,420 (65.7%)

Notes: The sum may not match the total because of incomplete data. The percentages are based on admissions with available data.

Figure 7.3 summarizes the age of first use among the 115,913 admissions for marijuana as the primary substance among individuals aged 12 or older in 2024. Among them, 11.4% first used marijuana when they were 11 or younger, while 13.8% first used it when they were 13, 13.0% first used it when they were 15, and 1.5% first used it when they were between the ages of 25 and 29.

Taken together, 92.9% of individuals aged 12 or older who were admitted to treatment for marijuana as their primary substance first used marijuana when they were 20 or younger. In comparison, among the 1,583,823 total admissions for all substances in 2024, 50.6% (802,196) first used their respective substance when they were 20 or younger.

Figure 7.3. Age of first use among individuals aged 12 or older who were admitted to treatment for marijuana as the primary substance, 2024

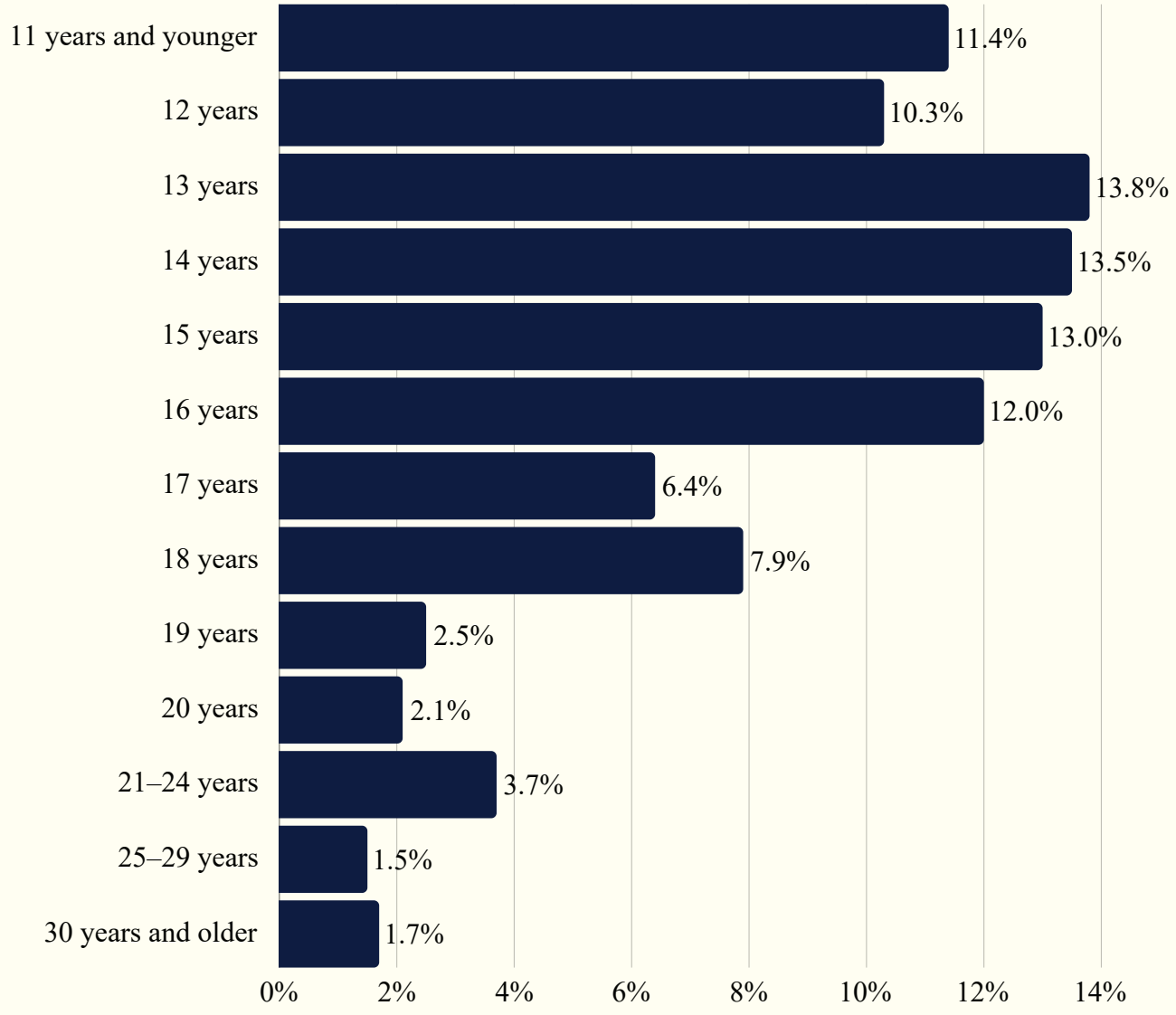
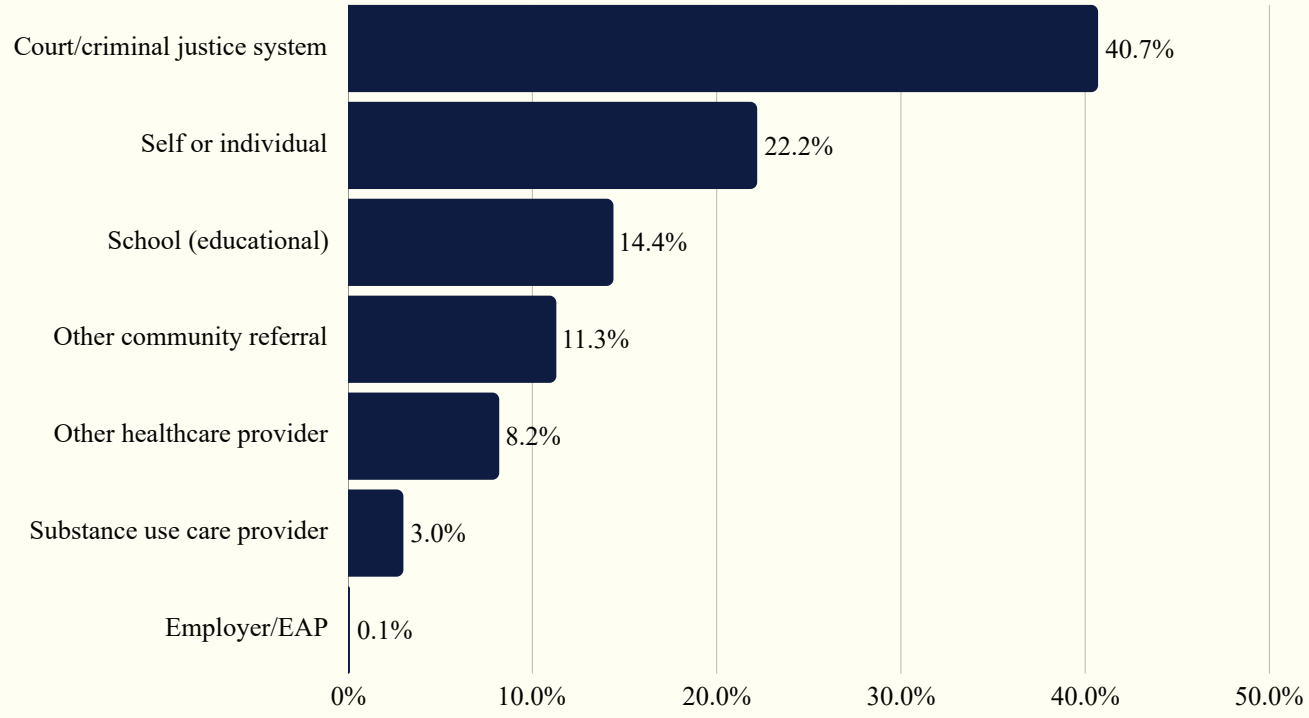


Figure 7.4 shows referral sources for primary marijuana treatment admissions among 12–17-year-olds. In 2024, 40.7% recorded a court or the criminal justice system as their referral source, while 22.2% recorded a self-referral or another individual and 14.4% listed a school.

Figure 7.4. Referral sources of primary marijuana admissions among 12–17-year-olds, 2024



Among 21,076 admissions aged 12–17 for marijuana as the primary substance, 33.9% had independent living arrangements, while 0.4% were experiencing homelessness (Table 7.7). Among females aged 12–17, 0.9% were pregnant.

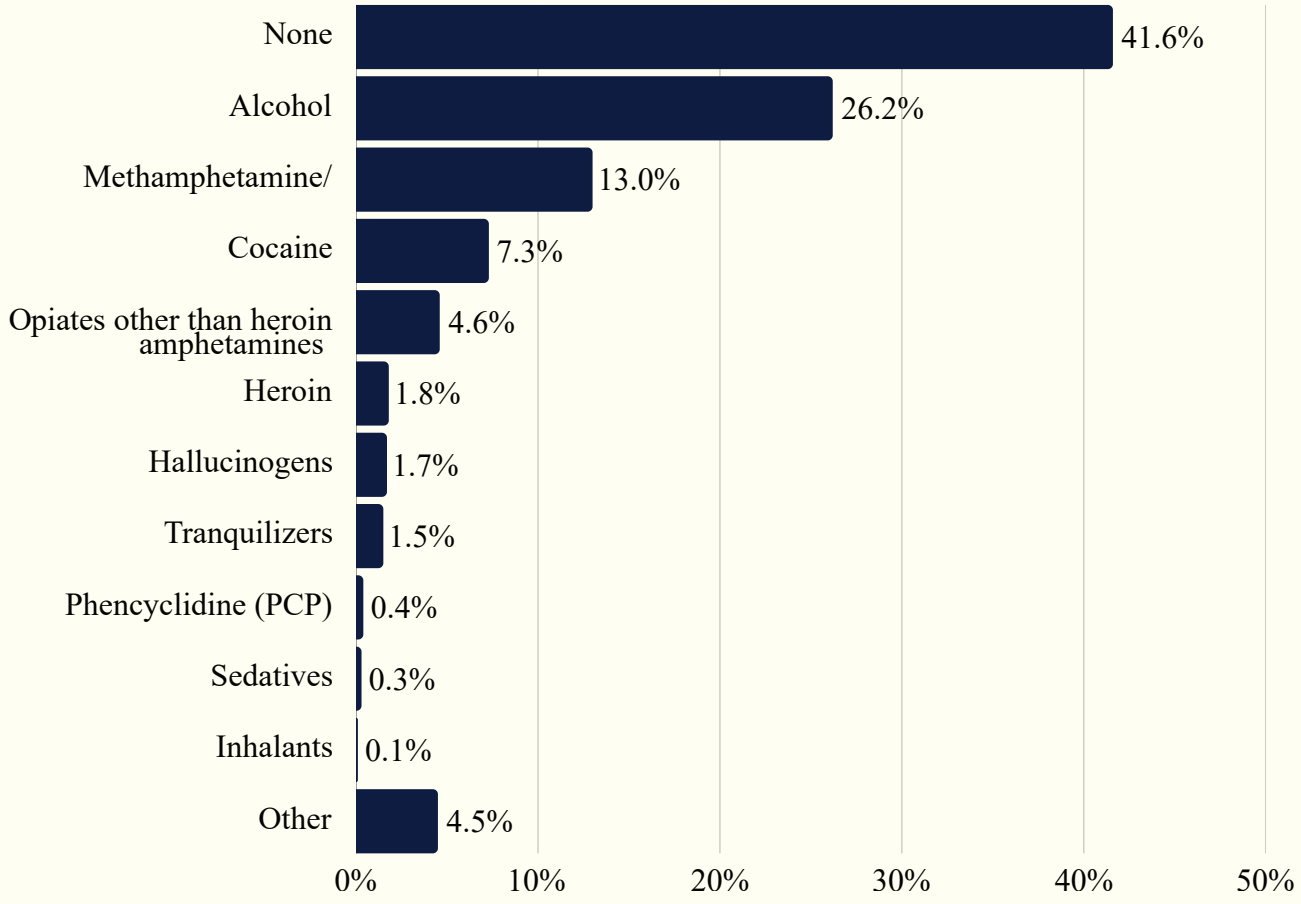
Table 7.7. Characteristics of primary marijuana admissions among 12–17-year-olds, 2024

Characteristics	Age 12–17
Total	**21,076**
Education	
Grade 8 or less	5,940 (28.7%)
Grades 9 to 11	13,847 (66.9%)
Grade 12 (or GED) or more	909 (4.4%)
Living Arrangements	
Independent living	6,758 (33.9%)
Dependent living	13,124 (65.8%)
Experiencing homelessness	73 (0.4%)
Pregnant (females only)	
Yes	63 (0.9%)
No	6,770 (99.1%)

Notes: The sum may not match the total because of incomplete data. The percentages are based on admissions with available data.

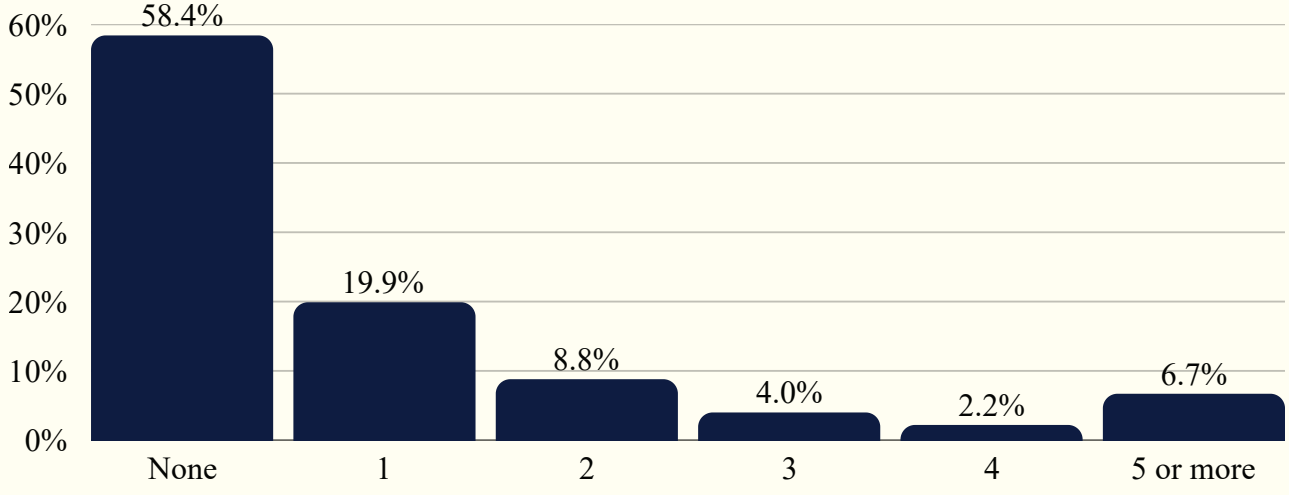
Among admissions aged 12 or older for marijuana as the primary substance, 26.2% recorded alcohol as a secondary or tertiary substance and 13.0% recorded methamphetamine or amphetamines as a secondary or tertiary substance (Figure 7.5).

Figure 7.5. Secondary and tertiary substance use among people aged 12 or older admitted to treatment for marijuana as the primary substance, 2024



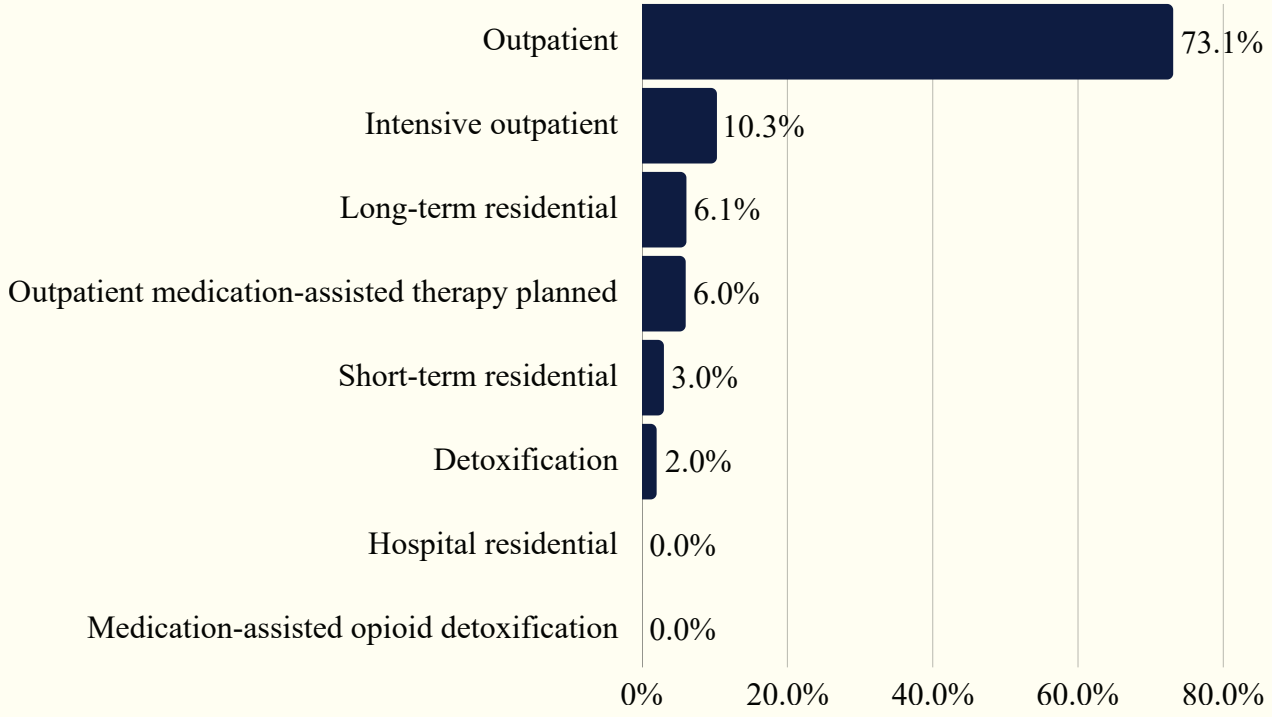
In 2024, among 115,913 admissions aged 12 or older for marijuana as the primary substance, 58.4% had no prior treatment episodes, while 19.9% had been to treatment once before and 6.7% had 5 or more prior treatment episodes (Figure 7.6).

Figure 7.6. Number of prior treatment episodes among those admitted with marijuana as their primary substance, 2024



Among 18,340 discharges of individuals aged 12–17 for marijuana as the primary substance, 13,400 received outpatient treatment services at admission, while 1,126 received treatment in a long-term residential program at admission (Figure 7.7).

Figure 7.7. Discharges for primary marijuana admissions among 12–17-year-olds by treatment service at admission, 2024



Treatment for cannabis use disorder

According to the Cleveland Clinic, the two main forms of treatment for cannabis use disorder are 1) detoxification and 2) cognitive behavioral therapy (CBT).[15] Detoxification involves discontinuing marijuana use and allowing the substance to leave the individual's body, often as the first step in their treatment journey. CBT involves helping the individual recognize and change their unhelpful thoughts and behaviors, thereby creating the opportunity to develop healthier alternatives.

However, unlike opioid use disorder, which can be treated with FDA-approved medications (buprenorphine, methadone, and naltrexone), there are no comparable medications for cannabis use disorder. Emerging treatment approaches include contingency management, motivational interviewing, and the use of technology. Contingency management is an approach premised on providing a small recurring incentive (e.g., a $5 gift card) to individuals for achieving treatment goals like continued abstinence. Motivational interviewing helps individuals resolve mixed feelings about treatment and encourages them to proceed through treatment. Smartphone apps, such as A-CHESS, have also been developed to support those with substance use disorders.

The five jurisdictions with the most admissions for marijuana as the primary substance among 12–17-year-olds were California (3,031), Florida (2,337), New York (2,167), Texas (1,769), and Missouri (1,221), according to TEDS data in SAMHSA's Data Analysis System (Table 7.8).[16] The five jurisdictions with the fewest admissions were Connecticut (0), New Hampshire (0), Montana (1), Delaware (1), and Arizona (2).

Table 7.8. Admissions for marijuana as the primary substance among 12–17-year-olds by jurisdiction, 2024

Jurisdiction	Number of treatment admissions for marijuana as the primary substance
Total	**21,076**
Alabama	844
Alaska	56
Arizona	2
Arkansas	195
California	3,031
Colorado	642
Connecticut	0
Delaware	1
District of Columbia	6
Florida	2,337
Georgia	168
Hawaii	48
Idaho	25
Illinois	584
Indiana	434
Iowa	566
Kansas	327
Kentucky	183
Louisiana	102
Maine	17
Maryland	427
Massachusetts	146
Michigan	408
Minnesota	1,176
Mississippi	71

(The table continues on the next page)

Table 7.8. Admissions for marijuana as the primary substance among 12–17-year-olds by jurisdiction, 2024 (continued)

Jurisdiction	Number of treatment admissions for marijuana as the primary substance
Missouri	1,221
Montana	1
Nebraska	19
Nevada	173
New Hampshire	0
New Jersey	842
New Mexico	5
New York	2,167
North Carolina	34
North Dakota	133
Ohio	374
Oklahoma	223
Oregon	160
Pennsylvania	372
Puerto Rico	91
Rhode Island	75
South Carolina	*
South Dakota	246
Tennessee	448
Texas	1,769
Utah	341
Vermont	68
Virginia	294
Washington	*
West Virginia	4
Wisconsin	129
Wyoming	91

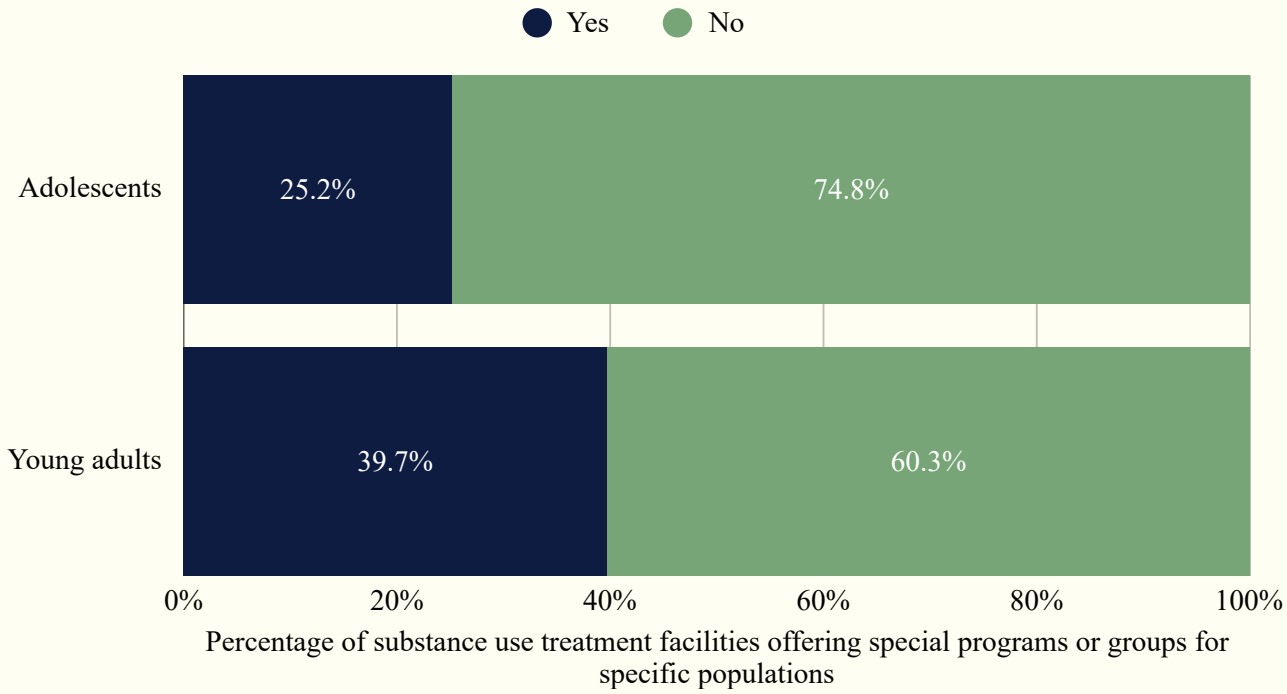
* = SAMHSA said, “No data, or less than a full calendar year of data, submitted.”

Treatment Services

SAMHSA's National Substance Use and Mental Health Services Survey (N-SUMHSS) reports information about the services and characteristics of substance use and mental health treatment facilities in the United States.[17] The survey identified 17,829 eligible substance use treatment facilities in 2024, of which 15,953 completed the survey and were included in the report. Among these 15,953 facilities, 48.2% were private and non-profit, 42.1% were private and for-profit, 4.1% were operated by a local government, 2.3% were operated by the federal government (e.g., the Department of Veterans Affairs), 2.1% were operated by a state government, and 1.1% were operated by a tribal government.

Among these 15,953 substance use treatment facilities, 4,026 (25.2%) offered special programs or groups for adolescents (ages 13–17) and 6,329 (39.7%) offered special programs or groups for young adults (ages 18–25) (Figure 7.8).

Figure 7.8. Substance use treatment facilities with programs for adolescents and young adults, 2024



In 2024, 58,570 individuals under the age of 18 attended substance use treatment facilities—for any substance—that offered special programs or groups for adolescents. The percentage of clients under the age of 18 who attended a substance use facility that offered programs for adolescents ranged from a low of 7.1% in New Hampshire to a high of 98.3% in North Dakota and Vermont (Table 7.9). Of note, the N-SUMHSS client count is based on March 29, 2024, not all admissions throughout the year.

Table 7.9. Substance use treatment clients under the age of 18 in facilities that offered programs for adolescents, 2024

Jurisdiction	Number of clients	Percentage of clients under the age of 18 who attended a substance use facility that offered programs for adolescents
Total	**58,570**	**60.6%**
Alabama	423	95.5%
Alaska	72	16.3%
Arizona	2,055	37.2%
Arkansas	105	50.2%
California	3,312	78.5%
Colorado	860	83.3%
Connecticut	2,086	82.7%
Delaware	202	73.2%
District of Columbia	14	25.9%
Florida	2,681	74.4%
Georgia	1,249	91.4%
Hawaii	384	79.8%
Idaho	381	93.2%
Illinois	958	45.5%
Indiana	1,517	72.5%
Iowa	300	76.5%
Kansas	786	80.5%
Kentucky	561	12.6%
Louisiana	193	37.6%
Maine	235	36.7%
Maryland	705	86.2%
Massachusetts	1,270	24.2%
Michigan	3,916	87.6%
Minnesota	351	52.2%
Mississippi	3,224	98.0%

(The table continues on the next page)

Table 7.9. Substance use treatment clients under the age of 18 in facilities that offered programs for adolescents, 2024 (continued)

Jurisdiction	Number of clients	Percentage of clients under the age of 18 who attended a substance use facility that offered programs for adolescents
Missouri	1,157	42.9%
Montana	265	94.0%
Nebraska	171	33.8%
Nevada	1,524	94.3%
New Hampshire	110	7.1%
New Jersey	744	91.0%
New Mexico	261	35.4%
New York	3,073	82.1%
North Carolina	1,491	56.9%
North Dakota	735	98.3%
Ohio	5,942	59.7%
Oklahoma	1,599	36.7%
Oregon	766	84.0%
Pennsylvania	2,063	45.6%
Puerto Rico	551	81.5%
Rhode Island	265	48.7%
South Carolina	1,066	90.0%
South Dakota	112	98.2%
Tennessee	967	30.8%
Texas	2,816	98.1%
Utah	615	70.1%
Vermont	115	98.3%
Virginia	1,341	56.2%
Washington	1,556	93.1%
West Virginia	345	70.7%
Wisconsin	970	87.4%
Wyoming	85	48.9%
Other jurisdictions (e.g., Guam)	25	96.2%

In 2024, 4,026 substance use treatment facilities offered programs or groups for adolescents, while 6,329 offered programs or groups for young adults. Florida had 162 facilities with programs or groups for adolescents and 302 facilities with programs or groups for young adults (Table 7.10).

Table 7.10. Substance use facilities that offered programs for adolescents and young adults by jurisdiction, 2024

Jurisdiction	Substance use facilities that offered programs for adolescents	Substance use facilities that offered programs for young adults
Total	**4,026**	**6,329**
Alabama	29	39
Alaska	20	35
Arizona	127	228
Arkansas	32	50
California	334	718
Colorado	122	157
Connecticut	57	103
Delaware	8	30
District of Columbia	5	14
Florida	162	302
Georgia	97	140
Hawaii	65	37
Idaho	51	57
Illinois	173	249
Indiana	100	123
Iowa	74	58
Kansas	80	66
Kentucky	104	175
Louisiana	56	113
Maine	24	38
Maryland	123	263
Massachusetts	58	161
Michigan	100	171
Minnesota	78	122
Mississippi	26	44

(The table continues on the next page)

Table 7.10. Substance use facilities that offered programs for adolescents and young adults by jurisdiction, 2024 (continued)

Jurisdiction	Substance use facilities that offered programs for adolescents	Substance use facilities that offered programs for young adults
Missouri	53	82
Montana	42	38
Nebraska	22	42
Nevada	54	78
New Hampshire	12	23
New Jersey	89	188
New Mexico	55	66
New York	227	366
North Carolina	136	228
North Dakota	15	17
Ohio	174	249
Oklahoma	66	88
Oregon	83	117
Pennsylvania	141	219
Puerto Rico	20	42
Rhode Island	12	21
South Carolina	40	48
South Dakota	21	16
Tennessee	76	125
Texas	167	206
Utah	87	144
Vermont	9	16
Virginia	76	112
Washington	125	153
West Virginia	29	54
Wisconsin	61	62
Wyoming	28	35
Other jurisdictions (e.g., Guam)	1	1

C. Recovery

Recovery High Schools

According to the Association of Recovery Schools, "In short, recovery high schools are secondary schools designed specifically for students in recovery from substance use disorder or co-occurring disorders."[18] Alongside traditional staff members like teachers and school counselors, these schools often employ substance misuse counselors and mental health professionals.

As of August 19, 2026, the Association of Recovery Schools, which accredits recovery high schools, listed 31 in the United States that were members, of which 10 were accredited. These 31 are located in 18 states. It is possible that other recovery schools exist but are not members of the national association.

For context, the White House Office of National Drug Control Policy's 2024 Performance Review System Report, citing the Association of Recovery Schools, noted that there were 35 recovery high schools in 2018, 39 in 2019, 38 in 2020, 43 in 2021, and 45 in 2022.[19] The White House's 2026 National Drug Control Strategy stated that "The Administration will work to expand the number of recovery high schools, alternative peer groups, collegiate recovery programs, and recovery residences, while ensuring consistent standards and quality."[20]

Recovery high schools

The Association of Recovery Schools explained that each recovery high school has the following goals:[21]

- The primary purpose of a recovery high school is to educate and support students in recovery from substance use or co-occurring disorders;
- Recovery schools will meet state requirements for awarding a secondary school diploma;
- Recovery schools will maintain the intent that all students enrolled be in recovery and working a program of recovery from substance use or co-occurring disorders as determined by the student and the school;
- Recovery schools will support all students in working an abstinence-focused program of recovery as agreed upon by the student and the school.

The 5280 Recovery High School in Denver, Colorado, which claims to be the largest recovery high school in the nation, is one example. It is structured as a public charter high school and is free for students aged 13–20 to attend. Its website states that "We have two criteria for attending: all students must be willing to try to remain sober, and all students must work with an outside program of recovery or be willing to start one."[22] Students are allowed to enroll at the school year-round. The school offers weekly recovery meetings, as well as free transportation for students in the Denver metro area. Additionally, all of the school's recovery staff members have lived experience (i.e., they have experience with addiction) and are Certified Peer and Family Specialists (CPFS).

Table 7.11 summarizes the number of recovery high schools in the United States as of August 19, 2026, according to the "Find a School" page on the Association of Recovery Schools' website.[23] Texas had 5 recovery high schools, while Minnesota had 4 and many states had none.

Table 7.11. Recovery high schools by state, August 2026

Jurisdiction	Recovery high schools
Total	**31**
Alabama	0
Alaska	0
Arizona	0
Arkansas	0
California	0
Colorado	1
Connecticut	0
Delaware	0
District of Columbia	0
Florida	3
Georgia	0
Hawaii	0
Idaho	0
Illinois	0
Indiana	1
Iowa	0
Kansas	0
Kentucky	0
Louisiana	0
Maine	0
Maryland	1
Massachusetts	1
Michigan	0
Minnesota	4
Mississippi	0

(The table continues on the next page)

Table 7.11. Recovery high schools by state, August 2026 (continued)

Jurisdiction	Recovery high schools
Missouri	0
Montana	0
Nebraska	0
Nevada	1
New Hampshire	0
New Jersey	3
New Mexico	0
New York	1
North Carolina	2
North Dakota	0
Ohio	1
Oklahoma	1
Oregon	2
Pennsylvania	1
Rhode Island	0
South Carolina	0
South Dakota	0
Tennessee	0
Texas	5
Utah	0
Vermont	0
Virginia	0
Washington	1
West Virginia	0
Wisconsin	1
Wyoming	1

Collegiate Recovery Programs

The Association of Recovery in Higher Education said that collegiate recovery programs "reinforce the decision to engage in a lifestyle of recovery from addiction/substance use disorder. It is designed to provide an educational opportunity alongside recovery supports to ensure that students do not have to sacrifice one for the other."[24] Although programs vary, they share a commitment to supporting students in recovery, similar to how colleges often have support programs for veterans.

There were 180 collegiate recovery programs in 2026, according to a map published by the Association of Recovery in Higher Education that was last updated on June 25, 2026.[25] Six of these were abroad. For context, the White House Office of National Drug Control Policy's 2024 Performance Review System Report, citing the Association of Recovery in Higher Education, noted that there were 115 collegiate recovery programs in 2018, 141 in 2019, 132 in 2020, 145 in 2021, and 149 in 2022.[26]

Examples of collegiate recovery programs

According to the University of Michigan's collegiate recovery program, it "provides holistic, tailored support to University of Michigan students who are in recovery from alcohol or other drug problems."[27] However, it "is not a clinical treatment program and we don't provide clinical therapy—we are a recovery support service." Among other things, the program plans sober events, offers a recovery lounge, and provides a community with other students in recovery.

The University of Utah's program said that "our purpose is to support students in seeking or sustaining recovery from addiction. We do this through community building and connections to resources to achieve academic and personal success while enjoying a healthy, balanced, and genuine college experience."[28] The program offers a community of peers in recovery, referrals to recovery meetings, harm reduction coaching, volunteer opportunities, one-on-one meetings with staff, and more.

The University of Kentucky's program "exists to provide peer support, resources, and education to empower students in all stages of addiction recovery and to foster a recovery-supportive campus."[29] In addition to supporting those who have misused substances, the program serves those who have been "impacted by a loved one's addiction." The program also hosts educational workshops for the broader campus community, such as through a Recovery Ally Program.

The University of Alabama's program hosts events, such as sober tailgates. It also offers students 24-hour access to a recovery space, which the program said many students describe as their "home away from home."[30] This recovery space includes video games, a snack pantry, a computer lab, study rooms, and more.

The University of California, Berkeley's program hosts recovery meetings, provides harm reduction resources, and organizes sober social events. It also leads a Recovery Scholar Program, which "provides financial support via a modest stipend to students who are active recovery advocates on campus."[31]

According to a map published by the Association of Recovery in Higher Education that was last updated on June 25, 2026, there were 13 collegiate recovery programs in Texas, 12 in California, 12 in North Carolina, and 11 in Michigan.[32] The map did not report any programs in Arizona, Arkansas, Hawaii, Montana, Nebraska, North Dakota, Oklahoma, South Dakota, and Wyoming (Table 7.12).

Table 7.12. Collegiate recovery programs by jurisdiction, June 2026

Jurisdiction	Collegiate recovery programs
Total	**180**
Alabama	3
Alaska	1
Arizona	0
Arkansas	0
California	12
Colorado	5
Connecticut	3
Delaware	2
District of Columbia	1
Florida	4
Georgia	5
Hawaii	0
Idaho	1
Illinois	1
Indiana	3
Iowa	2
Kansas	1
Kentucky	5
Louisiana	8
Maine	2
Maryland	1
Massachusetts	6
Michigan	11
Minnesota	5
Mississippi	3

(The table continues on the next page)

Table 7.12. Collegiate recovery programs by jurisdiction, June 2026 (continued)

Jurisdiction	Collegiate recovery programs
Missouri	2
Montana	0
Nebraska	0
Nevada	1
New Hampshire	1
New Jersey	8
New Mexico	1
New York	2
North Carolina	12
North Dakota	0
Ohio	6
Oklahoma	0
Oregon	2
Pennsylvania	9
Rhode Island	2
South Carolina	8
South Dakota	0
Tennessee	4
Texas	13
Utah	1
Vermont	1
Virginia	7
Washington	5
West Virginia	2
Wisconsin	2
Wyoming	0
Canada	5
United Kingdom	1

D. Enforcement and Restrictions

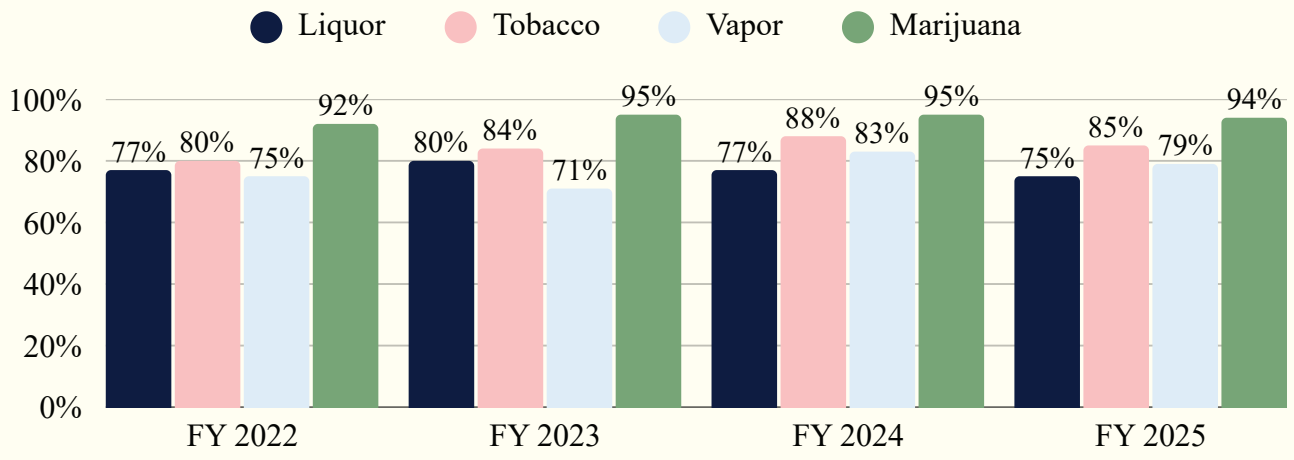
Compliance Checks

State-level agencies conduct compliance checks in an effort to prevent minors from illegally purchasing marijuana from state-regulated marijuana dispensaries.

The Washington State Liquor and Cannabis Board (LCB) explained: "The LCB prioritizes preventing youth access to age-restricted products in Washington State. Compliance checks are a specialized check involving an LCB officer and an investigative aide (IA) that is 18–20 years old. The checks assess the level of compliance related to sales of age-restricted products. This process involves a controlled, age-restricted product purchase attempt by the underage IA under supervision of an LCB officer using a national best-practice model."[33]

In Washington State, the compliance rate for marijuana dispensaries increased from 92% in FY 2022 to 94% in FY 2025 (Figure 7.9). The rate in FY 2025 was based on 516 compliance checks at marijuana dispensaries. In comparison, in FY 2025, the rate was 85% for tobacco stores, 79% for vapor stores, and 75% for liquor stores. The state concluded, "Compliance rates demonstrate the industry's success rate in preventing youth access."

Figure 7.9. Underage compliance rates in Washington State, FY 2022–2025



Colorado's Marijuana Enforcement Division conducted 469 underage compliance checks in 2025 and found that only 2 checks failed, resulting in a pass rate of 99.6%.[34]

Pointing to results like these, Paul Armentano, the deputy director of the National Organization for the Reform of Marijuana Laws, said in March 2026, "states' real-world experience with adult-use marijuana legalization affirms that it is being implemented in a way that provides regulated access for adults while simultaneously limiting youth access and misuse," adding that "illicit marijuana providers don't ask for or check for ID, but licensed businesses most certainly do."[35]

Packaging

Few states publish statistics on enforcement actions taken against the marijuana industry for selling products that appeal to minors, though regulatory agencies are tasked with ensuring that marijuana products are not packaged in ways that would appeal to minors.

An audit of California's Department of Cannabis Control by the state's auditor in 2024 concluded: "Packaging for many cannabis products contains design elements that children may find attractive. The packaging for more than half of the products we reviewed from retail websites—23 of 40 products—were likely attractive to children. Packaging for many cannabis products we reviewed included images of foods, including images of the cannabis product itself—such as crispy rice treats—or its noncannabis ingredients, such as chocolate chips. Colorful fonts and cartoon images are other design elements that may increase packaging's attractiveness to children."[36] Specifically, the audit found:

- Among 40 marijuana products, 16 featured "flavor descriptions related to fruit or other foods that children would find attractive."
- Among 40 marijuana products, 14 had packaging that displayed images of food or candy.
- Among 40 marijuana products, 7 had packaging that included cartoons and colorful illustrations "that are associated with products marketed to children."
- Among 40 marijuana products, 3 "included fonts or coloring reminiscent of children's products."
- Among 30 edible products, 29 resembled common foods like cookies, brownies, and candy.

Zoning restrictions

The National Parent Teacher Association (PTA) adopted a position statement that said, "PTA opposes the placement of marijuana retail establishments and dispensaries that are less than 1,000 feet from the premises of schools in accordance with drug-free school zones."[37]

States that have legalized recreational or medical marijuana, along with their municipalities, impose regulations that prohibit marijuana dispensaries from being within specified distances of youth-focused locations. Some municipalities fully opt out of allowing dispensaries to operate within their communities. For example, in New York State, as of June 2026, 748 of 1,520 (49%) municipalities opted out of allowing dispensaries, while 875 (58%) opted out of allowing consumption sites.[38]

Denver, Colorado, prohibits retail marijuana dispensaries from being within 1,000 feet of schools, childcare establishments, other marijuana dispensaries, and addiction treatment facilities.[39] The state of Maryland adopted a statewide standard prohibiting dispensaries from operating within 500 feet of "sensitive areas," which include primary or secondary schools, licensed child-care centers, registered family child-care centers, playgrounds, recreation centers, libraries, public parks, and places of worship, while noting that municipalities "may reduce but not increase this distance."[40] The state of Montana prohibits dispensaries from being within 500 feet of schools and places of worship.[41]

Appendix A. State-Level Marijuana Laws

The National Conference of State Legislatures maintains a list of the marijuana laws throughout the nation and places states and territories into one of four categories: recreational and medical marijuana programs; only medical marijuana programs; CBD/low THC programs; and no public access to marijuana.[1] This page was last updated on June 26, 2025. *MJBizDaily*, a news source about the marijuana industry, published a page with the years that states legalized recreational and medical marijuana.[2] This page was last updated on June 20, 2025.

Table A.1. State-level marijuana laws, June 2025

Jurisdiction	Regulated marijuana program	Year recreational marijuana was legalized	Year medical marijuana was legalized
Alabama	Medical marijuana program	N/A	2021
Alaska	Recreational and medical programs	2014	1998
Arizona	Recreational and medical programs	2020	2010
Arkansas	Medical marijuana program	N/A	2016
California	Recreational and medical programs	2016	1996
Colorado	Recreational and medical programs	2012	2000
Connecticut	Recreational and medical programs	2021	2012
Delaware	Recreational and medical programs	2023	2011
District of Columbia	Recreational and medical programs	2015	2011
Florida	Medical marijuana program	N/A	2016
Georgia	Medical marijuana program	N/A	2015
Hawaii	Medical marijuana program	N/A	2000
Idaho	No public marijuana program	N/A	N/A
Illinois	Recreational and medical programs	2019	2013
Indiana	CBD/low THC program	N/A	N/A
Iowa	CBD/low THC program	N/A	2017
Kansas	No public marijuana program	N/A	N/A
Kentucky	Medical marijuana program	N/A	2023
Louisiana	Medical marijuana program	N/A	2015
Maine	Recreational and medical programs	2016	1999
Maryland	Recreational and medical programs	2022	2013
Massachusetts	Recreational and medical programs	2016	2012
Michigan	Recreational and medical programs	2018	2008
Minnesota	Recreational and medical programs	2023	2014
Mississippi	Medical marijuana program	N/A	2022

(The table continues on the next page)

Table A.1. State-level marijuana laws, June 2025 (continued)

Jurisdiction	Regulated marijuana program	Year recreational marijuana was legalized	Year medical marijuana was legalized
Missouri	Recreational and medical programs	2022	2018
Montana	Recreational and medical programs	2020	2004
Nebraska	Medical marijuana program	N/A	2024
Nevada	Recreational and medical programs	2016	1998
New Hampshire	Medical marijuana program	N/A	2013
New Jersey	Recreational and medical programs	2020	2010
New Mexico	Recreational and medical programs	2021	2007
New York	Recreational and medical programs	2021	2014
North Carolina	CBD/low THC program	N/A	N/A
North Dakota	Medical marijuana program	N/A	2016
Ohio	Recreational and medical programs	2023	2016
Oklahoma	Medical marijuana program	N/A	2018
Oregon	Recreational and medical programs	2014	1998
Pennsylvania	Medical marijuana program	N/A	2016
Rhode Island	Recreational and medical programs	2022	2006
South Carolina	CBD/low THC program	N/A	N/A
South Dakota	Medical marijuana program	N/A	2020
Tennessee	CBD/low THC program	N/A	N/A
Texas	Medical marijuana program	N/A	2015
Utah	Medical marijuana program	N/A	2018
Vermont	Recreational and medical programs	2020	2004
Virginia	Recreational and medical programs	2021	2020
Washington	Recreational and medical programs	2012	1998
West Virginia	Medical marijuana program	N/A	2017
Wisconsin	CBD/low THC program	N/A	N/A
Wyoming	CBD/low THC program	N/A	N/A
American Samoa	No public marijuana program		
Guam	Recreational and medical programs		
Northern Mariana Islands	Recreational and medical programs		
Puerto Rico	Medical marijuana program		
Virgin Islands	Recreational and medical programs		

Note: *MJBizDaily* did not include the territories on its page.

Appendix B. The Positions of Medical Associations

The Food and Drug Administration's review of marijuana, which supported the federal recommendation to place the substance in Schedule III, cited the position statements of the American Academy of Family Physicians, the American Academy of Neurology, the American Epilepsy Society, the American Psychiatric Association, the American Society of Addiction Medicine, NAADAC, the International Association for the Study of Pain, and the American Academy of Sleep Medicine.[3]

In addition to these 8 organizations, the Appendix includes the position statements from the American Academy of Child & Adolescent Psychiatry, the American Academy of Pediatrics, the American Medical Association, the American Public Health Association, the American College of Obstetricians & Gynecologists, the American College of Physicians, the American Heart Association, the American Lung Association, the American Cancer Society Cancer Action Network, the American Osteopathic Association, and the American College of Medical Toxicology.

The American Academy of Child & Adolescent Psychiatry

Approved in 2012, the Substance Abuse and Addiction Committee of the American Academy of Child & Adolescent Psychiatry released its **position statement on medical marijuana**, as written:[4]

"The American Academy of Child and Adolescent Psychiatry (AACAP) is concerned about the negative impact of medical marijuana on youth. Adolescents are especially vulnerable to the many adverse developmental, cognitive, medical, psychiatric, and addictive effects of marijuana. Of particular concern to our field, adolescent marijuana users are more likely than adult users to develop marijuana dependence, and their heavy use is associated with increased incidence and worsened course of psychotic, mood, and anxiety disorders. Furthermore, marijuana's deleterious effects on cognition and brain development during adolescence may have lasting implications.

The 'medicalization' of smoked marijuana has distorted the perception of the known risks and purported benefits of this drug. Since certain states began permitting dispensing of medical marijuana, adolescents' perceptions of the harmful effects of marijuana have decreased and marijuana use has increased significantly. There is also emerging evidence that adolescents are accessing medical marijuana for recreational use. Therefore AACAP urges more scientific evaluation and a risk:benefit analysis by interdisciplinary experts to determine whether there is any medical indication for marijuana dispensing given the potential harm to adolescents.

In summary:

- Adolescents are especially vulnerable to adverse consequences of marijuana use.
- Medical marijuana dispensing is associated with reduced perception of marijuana-related risks and increased rates of marijuana use among adolescents.
- AACAP thus opposes medical marijuana dispensing to adolescents."

Approved in 2014 and updated in 2017, the American Academy of Child & Adolescent Psychiatry released its **position statement on marijuana legalization**, as written:[5]

"The American Academy of Child and Adolescent Psychiatry (AACAP) advocates for careful consideration of potential immediate and downstream effects of marijuana policy changes on children and adolescents. Marijuana legalization, even if restricted to adults, may be associated with (a) decreased adolescent perception of marijuana's harmful effects, (b) increased marijuana use among parents and caretakers, and (c) increased adolescent access to marijuana, all of which reliably predict increased rates of adolescent marijuana use and associated problems. Marijuana use during pregnancy, occurring at increasing rates, raises additional concerns regarding future infant, child, and adolescent development.

AACAP is aware that, among hundreds of chemical constituents, marijuana contains select individual compounds that, if safely administered in reliable doses, may potentially convey therapeutic effects for specific conditions in specific populations. Advocacy regarding potential cannabinoid therapeutics, alongside social justice, public policy, and economic concerns, have contributed to marijuana policy changes. Amid these factors, AACAP remains focused on concerns regarding adolescent marijuana use.

Adolescents are especially vulnerable to marijuana's many known adverse effects. One in six adolescent marijuana users develops cannabis use disorder, a well characterized syndrome involving tolerance, withdrawal, and continued use despite significant associated impairments. Selective breeding has increased marijuana's addictive potency and potential harm to adolescents. Heavy use during adolescence is associated with increased incidence and worsened course of psychotic, mood, anxiety, and substance use disorders. Furthermore, marijuana's deleterious effects on adolescent cognition, behavior, and brain development may have immediate and long-term implications, including increased risk of motor vehicle accidents, sexual victimization, academic failure, lasting decline in intelligence measures, psychopathology, addiction, and psychosocial and occupational impairment.

Marijuana-related policy changes, including legalization, may have significant unintended consequences for children and adolescents. AACAP supports (a) initiatives to increase awareness of marijuana's harmful effects on adolescents, (b) improved access to evidence-based treatment for adolescents with marijuana-related problems, and (c) careful monitoring of the effects of marijuana-related policy changes on child and adolescent mental health. Finally, AACAP strongly advocates for the involvement of the medical and research community in these critical and highly impactful policy-related discussions."

Approved in 2019, the American Academy of Child & Adolescent Psychiatry released its **position statement on the use of medical marijuana in children with Autism Spectrum Disorder**, as written:[6]

"Amid changing legislation and attitudes related to marijuana and cannabinoids, such as cannabidiol (CBD) and tetrahydrocannabinol (THC), some physicians are issuing medical marijuana permits for children and adolescents with Autism Spectrum Disorder, targeting core autism symptoms or co-occurring emotional and behavioral problems. However, there is no scientific evidence showing efficacy for these indications nor is there reliable information regarding potency, quantity, frequency, route of administration, duration, or age safe for use. Caregivers, understandably seeking to help their child with Autism Spectrum Disorder, may turn to marijuana or cannabinoids in the context of unsubstantiated or distorted claims of efficacy and safety.

There are clear risks of harm for children and adolescents using marijuana and cannabinoids. Consistent marijuana use at an earlier age poses greater risk of long-lasting impairment on cognition, brain structure, and brain function, associated with a potentially irreversible decline in intelligence quotient. Long-term use of marijuana during adolescence is also associated with increased incidence and worsened course of psychotic, mood, anxiety, and substance use disorders. Short-term use can impair working and short-term memory, learning, attention, coordination, perception, and judgment, and can cause paranoia, anxiety, and irritability. Furthermore, the concentration of THC in marijuana has significantly increased in recent years, posing higher risks of marijuana use. Additionally, the products being sold in dispensaries currently are not subject to Food and Drug Administration standards and are not purely isolated cannabinoids; they are therefore not reliable in their potency/concentration of CBD or THC, or the inclusion of other ingredients.

Exposing children and adolescents with developmental disorders such as Autism Spectrum Disorder to marijuana or cannabinoids could further increase the prevalence or severity of psychiatric disorders and intellectual disability in this highly-vulnerable population.

The American Academy of Child and Adolescent Psychiatry recommends:

- Against the use of medical marijuana or isolated cannabinoids for core symptoms or co-occurring emotional or behavioral problems in children and adolescents with Autism Spectrum Disorder.
- That families should be educated about risks and discouraged from using marijuana and cannabinoids for Autism Spectrum Disorder.
- That State and Federal legislators refrain from approving the use of marijuana and cannabinoids in children with Autism Spectrum Disorder in the absence of scientific evidence in the peer-reviewed medical literature."

The American Academy of Pediatrics

First released in 2015 and reaffirmed in 2024, the American Academy of Pediatrics (AAP) published a **policy statement on youth marijuana use** that concluded with 10 recommendations, as written:[7]

1. "Given the data supporting the negative health and brain development effects of marijuana in children and adolescents, ages 0 through 21 years, the AAP is opposed to marijuana use in this population.
2. The AAP opposes 'medical marijuana' outside the regulatory process of the US Food and Drug Administration. Notwithstanding this opposition to use, the AAP recognizes that marijuana may currently be an option for cannabinoid administration for children with life-limiting or severely debilitating conditions and for whom current therapies are inadequate.
3. The AAP opposes legalization of marijuana because of the potential harms to children and adolescents. The AAP supports studying the effects of recent laws legalizing the use of marijuana to better understand the impact and define best policies to reduce adolescent marijuana use.
4. In states that have legalized marijuana for recreational purposes, the AAP strongly recommends strict enforcement of rules and regulations that limit access and marketing and advertising to youth.
5. The AAP strongly supports research and development of pharmaceutical cannabinoids and supports a review of policies promoting research on the medical use of these compounds. The AAP recommends changing marijuana from a Drug Enforcement Administration schedule I to a schedule II drug to facilitate this research.
6. Although the AAP does not condone state laws that allow the sale of marijuana products, in states where recreational marijuana is currently legal, pediatricians should advocate that states regulate the product as closely as possible to tobacco and alcohol, with a minimum age of 21 years for purchase. Revenue from this regulation should be used to support research on the health risks and benefits of marijuana. These regulations should include strict penalties for those who sell marijuana or marijuana products to those younger than 21 years, education and diversion programs for people younger than 21 years who possess marijuana, point-of-sale restrictions, and other marketing restrictions.
7. In states where marijuana is sold legally, either for medical or recreational purposes, regulations should be enacted to ensure that marijuana in all forms is distributed in childproof packaging, to prevent accidental ingestion.
8. The AAP strongly supports the decriminalization of marijuana use for both minors and young adults and encourages pediatricians to advocate for laws that prevent harsh criminal penalties for possession or use of marijuana. A focus on treatment for adolescents with marijuana use problems should be encouraged, and adolescents with marijuana use problems should be referred to treatment.
9. The AAP strongly opposes the use of smoked marijuana because smoking is known to cause lung damage, and the effects of secondhand marijuana smoke are unknown.
10. The AAP discourages the use of marijuana by adults in the presence of minors because of the important influence of role modeling by adults on child and adolescent behavior."

The American Psychiatric Association

Approved in 2025, the American Psychiatric Association (APA) released a **position statement on the ongoing need to monitor and assess the public health and safety consequences of legalizing marijuana** that concluded:[8]

"It is the position of APA that:

- Tracking rates of cannabis exposure, cannabis use disorder, overdose, emergency department visits, and other epidemiological measures is critical to formulating public health policy. Driving while intoxicated, cannabis-related arrests, incarceration, and other legal consequences should also be tracked in relation to disparate impacts on marginalized populations.
- States legalizing cannabis should collect and report the data needed to monitor and measure the health and safety consequences of their policies and take precautionary steps to ameliorate adverse health and safety consequences.
- Regulatory oversight of the cultivation, processing, distribution, and adverse event monitoring is critical to protect public health and safety.
- The federal government should review and update regulations and support increased funding for cannabis research."

For additional context, it explained:
"The Controlled Substance Act (CSA) of 1970 established cannabis as a Schedule I drug, which according to the Drug Enforcement Administration (DEA) is a drug or other substance with high potential for abuse, has no currently accepted medical treatment use in the US and has a lack of accepted safety for use under medical supervision. Although cannabis containing THC concentrations greater than 0.3% dry weight is currently in Schedule 1, and its use, possession, and sale is illegal under federal law, over the last three decades, a majority of states within the US have enacted legislation allowing exemptions for medical, recreational and industrial uses of cannabis."

Approved in 2025, the American Psychiatric Association released a **position statement on the impact of marijuana on children and adolescents** that concluded:[9]

"It is the position of APA that:

- There are no established safe exposure limits of cannabis for children and adolescents.
- Epidemiological and longitudinal research into cannabis exposure in individuals aged 25 and younger is critical to informing public health interventions.
- More funding for evidence-based education for children and adolescents about the risks of cannabis is needed.
- Cannabis products should not be marketed to children, and universal packaging regulations for all recreational cannabis products are necessary."

For additional context, it explained:
"The availability and use of cannabis has increased greatly in the US following recent legalization efforts, necessitating careful review of the impact on children and adolescents. Risk perception around the harms of cannabis is decreasing among youth. Vaping culture blurs the lines between the use of legal and illegal drugs. Accidental ingestion is also a concern and growing problem. Children and adolescents are vulnerable to neuropsychiatric symptoms linked to cannabis. Recreational cannabis use often co-occurs with treatable psychiatric conditions. The use of cannabis by anyone under the age of 25 is associated with neurodevelopmental and serious psychiatric consequences. Risk for psychosis is a paramount concern given the onset of symptoms coinciding with late adolescence. Without established potency standards or exposure limits, safe use of recreational cannabis products cannot currently be advised for children, adolescents and young adults. OSHA (Occupational Safety and Health Administration) defines safe exposure by the level of contact with a substance or hazard that doesn't pose a significant risk of adverse health effects."

Approved in 2025, the American Psychiatric Association released a **position statement in opposition to marijuana as medicine for psychiatric disorders** that concluded:[10]

"It is the position of APA that:

- There is insufficient evidence that cannabis is an effective treatment for any psychiatric disorder.
- There is a strong association of cannabis exposure and use with the onset and exacerbation of psychiatric disorders, especially with children, adolescents and young adults.
- Research on the benefits and harms of cannabis derivatives is critical to improving patient health and reducing harm.
- Cannabis products should have the same oversight as other FDA approved drug products."

For additional context, it explained that:
"The legal and societal status of cannabis continues to fluctuate, with increasing accessibility and acceptability across the United States. To reduce the potential harm that may be caused by cannabis use, medical professional organizations have an obligation to provide clear guidance of the known benefits and harms of cannabis."

The American Medical Association

Approved in 2025, the American Medical Association (AMA) released a **position statement on the legalization of recreational adult-use marijuana**, as written:[11]

1. "Our American Medical Association believes that cannabis is a dangerous drug and as such is a serious public health concern.
2. Our AMA believes that the sale of cannabis as well as Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids for adult use should not be legalized (with adult defined for these purposes as age 21 and older).
3. Our AMA discourages cannabis use, as well as the use of Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids, especially by persons vulnerable to the drug's effects and in high-risk populations such as youth, pregnant people, and people who are breastfeeding.
4. Our AMA believes states that have already legalized cannabis (for medical or adult use or both) should be required to take steps to regulate the product effectively in order to protect public health and safety including but not limited to: regulating retail sales, marketing, and promotion intended to encourage use; limiting the potency of cannabis extracts and concentrates; requiring packaging to convey meaningful and easily understood units of consumption, and requiring that for commercially available edibles, packaging must be child-resistant and come with messaging about the hazards about unintentional ingestion in children and youth.
5. Our AMA believes laws and regulations related to legalized cannabis use as well as the use of Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids, should consistently be evaluated to determine their effectiveness.
6. Our AMA encourages local, state, and federal public health agencies to improve surveillance efforts to ensure data is available on the short- and long-term health effects of cannabis, Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids, especially emergency department visits and hospitalizations, impaired driving, workplace impairment and worker-related injury and safety, and prevalence of psychiatric and addictive disorders, including cannabis use disorder.
7. Our AMA supports public health based strategies, rather than incarceration, in the handling of individuals possessing cannabis or Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids, for personal use.
8. Our AMA encourages research on the impact of legalization and decriminalization of cannabis in an effort to promote public health and public safety.
9. Our AMA encourages dissemination of information on the public health impact of legalization and decriminalization of cannabis."

(The statement continues on the next page)

10. "Our AMA will advocate for stronger public health messaging on the health effects of cannabis, Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids, and cannabinoid inhalation and ingestion, with an emphasis on reducing initiation and frequency of cannabis use among adolescents, especially high potency products and Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids; use among people who are pregnant or contemplating pregnancy; and avoiding cannabis-impaired driving.
11. Our AMA supports social equity programs to address the impacts of cannabis prohibition and enforcement policies that have disproportionately impacted marginalized and minoritized communities.
12. Our AMA will coordinate with other health organizations to develop resources on the impact of cannabis on human health and on methods for counseling and educating patients on the use of cannabis and cannabinoids, and Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids.
13. Our AMA supports educating the general population, especially parents and guardians, about the risks associated with edible cannabis products and the importance of safe storage and handling.
14. Our AMA recognizes the importance of child-resistant packaging for all cannabis products and supports laws and policies to implement and enforce this requirement."

Approved in 2025, the American Medical Association released a **position statement on marketing guardrails for the "over-medicalization" of marijuana use**, as written:[12]

1. "Our American Medical Association will send a formal letter to the Food and Drug Administration and Federal Trade Commission requesting more direct oversight of the marketing of cannabis for medical use.
2. Our AMA will generate a formal letter for use by state medical societies requesting more direct oversight by state government of the marketing of cannabis and Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids.
3. Our AMA will support and encourage federal, state, and private sector research on the effects of cannabis and Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids marketing to identify best practices in protecting vulnerable populations, as well as the benefits of safety campaigns such as preventing impaired driving or dangerous use.
4. Our AMA will encourage state regulatory bodies to enforce cannabis-related marketing laws as well as laws related to marketing of Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids and to publicize and make publicly available the results of such enforcement activities.
5. Our AMA will encourage social media platforms to set a threshold age of 21 years for exposure to cannabis, and Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids, advertising and marketing and improve age verification practices on social media platforms.
6. Our AMA will encourage regulatory agencies to research how marketing best practices learned from tobacco and alcohol policies can be adopted or applied to cannabis and Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids marketing.
7. Our AMA will support using existing AMA channels to educate physicians and the public on the health risks of cannabis and Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids to children and potential health risks of cannabis and Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids to people who are pregnant or lactating.
8. Our AMA will work with relevant stakeholders to strengthen cannabis marketing and advertising regulations, including efforts to ensure that packaging does not appeal to youth and marketing is restricted to prevent exposure to young audiences.
9. Our AMA opposes cannabis and cannabis-based product advertising that includes claims or statements that are not supported by peer-reviewed scientific evidence.
10. Our AMA will continue to monitor regulatory approaches to cannabis marketing."

Approved in 2025, the American Medical Association released a **position statement on advocacy for more protective regulations on the distribution of marijuana**, as written:[13]

1. "Our AMA will advocate that any monies paid to the states, received as a result of a settlement or judgment, or other financial arrangement or agreement as a result of litigation for cannabis-related harms or violations of law, be used exclusively for research, education, prevention, and treatment of cannabis-related harms, as well as expanding physician training opportunities to provide clinical experience in the screening, diagnosis, and treatment of cannabis misuse and cannabis use disorder.
2. Our AMA supports legislation and/or regulation of all cannabis products that:
    a. prohibit cannabis use in all places that tobacco use is prohibited, including in hospitals and other places in which health care is delivered;
    b. apply the same marketing and sales restrictions that are applied to tobacco cigarettes, including prohibitions on television advertising, product placement in television and films, and the use of celebrity spokespeople as well as avenues for legal and financial penalties for marketing to youth;
    c. prohibit product claims of reduced risk or effectiveness as tobacco cessation tools;
    d. require the use of secure, child- and tamper-proof packaging and design, and safety labeling on all cannabis products;
    e. establish manufacturing and product (including e-liquids) standards for identity, strength, purity, packaging, and labeling with instructions and contraindications for use;
    f. require transparency and disclosure concerning product design, contents, and emissions; and
    g. prohibit the use of characterizing flavors that may enhance the appeal of such products to youth.
3. Our AMA encourages state medical associations to strengthen existing cannabis marketing and advertising restrictions, including consideration of prohibitions on marketing and advertising to children.
4. Our AMA supports the review of conditions that states have approved to authorize cannabis for medical use and recommend the removal of those conditions without scientifically valid and well-controlled clinical trials supporting the use of cannabis."

Approved in 2025, the American Medical Association released a **position statement on marijuana and cannabinoid research**, as written:[14]

1. "Our American Medical Association calls for further adequate and well-controlled studies of marijuana and related cannabinoids, including Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids (HDICs), in patients who have serious conditions for which preclinical, anecdotal, or controlled evidence suggests possible efficacy and the application of such results to the understanding and treatment of disease.
2. Our AMA urges that marijuana's status as a federal schedule I controlled substance be reviewed with the goal of facilitating the conduct of clinical research and development of cannabinoid-based medicines, and alternate delivery methods. This should not be viewed as an endorsement of state-based medical cannabis programs, the legalization of marijuana, or that scientific evidence on the therapeutic use of cannabis meets the current standards for a prescription drug product.
3. Our AMA urges the National Institutes of Health (NIH), the Drug Enforcement Administration (DEA), and the Food and Drug Administration (FDA) to develop a special schedule and implement administrative procedures to facilitate grant applications and the conduct of well-designed clinical research involving cannabis and its potential medical utility. This effort should include:
    a. disseminating specific information for researchers on the development of safeguards for cannabis clinical research protocols and the development of a model informed consent form for institutional review board evaluation;
    b. sufficient funding to support such clinical research and access for qualified investigators to adequate supplies of cannabis for clinical research purposes;
    c. confirming that cannabis of various and consistent strengths and/or placebo will be supplied by the National Institute on Drug Abuse to investigators registered with the DEA who are conducting bona fide clinical research studies that receive FDA approval, regardless of whether or not the NIH is the primary source of grant support.
4. Our AMA supports research to determine the consequences of long-term cannabis use, as well as the use of Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids, especially among youth, adolescents, pregnant people, and people who are breastfeeding.
5. Our AMA urges legislatures to delay initiating the legalization of cannabis for recreational use until further research is completed on the public health, medical, economic, and social consequences of its use.
6. Our AMA will advocate for urgent regulatory and legislative changes necessary to fund and perform research related to cannabis and cannabinoids.
7. Our AMA will create a Cannabis Task Force to evaluate and disseminate relevant scientific evidence to health care providers and the public."

Approved in 2023, the American Medical Association released a **position statement on the legalization of marijuana for medicinal use**, as written:[15]

1. "Our American Medical Association believes that scientifically valid and well-controlled clinical trials conducted under federal investigational new drug applications are necessary to assess the safety and effectiveness of all new drugs, including potential cannabis products, Derived Psychoactive Cannabis Products (DPCPs), and Hemp-Derived Intoxicating Cannabinoids for medical use.
2. Our AMA believes that cannabis for medicinal use should not be legalized through the state legislative, ballot initiative, or referendum process.
3. Our AMA will develop model legislation requiring the following warning on all cannabis products not approved by the U.S. Food and Drug Administration: "Marijuana has a high potential for abuse. This product has not been approved by the Food and Drug Administration for preventing or treating any disease process."
4. Our AMA supports legislation ensuring or providing immunity against federal prosecution for physicians who certify that a patient has an approved medical condition or recommend cannabis in accordance with their state's laws.
5. Our AMA believes that effective patient care requires the free and unfettered exchange of information on treatment alternatives and that discussion of these alternatives between physicians and patients should not subject either party to criminal sanctions.
6. Our AMA will, when necessary and prudent, seek clarification from the United States Justice Department (DOJ) about possible federal prosecution of physicians who participate in a state operated marijuana program for medical use and based on that clarification, ask the DOJ to provide federal guidance to physicians.
7. Our AMA encourages hospitals and health systems to:
    a. not recommend patient use of non-FDA approved cannabis or cannabis derived products within healthcare facilities until such time as federal laws or regulations permit its use.
    b. educate medical staffs on cannabis use, effects and cannabis withdrawal syndrome."

Approved in 2022, the American Medical Association released a **position statement on the expungement, destruction, and sealing of criminal records for legal offenses related to marijuana use or possession**, as written:[16]

1. "Our American Medical Association supports automatic expungement, sealing, and similar efforts regarding an arrest or conviction for a cannabis-related offense for use or possession that would be legal or decriminalized under subsequent state legalization or decriminalization of adult use or medicinal cannabis.
2. Our AMA supports automatic expungement, sealing, and similar efforts regarding an arrest or conviction of a cannabis-related offense for use or possession for a minor upon the minor reaching the age of majority.
3. Our AMA will inquire to the Association of American Medical Colleges, Accreditation Council for Graduate Medical Education, Federation of State Medical Boards, and other relevant medical education and licensing authorities, as to the effects of disclosure of a cannabis related offense on a medical school, residency, or licensing application.
4. Our AMA supports ending conditions such as parole, probation, or other court-required supervision because of a cannabis-related offense for use or possession that would be legal or decriminalized under subsequent state legalization or decriminalization of adult use or medicinal cannabis."

Approved in 2024, the American Medical Association released a **position statement on a ban on dual ownership, investment, marketing, or distribution of adult-use cannabis, psychedelic agents, or empathogens by medical companies**, as written:[17]

"Our American Medical Association supports a permanent ban on medical cannabis, psychedelic agent, and/or empathogenic agent companies (and their related holding conglomerates) from owning, investing in, distributing, or promoting recreational (or 'adult use') cannabis, psychedelic agents, and/or empathogenic agents or any other activity relating to recreational use of cannabis, psychedelic agents, and/or empathogenic agents."

Approved in 2023, the American Medical Association released a **position statement on marijuana intoxication as a criminal defense**, as written:[18]

"Our American Medical Association believes a plea of cannabis intoxication not be a defense in any criminal proceedings."

Approved in 2026, the American Medical Association released a **position statement on banning flavored marijuana e-cigarettes**, as written:[19]

1. "Our American Medical Association advocates and supports a complete ban on the production, marketing, and sale of Cannabis based ECIG flavored devices and cartridges throughout all regulated cannabis dispensaries (medical and adult-use) along with any outlet selling intoxicating hemp products.
2. Our AMA will pursue legislative changes supporting a comprehensive ban on the production, marketing and sale of cannabis-based ECIG flavored devices and cartridges in the United States."

Approved in 2026, the American Medical Association released a **position statement on taxes on marijuana**, as written:[20]

"Our AMA encourages states and territories to allocate a substantial portion of their cannabis tax revenue for public health purposes, including: substance abuse prevention and treatment programs, cannabis-related educational campaigns, scientifically rigorous research on the health effects of cannabis, and public health surveillance efforts."

Approved in 2026, the American Medical Association released a **position statement on marijuana use in older adults**, as written:[21]

1. "Our American Medical Association supports the development and publication of educational resources on cannabis directed towards clinicians, including a virtual educational presentation that reviews the known effects of medical cannabis in older adults that highlights both its potential benefits and risks; and be it further
2. Our AMA encourages expanded research into the therapeutic uses of cannabis in older adults—such as for managing agitation in individuals with cognitive impairment—as well as its possible adverse effects."

Approved in 2023, the American Medical Association released a **position statement on marijuana warnings for pregnant and breastfeeding women**, as written:[22]

"Our American Medical Association advocates for regulations requiring point-of-sale warnings and product labeling for cannabis and cannabis-based products regarding the potential dangers of use during pregnancy and breastfeeding wherever these products are sold or distributed."

Approved in 2021, the American Medical Association released a **position statement on medical marijuana license safety**, as written:[23]

"1. Our AMA supports efforts to include medical cannabis license certification in states' prescription drug monitoring programs when consistent with AMA principles safeguarding patient privacy and confidentiality.
2. Our AMA will continue its monitoring of state legislation relating to the inclusion of cannabis and related information in state PDMPs.
3. Our AMA will review existing state laws that require information about medical cannabis to be shared with or entered into a state prescription drug monitoring program. The review should address impacts on patients, physicians and availability of information including types, forms, THC concentration, quantity, recommended usage, and other medical cannabis details that may be available from a dispensary."

Approved in 2024, the American Medical Association released a **position statement on marijuana product safety**, as written:[24]

"Our American Medical Association will draft state model legislation to help states implement the provisions of AMA policies H-95.924, Cannabis Legalization for Adult Use and H-95.936, Cannabis Warnings for Pregnant and Breastfeeding People that currently do not have such model language, including regulation of retail sales, marketing and promotion (especially those aimed at children), misleading health claims, and product labeling regarding dangers of use during pregnancy and breastfeeding."

Approved in 2023, the American Medical Association released a **position statement on preventing the elimination of marijuana from occupational and municipal drug testing programs**, as written:[25]

"Our American Medical Association supports the continued inclusion of cannabis metabolite analysis in relevant drug testing analysis performed for occupational and municipal purposes (pre-employment, post-accident, random and for-cause)."

Approved in 2021, the American Medical Association released a **position statement on alcohol, drug use, and addiction education**, as written:[26]

1. "Our American Medical Association supports continued encouragement for increased educational programs relating to use of and addiction involving alcohol, cannabis and controlled substances.
2. Our AMA supports the implementation of alcohol and cannabis education in comprehensive health education curricula, kindergarten through grade twelve.
3. Our AMA encourages state medical societies to work with the appropriate agencies to develop a state-funded educational campaign to counteract pressures on young people to use alcohol, cannabis products, and controlled substances."

Approved in 2025, the American Medical Association released a **position statement on unregulated hemp-derived intoxicating cannabinoids and derived psychoactive cannabis products**, as written:[27]

1. "Our American Medical Association will work with other interested organizations to increase public awareness and promote education on the dangers of Derived Psychoactive Cannabis Products (DPCPs) and Hemp-Derived Intoxicating Cannabinoids (HDICs).
2. Our AMA will work with other interested organizations to support a public health focus to the regulation of DPCPs and HDICs.
3. Our AMA will work with other interested organizations to advocate for further research on the health impacts of DPCPs and HDICs, including the potential dangers of these products to children, pregnant women, and other vulnerable populations."

Approved in 2020, the American Medical Association released a **position statement on the regulation of cannabidiol products**, as written:[28]

"Our AMA will: (1) encourage state controlled substance authorities, boards of pharmacy, and legislative bodies to take the necessary steps including regulation and legislation to reschedule U.S. Food and Drug Administration (FDA)-approved cannabidiol products, or make any other necessary regulatory or legislative change, as expeditiously as possible so that they will be available to patients immediately after approval by the FDA and rescheduling by the U.S. Drug Enforcement Administration; (2) advocate that an FDA-approved cannabidiol medication should be governed only by the federal and state regulatory provisions that apply to other prescription-only products, such as dispensing through pharmacies, rather than by these various state laws applicable to unapproved cannabis products; and (3) support comprehensive FDA regulation of cannabidiol products and practices necessary to ensure product quality, including identity, purity, and potency."

The American Public Health Association

Approved in 2020, the American Public Health Association released a **position statement on a public health approach to regulating commercially legalized marijuana** that concluded with the following recommendations:[29]

"If cannabis or its constituents are legalized in any state or jurisdiction, this policy statement proposes action steps to foster planned and consistent protection of health as well as governance through regulation and monitoring of the commercial legal cannabis market. This statement further supports a planned approach to the regulation of commercial cannabis from a public health policy perspective as a key component of protecting and maintaining public health and safety. Even in jurisdictions that have not legalized cannabis or any of its constituents, certain public health measures (e.g., data monitoring) remain essential.

Therefore, APHA urges:

Protection of children, youth, and other vulnerable and marginalized populations

- State, tribal, and local governments that regulate cannabis to develop and implement policies that control access and use among youth (i.e., a minimum legal age of 21 years) and other vulnerable and marginalized populations.
- State, tribal, and local governments to adopt policies that advance primary prevention efforts and reduce the demand for cannabis products.
- Federal, state, tribal, and local governments to develop youth-focused cannabis prevention strategies to denormalize cannabis use.
- State, tribal, and local governments to require packaging and labeling that clearly identify products containing cannabis (e.g., through a universal symbol), list all product ingredients, and provide prominent health warnings to consumers. Packaging that appeals to children and youth should be avoided.
- Federal, state, tribal, and local governments to develop policies and regulations that address social inequality and the harms caused by disproportionate drug-related arrests among minority, vulnerable, and marginalized populations.
- Federal, state, tribal, and local governments to develop funding and monitoring mechanisms to expunge cannabis-related records, decrease arrests, and support reentry and community development.

Minimizing harm to the public

- State, tribal, and local governments to develop and fund standards for commercial legal cannabis products, including standards related to quality, product characteristics that may appeal to children and youth (e.g., flavors, shapes, forms, names), and product safety (e.g., additives, potential modes of consumption, THC potency).
- State, tribal, and local governments to restrict the advertising and promotion of commercial cannabis products in retail environments (e.g., at the point of sale) and in the broader community, particularly in venues and locations frequented by youth."

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- "Federal, state, tribal, and local agencies and governments to routinely and consistently monitor cannabis use behaviors and perceptions utilizing evidence-based key indicators.
- State, tribal, and local governments engaged in cannabis regulation efforts to collaborate with state and local health departments in these efforts as a means of preventing and treating cannabis abuse and dependence.
- Any jurisdiction regulating cannabis to tax commercial cannabis products and dedicate the majority of the revenue to funding cannabis and other substance use prevention, education, treatment, research, and regulatory efforts.
- State, tribal, and local governments to retain strong smoke-free indoor air rules by prohibiting combustible/aerosolized cannabis use in indoor public commercial settings.

Monitoring patterns of cannabis use

- Federal, state, tribal, and local governments to support and fund monitoring of cannabis use behaviors and research into the health effects of cannabis use.
- Federal, state, tribal, and local governments to develop and enforce rigorous standards for cannabis products that prohibit contaminants such as pesticides, heavy metals, microbials, and residual solvents (in concentrates).
- Federal, state, and tribal agencies and governments to develop standards and objective technologies for determining impaired operation of motor vehicles and other heavy machinery.
- Federal, state, and tribal agencies and governments to develop and expand the evidence base regarding the health effects of cannabis as well as the public health and safety outcomes that result from regulating commercial cannabis products.
- Federal, state, tribal, and local governments to review and assess any disproportionate impact as well as the public health effectiveness of cannabis regulations in states and countries that have legalized cannabis."

Approved in 2014, the American Public Health Association released a **position statement on regulating commercially legalized marijuana as a public health priority** that concluded with the following recommendations:[30]

"APHA believes that, in jurisdictions that legalize the commercial sale of marijuana, the preponderance of evidence supports regulating marijuana as an important public health policy.

Therefore, APHA

- Urges federal, state, and local governments to:
  - Regulate commercially legalized marijuana as a public health priority and develop, adopt, monitor, and evaluate regulatory controls for commercially legalized marijuana that reduce and prevent the drug's use, misuse, and abuse.
  - Support and fund research into the health effects of marijuana use, misuse, and abuse.
  - Coordinate their efforts to effectively regulate commercial marijuana in an effort to reduce and prevent its use, misuse, and abuse.
  - Regulate commercially legalized marijuana in partnership with state and local health departments, including the provision of resources to local and state public health agencies for the purpose of reducing and preventing marijuana's use, misuse, and abuse.
  - Tax commercial marijuana and dedicate the revenue to funding prevention, treatment, research, and regulatory frameworks to offset the costs and effects incurred through the increased availability of marijuana and other products containing tetrahydrocannabinol (THC).
  - Develop and fund standards for the quality and potency of commercial marijuana and ensure safe working conditions for those cultivate marijuana.
  - Exercise their authority to limit and restrict the advertising of commercial marijuana and develop required written disclosures to protect commercial marijuana consumers.
  - Develop standards for determining impaired operation of motor vehicles.
  - Ensure the development and availability of linguistically competent educational and informational materials for individuals with limited English proficiency.
- Calls on the federal and state governments and all federal and state agencies involved in research, policies, and programs related to marijuana to develop an evidence base regarding the public health benefits of regulating commercial marijuana.
- Calls for states that may consider legalizing commercial marijuana to refer to evidence-based regulatory controls for legalized marijuana and review and assess the regulatory frameworks of those states that have already legalized the drug."

The American Society of Addiction Medicine

Approved in 2025, the American Society of Addiction Medicine released a **position statement on marijuana** that concluded with the following recommendations:[31]

"The American Society of Addiction Medicine (ASAM) recommends:

A. Cannabis and Related Products Used for Medical Purposes

1. Cannabis used for medical purposes should be rescheduled from Schedule 1 of the Controlled Substances Act (CSA) to promote more clinical research and FDA oversight typical of other medications.
2. Cannabis and cannabis-derived products recommended for medical indications should be subject to FDA review and approval to ensure their safety and effectiveness.
3. Healthcare professionals who recommend non-FDA-approved cannabis products under the authority of state-level medical cannabis programs should be required to complete specific training with an emphasis on risk mitigation and the prevention, diagnosis, and management of cannabis use disorder and other substance use disorders. Such training should be evidence-based and be informed by high standards of medical professionalism.
4. Healthcare professionals who recommend or write permits for non-FDA approved cannabis should do so only within the context of a bona fide patient-clinician relationship that includes appropriate patient evaluation, creation of a medical record and follow-up visits to assess the results of use and amend the treatment plan as needed. The same amount of caution exercised when any other controlled substance is prescribed should be applied when cannabis is recommended by a healthcare professional for a medical use. Clinicians should be prepared to discontinue treatment with cannabis if it is not effective or causes harm.
5. Healthcare professionals should only recommend non-FDA-approved cannabis if there is evidence that the potential benefits outweigh the potential harms. Healthcare professionals should avoid recommending cannabis to pregnant persons, and should recommend cannabis with great caution, if at all, to those with substance use disorders or psychiatric disorders, or to children and adolescents. Healthcare professionals should screen all patients for cannabis and other substance use disorders and refer to treatment as appropriate before recommending cannabis to be used for medical purposes.
6. Healthcare professionals should not recommend cannabis use for the treatment of OUD.
7. Regulation of cannabis use for medical purposes should be overseen by departments of health. Indications for cannabis used to treat medical or mental health conditions should not be specified by legislatures or public referenda.
8. Non-FDA-approved cannabis recommended by clinicians should be reported to Prescription Drug Monitoring Programs (PDMPs). Healthcare professionals who recommend cannabis should check the PDMP prior to making a recommendation.
9. Potency of non-FDA approved cannabis should be determined and clearly displayed on the label. Healthcare professionals should consider the ratio of CBD to THC with respect to the indication and minimize potential adverse effects."

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10. "Healthcare professionals should discourage combustion or vaporization of cannabis as a drug delivery method.
11. Federal legislation and regulation should encourage scientific and clinical research on cannabis and its compounds, expand sources of research-grade cannabis, and facilitate the development of FDA-approved medications derived from cannabis such as CBD or other cannabis compounds. Research needs for cannabis to be used for medical purposes include basic outcomes studies.

B. Cannabis and Related Products Used for Non-Medical Purposes

1. Public health efforts through evidence-based prevention programs should be strengthened to discourage people from using cannabis products due to their known potential harms. Given the particular risks to children and adolescents, cannabis products should not be distributed to anyone under the age of 21.
2. Cannabis use and possession should be decriminalized, and civil fines and fees should be eliminated whenever possible. A range of non-mandatory civil penalties to enforce restrictions such as age, place of use, quantity limits and others may be needed, however. Contingencies such as referral for clinical assessment or educational activities are preferred as alternatives to civil penalties. There should be no mandatory minimum penalties, which disproportionately punish people of limited means.
3. States should not use cannabis laws with criminal or civil penalties for possession or use to disproportionately penalize certain members of the population who use cannabis (e.g., people with limited means). States should offer automatic expungement for past minor cannabis-related convictions, so that hundreds of thousands of people—disproportionately people of color—do not remain marginalized for prior offenses.
4. The CSA should be amended so that—as long as states and tribes comply with substantial public health protections—its provisions no longer apply to any person acting in compliance with state or tribal laws relating to the manufacture, production, possession, distribution, dispensation, administration, or delivery of cannabis for non-medical purposes.
5. States or jurisdictions that decide to legalize cannabis production, distribution and sale should use models other than commercialization, such as limiting production, marketing and sale to nonprofits, benefit corporations, small co-ops, buyers' clubs, home cultivation or a public authority.
6. States or jurisdictions that decide to legalize cannabis production, distribution or sale should only do so within a strong public health-based regulatory framework that minimizes the harms related to legalization. These should include best public health practices established for tobacco control, and components which have been identified as important for minimizing harmful use of tobacco or alcohol. Among these are:
    a. Departments of health as lead agencies with a mandate to protect the public by minimizing all use,
    b. Restrict advertising in print and digital media with a youth audience,
    c. An independent advisory board with a strict conflict of interest policy,
    d. Mandatory merchant education and unannounced compliance checks,"

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e. “Protected local control over smoking and vaping restrictions, with local ability to prohibit cannabis licenses,
f. Licensee liability with escalating fines and the possibility of permanent license revocation for violations,
g. Prohibition of combustible or vaporized cannabis use wherever tobacco smoking or vaping is prohibited,
h. Prohibition of mail order or electronic sales,
i. Prohibition of product placement and misleading marketing with government health authority approval of packaging and warning labels,
j. Prohibition of additives or residual chemicals that are toxic or injurious to health, that impart flavor, or create the impression of a health or energy benefit (e.g., vitamins, caffeine),
k. Standardized plain packaging,
l. Messaging on health risks that are aimed at the general public, with health warnings on advertising, promotion, and sponsorship covering a significant portion of the principle display area,
m. Health warnings against use by persons under age 21 or pregnant persons,
n. Regularly updated pricing and taxation policies effective to deter consumption,
o. Quality standards determined by governmental health departments with testing by independent labs.

7. Health messages should warn against cannabis use by persons with a history of mental illness or substance use disorder, as well as persons who are pregnant, and should warn about the risk of impaired driving.
8. Given the correlation between cannabis potency and adverse reactions, particularly cannabis-induced psychosis, potency should be limited.
9. A substantial proportion of cannabis tax revenue should be earmarked to fund prevention and mitigation of cannabis-related harm, and substance use disorder prevention and treatment programs, including public awareness campaigns about the risks of cannabis use, including cannabis use disorder. Cannabis-generated revenue should also be used for enforcement of laws and regulations. Use of cannabis tax revenue for other purposes may create inappropriate incentives to maximize cannabis sales and revenue, despite negative public health consequences.
10. Healthcare professionals should be trained to identify unhealthy cannabis use and use disorder, raise awareness in patients to motivate change, and refer for treatment when cannabis use disorder is identified.
11. Women who are pregnant or contemplating pregnancy should be encouraged to avoid or discontinue cannabis use. Cannabis use during lactation and breastfeeding should also be discouraged as there are insufficient data to evaluate its effect on infants.
12. Excluding emergency circumstances, pregnant women should have a choice whether or not to provide consent for cannabis testing including during labor and delivery. Clinicians should explain state statute and local child welfare reporting requirements as part of the consent process.
13. Future research should include studies on the potential relative harms of various drug delivery systems and potency levels, patterns of cannabis use, prevalence of cannabis-related harm, impairment and motor vehicle crashes, and the effectiveness of prevention and control programs.”

The American College of Obstetricians & Gynecologists

Approved in 2025, the American College of Obstetricians & Gynecologists released a **position statement on marijuana use during pregnancy and lactation** that concluded with the following recommendations:[32]

"Obstetrician–gynecologists and other obstetric health care professionals should be knowledgeable and educate all individuals presenting for prepregnancy, pregnancy, and postpartum care on specific perinatal and newborn risks of cannabis use in pregnancy and lactation. Obstetrician–gynecologists and other obstetric health care professionals should educate patients that there are no medical indications for cannabis use during pregnancy and the postpartum period.

Obstetrician–gynecologists and other obstetric health care professionals should be aware of procedural, social, and legal consequences of positive screens in their institutions' local policies and jurisdictions, including involvement of child protective services and criminalization. With these considerations, obstetrician–gynecologists and other obstetric health care professionals should actively work to address inequities inherent in many existing systems.

Obstetrician–gynecologists and other obstetric health care professionals should perform universal screening by interview, self-report, or validated screening tools for cannabis use during the prepregnancy, pregnancy, and postpartum period. Biologic testing should not be used as a screening assessment for cannabis use.

Obstetrician–gynecologists and other obstetric health care professionals should advise cessation of cannabis use during pregnancy and lactation. However, continued cannabis use is not a contraindication to breastfeeding, and breastfeeding should not be discouraged.

Obstetrician–gynecologists and other obstetric health care professionals may use motivational interviewing, address social determinants of health, and assess barriers to cannabis cessation to guide cessation-intervention strategies.

Obstetrician–gynecologists and other obstetric health care professionals may utilize supportive home visits, psychobehavioral strategies, or brief electronic or text messaging interventions to reduce cannabis use in pregnancy and the postpartum period to promote parental and newborn health."

Approved in 2024, the American College of Obstetricians & Gynecologists released a **position statement on the use of marijuana products for the management of pain associated with gynecologic conditions** that concluded with the following recommendations:[33]

"Cannabis and Gynecologic Pain: General Principles

- Better-quality data on the use of cannabis products are needed. There are insufficient data to make a recommendation regarding the use of these products for management of pain associated with gynecologic conditions.
- Clinicians should be aware of the possibility of patients' use of cannabis products for pain management and be prepared to counsel them about the theoretical benefits based on the endocannabinoid pathway, potential adverse effects, and the limitations of the data on the use of the cannabis products for the management of gynecologic pain.
- Limited, low-quality survey data show that cannabis use may lead to decreased use of opioids. However, more data are needed before cannabis products can be substituted for other pain medications.

Palmitoylethanolamide (PEA)-Transpolydatin

- There are limited randomized controlled trial data demonstrating the efficacy of PEA-transpolydatin for pain relief for primary dysmenorrhea, endometriosis, and chronic pelvic pain. However, more and stronger data are needed before making a definitive recommendation.

Adolescents and Use of Cannabis

- Adolescents using cannabis products are at increased risk of detrimental cognitive effects and psychotic disorders when compared with adults. Data on short-term and long-term effects on adolescent brain development are needed before medical cannabis products can be recommended for adolescents for the management of gynecologic pain."

The American College of Physicians

In 2024, the American College of Physicians published a position statement in the *Annals of Internal Medicine* about a **regulatory framework for marijuana** that made the following recommendations:[34]

1. ACP supports rigorous research into the effects of legalizing cannabis on its use (including prevalence, frequency, and intensity of use) among older adults, adults, adolescents, and children; prevalence of cannabis use disorder and other behavioral health conditions; motor vehicle injuries and impaired driving; poisonings; and other adverse outcomes.
2. ACP recommends that possession of small amounts of cannabis for personal use be decriminalized. ACP calls on policymakers to take an evidence-informed approach when considering amending the legal status of cannabis.
3. ACP supports an evidence-based public health approach to addressing cannabis and hemp-derived products (including low-tetrahydrocannabinol cannabidiol and Δ-8-tetrahydrocannabinol products) in jurisdictions where they are legal, with a focus on prohibiting access to minors and preventing unsafe use among adults.
4. ACP supports sufficient resources for cannabis-related public health activities, oversight, and regulation. The U.S. Food and Drug Administration and other federal, state, local, and tribal agencies should receive necessary resources to regulate cannabis products.
5. ACP supports comprehensive insurance coverage of evidence-based treatments of cannabis use disorder.
6. ACP supports the development of evidence-based medical education on the health effects of cannabis and cannabinoids. Cannabis content should be incorporated into substance use curricula at all levels of physician education.
7. ACP supports programs and funding for rigorous scientific evaluation of the potential therapeutic benefits of cannabis and cannabinoids.
8. ACP reiterates its strong support for exemption from federal criminal prosecution; civil liability; or professional sanctioning, such as loss of licensure or credentialing, for physicians who recommend, prescribe, or dispense cannabis in accordance with state law.

The American Academy of Family Physicians

Adopted in 2019 and reaffirmed in 2025, the American Academy of Family Physicians published a **position statement about marijuana** that said:[35]

- "The AAFP promotes a society which is free of substance misuse, including alcohol and drugs.
- The AAFP recognizes there is support for the medical use of cannabis and advocates for this use to be based on high-quality, evidence-based research centered on public health, policy, and patients. This research should include studies on the impact of medical use of cannabis on populations that have been made vulnerable.
- The AAFP advocates for further studies on the use of medical marijuana and related compounds. Appropriate funding should be allocated for this research.
- To facilitate clinical and public health cannabis research, the AAFP calls for decreased regulatory barriers.
- The AAFP advocates for further research regarding the overall safety and health effects of recreational marijuana use and the impact of recreational use laws on patient and societal health.
- The AAFP advocates for robust regulation regarding labeling and child-resistant packaging for all cannabis products.
- The AAFP supports the decriminalization of possession of marijuana for personal use. The AAFP recognizes the benefits associated with intervention and treatment for recreational use of marijuana in lieu of incarceration.
- The AAFP advocates for regulation of marketing claims, labeling and advertising for all cannabis products.
- The AAFP supports requirements related to testing cannabis products for safety, dosing and product consistency.
- The AAFP urges its members to be involved in the diagnosis, treatment, and prevention of substance use disorder, and the secondary diseases impacted by substance use, taking a nonstigmatizing approach.
- The AAFP calls for family physicians to discuss the health consequences of cannabis use, as well as strategies to prevent use and unintended consequences of marijuana exposure in populations at higher risk."

The American Academy of Neurology

Adopted in 2014 and updated in 2020, the American Academy of Neurology published a **position statement about medical marijuana** that said:[36]

"The AAN supports all efforts to allow for rigorous research to evaluate the long-term safety and efficacy of cannabis and compounds derived from the plant. This includes proposals that increase access for the study of cannabis under IRB-approved research protocols and the reclassification of cannabis used for medical purposes from its current Schedule I status to Schedule II to allow for medical research. The AAN does not have a position on the legalization and regulation of public sale of cannabis products, any more than it has a position on the legalization and regulation of public sale of alcohol products. The AAN recognizes that the endocannabinoid system offers potentially highly valuable drug targets, and that cannabis may thereby contain agents with important future therapeutic applications for neurological disorders.

Currently, the AAN does not support the use of, nor any assertion of therapeutic benefits of, cannabis products as medicines for neurological disorders in the absence of sufficient scientific peer-reviewed research to determine their safety and specific efficacy. The FDA-approved plant-based CBD product is an example that has now proven to be sufficiently safe and effective for the treatment of seizures for certain epilepsy patients. Safety is of critical importance when cannabis is used in patients with underlying neurological disorders, or in children whose developing brains may be more vulnerable to its potentially toxic effects from certain compounds found in the plant, such as THC.

The AAN acknowledges interest in the use of cannabis from patients and physicians and notes that several states have moved to legalize cannabis for both medical and recreational uses. The AAN also recognizes that cannabis may be useful in treating neurological disorders. However, in most cases, the evidence is lacking to draw conclusions regarding the effectiveness of cannabis for other neurological conditions. With a growing number of neurological patients using cannabis, the AAN also acknowledges additional cannabis policy issues that require more research, including criminalization, which disproportionally penalizes people of color.

The AAN recommends that each product and formulation of cannabis used in treating medical conditions demonstrate safety and efficacy via scientific study similar to the process required by the FDA for the approval of any drug. Many cannabis preparations that had some evidence for efficacy in studies are not available in the United States, and the studies were conducted in Europe using standardized preparations. It is not appropriate to extrapolate the results of trials of standardized preparations to other non-standardized, non-regulated medical cannabis products which may be commercially available in states with laws supporting the use of medical cannabis. Efficacy of a non-standardized product is not equal to that of standardized products that are studied in clinical trials. Additionally, most currently available medical cannabis products are not regulated by any agency and may not contain the ingredients identified by labeling, making quality control impossible and raising further safety questions."

The American Epilepsy Society

Adopted in 2019 and updated in 2022, the American Epilepsy Society published a **position statement about marijuana for patients with epileptic seizures** that said:[37]

"Over three million Americans live with epilepsy, of whom one-third have seizures that are not controlled by medications. As the leading organization of clinical and research professionals specializing in the treatment of epilepsy, the American Epilepsy Society (AES) supports all well-controlled studies that will lead to a better understanding of the disease and the development of safe and effective treatments.

Cannabis has been legalized in many states in the US for the treatment of various health conditions, but United States Pharmacopeia (USP) standards do not exist to give patients information about the identity, purity, or quality of any cannabis product. An evidence-based approach to the discovery, development, and clinical application of cannabinoids is important, because over 100 active compounds (phytocannabinoids) derived from the cannabis plant have been isolated, many of which have various pharmacologic actions (including psychoactive compounds such as tetrahydrocannabinol (THC) which produce a 'high').

Over the last decade, there has been great interest in the medical and scientific communities to explore the potential of cannabidiol (CBD), a non-psychoactive phytocannabinoid, to treat difficult-to-control epilepsy. Randomized controlled clinical trials (RCTs) have demonstrated that a mostly purified, plantbased form of CBD has efficacy and adverse effects for seizures associated with Dravet syndrome, Lennox-Gastaut syndrome, and tuberous sclerosis complex in patients one year of age and older. Currently, data supporting effectiveness of CBD is primarily derived from RCTs of the U.S. Food and Drug Administration (FDA) approved formulation of CBD, Epidiolex®, available by prescription only. Overall, the evidence for CBD's efficacy suggest that it can be used in combinations with other FDA-approved antiseizure medications (ASMs). To date, RCT evidence is lacking to support CBD use as a monotherapy for any seizure type. Prospective, RCT data evaluating artisanal or over the counter (OTC) formulations of CBD are lacking, so there is no conclusive evidence for other, less rigorously prepared CBD preparations, such as those obtained from dispensaries.

Importantly, independent laboratory testing of samples of OTC CBD products have shown that the labels reporting amounts of CBD and THC are often inaccurate. When patients purchase cannabis-based products from a dispensary, or as an OTC product, it is extremely important to understand that the product they select may contain not only CBD but also other phytocannabinoids such as THC, pesticides, and other dangerous impurities, in unknown concentrations. Unlike drugs approved by regulatory authorities such as FDA, there is no assurance that OTC CBD products have been evaluated for effectiveness, appropriate dosage, potential interactions with other drugs, and dangerous side effects or other safety concerns. In addition, RCT data clearly demonstrate that CBD"

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“can cause drug-drug pharmacokinetic interactions that can be substantial. RCTs with the FDA-approved prescription product also demonstrate that CBD may have clinically meaningful adverse effects such as elevated liver functions tests, gastrointestinal intolerance, sleep disturbances, and others, particularly when combined with other ASMs.

While anecdotal reports of positive effects of cannabis or other cannabis derivatives on seizures exist, they may be unreliable and subsequent scientifically rigorous investigations often find such reports to be incorrect. Scientific evidence for the use of cannabis itself in the treatment of epilepsy is highly limited. The lack of information does not mean that cannabis is ineffective for epilepsy, but rather that providers do not currently have the required data needed to adequately inform rational clinical decisions for patients with epilepsy.

AES calls on government, private funders, and manufacturers to support and develop well-designed, scientifically rigorous, controlled research trials on any cannabis-based products that have potential to have positive benefits in the treatment of resistant epilepsy. These high standards for research are necessary for optimal evaluation of the safety, efficacy, and drug-drug interactions of any potential ASM. To increase rigorous clinical research, AES urges that the status of cannabis as a United States Drug Enforcement Administration (DEA) Schedule I controlled substance be reviewed. The AES call for rescheduling is not an endorsement of the legalization of cannabis but rather is a recognition that the current restrictions on the use of cannabis products for research continue to significantly limit scientifically rigorous research into the development of cannabis-based treatments. AES also encourages USP to continue its efforts to establish recognized guidance for cannabis as well as individual, therapeutically promising cannabinoids.

AES is very sympathetic to the needs of people with severe, treatment-resistant epilepsy. AES members work with people with epilepsy and their families daily and are very aware of the need for compassionate use of promising new therapies in appropriate, safe, and controlled circumstances. AES urges all people touched by epilepsy to consult with an epilepsy specialist and explore the many existing treatment options so that patients and families can make informed decisions with their specialist that weigh the risks and benefits of the different treatment options.”

The International Association for the Study of Pain

In 2021, the International Association for the Study of Pain, based in Washington, DC, published a **position statement on the use of cannabinoids to treat pain** that concluded:[38]

"Reviews of preclinical research and clinical safety and efficacy of cannabis and cannabinoids for pain relief have identified important research gaps. Due to the lack of high-quality clinical evidence IASP does not currently endorse general use of cannabis and cannabinoids for pain relief. International Association for the Study of Pain recognizes the pressing need for preclinical and clinical studies to fill the research gap, and for education on this topic.

Basic science advances are promising, but these are yet to be fully translated to efficacious and safe medicines. There is a need to increase our understanding of the biology of the endocannabinoid system. High-quality research is required to elucidate the types of pain, and characteristics of individuals, where there is benefit or harm from particular cannabinoid compounds (personalised medicine). Improved understanding of the clinical pharmacology of cannabis and cannabinoids in a pain relief setting is needed. Expansion in the range of chemical entities tested, elucidation of dose effects, and the optimisation of drug delivery is required.

As a global multidisciplinary organization of health and science professionals, IASP has a duty to protect public health, although IASP recognises that some jurisdictions already permit the use of cannabis and cannabinoids for pain relief, other medical indications, or recreational use. More research is required to elucidate the benefits and harms of therapeutic use of cannabis and cannabinoids for the treatment of pain."

The American Academy of Sleep Medicine

In 2018, the American Academy of Sleep Medicine published a **position statement on the use of marijuana as a treatment for obstructive sleep apnea** that said:[39]

"It is the position of the AASM:

- That medical cannabis and/or its synthetic extracts
- should not be used for the treatment of OSA due to unreliable delivery methods and insufficient evidence of treatment effectiveness, tolerability, and safety, and OSA should be excluded from the list of chronic medical conditions for state medical cannabis programs.
- That patients with OSA should be advised to discuss their treatment options with a licensed medical provider at an accredited sleep facility."

Additionally, it concluded:
"Based on the available evidence, it is the position of the AASM that medical cannabis should not be used for the treatment of OSA. The AASM also advises state legislators, regulators and health departments that OSA should not be included as an indication for their medical cannabis programs. Further re- search is needed to better understand the mechanistic actions of medical cannabis and its synthetic extracts, the long-term role of these synthetic extracts on OSA treatment, and the harms and benefits."

NAADAC, the Association for Addiction Professionals

NAADAC, the Association for Addiction Professionals—formerly known as the National Association for Alcoholism and Drug Abuse Counselors—published an undated **position statement on the medical and recreational use of marijuana** that concluded:[40]

"NAADAC does not currently support the use of cannabis as medicine or for recreational purposes. NAADAC supports and encourages increased research efforts regarding cannabis, and encourages the U.S. government agencies Cannabis must be subjected to the same research, consideration, and study as any other potential medicine pursuant to the standards of the U.S. Food and Drug Administration. We strongly encourage increased efforts to perform research that will allow evidence-based and scientifically supported policy changes pertaining to medicinal use of cannabis.

Based on the above information, NAADAC makes the following recommendations, noting the need to be able to adapt these recommendations as new research is revealed about cannabis and its effects on humans:

- Cannabis needs to be subject to the same research, consideration, and study as any other potential medicine through the U.S. Food and Drug Administration (FDA).
- Increased research must be conducted on cannabis for its effectiveness in treating physical and psychiatric disorders.
- Increased research on cannabis and cannabis derivatives currently on the marketplace.
- The U.S. Government and its agencies decrease barriers to cannabis research and increase funding.
- Evidence-based, standard testing methods should be developed and adopted by federal and state entities.
- A panel of neuro-researchers, addiction-certified physicians, prevention & treatment experts be established by federal agencies to provide policy recommendations on cannabis legalization, medicinal & recreational use.
- Continued research into the physiological effects of synthetic and plant-derived cannabinoids and the natural function of cannabinoids found in the body."

The American Heart Association

In 2020, the American Heart Association published a **position statement on marijuana and cardiovascular health** that concluded:[41]

"Because of the rapidly changing landscape of cannabis laws and marijuana use, there is a pressing need for refined policy, education of clinicians and the public, and new research. Laws should be harmonized in ways that limit confusion and better reflect the existing science behind cannabis, starting in the United States at the federal level with removal of cannabis from Schedule 1 of the US Controlled Substances Act, followed by a proactive approach to labeling that standardizes concentrations of THC and CBD content. Meanwhile, the negative health implications of cannabis should be formally and consistently emphasized in policy, including a doubling down on the American Heart Association's commitment to limiting the smoking and vaping of any products and banning cannabis use for youth. All clinicians (physicians, advanced practice providers, nurses, pharmacists, and others) need greater exposure to and education on the various cannabis products and their health implications during their initial training and continuing education, and they must be alert to the possibility that the use of cannabis or its potent synthetic analogs might be the underlying cause of severe cardiovascular events and pathologies. The public needs high-quality information about cannabis, which can help counterbalance the proliferation of rumor and false claims about the health effects of cannabis products. Furthermore, research funding must be increased proportionally to match the expansion of cannabis use, not only to clarify the potential therapeutic properties but also to better understand the cardiovascular and public health implications that now follow the decriminalization of cannabis."

The American Lung Association

In 2026, the American Lung Association published a **position statement on marijuana and lung health** that stated:[42]

"Marijuana

- Since marijuana smoke harms lung health, the American Lung Association opposes the inhalation of smoke or aerosol of marijuana.
- The American Lung Association supports measures to require totally smokefree environments, including marijuana.

Medical Marijuana

- Medical marijuana should be subjected to the same Food and Drug Administration standards of efficacy and safety as any pharmaceutical agent promoted for purposes of alleviating the symptoms of disease.
- The American Lung Association supports research into the health effects of marijuana use, including the risks and any potential benefits of medical marijuana use."

The American Cancer Society Cancer Action Network

In 2026, the American Cancer Society Cancer Action Network published a **position statement on protecting workers and communities from the harms of marijuana** that concluded:[43]

"ACS CAN supports the prohibition of the smoking or aerosolizing of cannabis and other cannabinoids in public places because the cancer-causing substances found in cannabis smoke pose numerous health hazards to the individual using and others in their presence. Allowing the smoking or aerosolizing of cannabis in public places also undermines the effectiveness of 100% smoke-free laws."

It also explained:
"As cannabis laws have liberalized, the public's perception of the negative health effects from cannabis smoke has declined. The cannabis industry, which has documented ties to the tobacco industry, is capitalizing on the false belief that secondhand cannabis smoke is less dangerous in order to push for exemptions to longstanding smoke-free laws.

The rise of cannabis businesses (also known as consumption lounges or social use venues) poses an increasing threat to both public and worker health. These venues often allow customers to smoke on site, sometimes alongside food and drinks. Taking a page from the cigar and hookah bar playbook, the industry frames these venues as 'experiences,' 'social spaces,' and tourism amenities, while discounting the health risks to workers and patrons. The industry also promotes ventilation systems as a solution, despite clear evidence that ventilation does not eliminate exposure to the carcinogens in secondhand smoke. Cannabis businesses risk recreating the same failed policy model as tobacco retailers and cigar bars by carving out exemptions that sacrifice worker health, expose patrons to toxic smoke, complicate enforcement, and re-normalize indoor smoking."

The American Osteopathic Association

Approved in 2011 and reaffirmed in 2026, the American Osteopathic Association published a **policy statement on research into marijuana**, as written:[44]

"The American Osteopathic Association supports well-controlled clinical studies on the use of cannabis, commonly referred to as marijuana, and related cannabinoids for patients who have significant medical conditions for which current evidence suggests possible efficacy; and encourages the National Institutes of Health (NIH) to facilitate the development of well-designed clinical research studies into the medical use of cannabis."

Approved in 2025, the American Osteopathic Association published a **policy statement on preventing the pediatric consumption of marijuana, its derivatives, and synthetic cannabinoids**, as written:[45]

"The American Osteopathic Association (AOA) supports legislation and regulation that ensures:
1. Cannabis, its derivatives, and synthetic cannabinoids containing products are not manufactured, labeled, or marketed in a manner that could potentially be appealing to minors.
2. Cannabis is packaged in a manner to prevent pediatric consumption."

Approved in 2018, the American Osteopathic Association published a policy statement on **reviewing the classification of marijuana** that concluded:[46]

"The American Osteopathic Association supports a review of the classification of cannabis under the Controlled Substance Act of 1970, to facilitate advancement in clinical, public health, patient safety, and health policy research involving medical cannabis use."

The American College of Medical Toxicology

In 2025, the American College of Medical Toxicology published a **position statement on preventing marijuana exposures in children** that made the following recommendations:[47]

"**Recommendations for preventing pediatric cannabis exposure:**

Cannabis product packaging:
1) Must be child-resistant and consistent with the standards established by the Poison Prevention Packaging Act of 1970 Regulations, 16 CFR 1700.1 (b)(4).
2) Cannabis product labeling rules should be similar to those for tobacco and alcohol products, including
a) Packaging must not include markings that are appealing to children, such as bright colors, cartoon characters, or animal shapes.
3) Cannabis product packaging should:
a) be opaque.
b) not have designs similar to commercial snacks or candies.
c) have a clearly written, prominent, and pictorial warning that the product contains THC on the front and back of the label.
d) not have unsupported claims of health benefits.
e) include the Poison Center Helpline number.
f) list the THC concentration, total THC content, portion size, and THC per portion.
4) If products are packaged with multiple portions, then the package must be resealable so that it remains child-resistant and preserves the integrity of its contents.
5) Cannabis products must not contain other psychoactive substances (e.g., ethanol, caffeine, etc.)
6) If cannabis products contain psychoactive substances or cannabis-related compounds, these substances must be listed on the package.

Portion size:
7) Retail cannabis edibles should have a standard adult portion size that contains no more than 5 mg THC.
8) Cannabis beverages should not contain more than one portion of THC.
9) If multi-serving edibles are sold, each portion size must be clearly marked and intuitive to the consumer.

Product size:
10) Retail cannabis packaging should be limited to 50 mg THC total per package

Establishments that sell cannabis:
11) Cannabis products should only be available in a regulated marketplace that includes independent confirmation of THC content and evaluation of additional substances or contaminants."

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12) Establishments that sell cannabis:
a) should display information about the potential negative effects of pediatric cannabis exposures in plain view near the point of sale of these products.
b) should make lock boxes and lockable bags available for purchase at the point of sale of these products.
c) should provide information to consumers on safe home storage.

Marketing:
13) Cannabis product advertising regulation should be the same as those used for tobacco products in the United States.
14) Education regarding the cannabis-related compounds should be readily available to the public and healthcare providers.

Public messaging:
15) Cannabis products should be stored:
a) up high, out of reach, and out of sight of children
b) in their original packaging
c) in a locked container when at home or during transport
16) Individuals should not consume cannabis products when visible to young children.
17) Parents should not administer cannabis products to children without medical oversight and authorization.
18) The poison center is a resource for any adverse reactions or suspected toxicity related to cannabis products.

Healthcare messaging:
19) Pediatricians and other healthcare providers should provide education about the potential negative health effects of cannabis
20) Pediatricians and parents should have age-appropriate conversations about cannabis and cannabis edibles with their children that highlight the potential negative effects.
21) Providers should include screening for cannabis use in the home and safe storage practices as part of injury prevention and harm reduction education.

Other:
22) Cannabis-related compounds (e.g., delta-8 or delta-10 tetrahydrocannabinol, tetrahydrocannabinol-O-acetate, etc.) should be regulated as a cannabis product and have packaging requirements, including a cannabis warning label and portion description.
23) The panel encourages research on:
a) The effectiveness of poison prevention interventions on exploratory pediatric cannabis exposures
b) The public health aspects of acute cannabis exposures
c) The effect that labeling and packaging have on acute pediatric cannabis exposures
d) The acute effects of cannabis in pediatric exploratory exposures including:
i) The dose at which a child may be safely observed at home
ii) The potential long-term effects of acute cannabis exposures
iii) Effective treatment for acute cannabis exposures

References

Executive Summary

1. Substance Abuse and Mental Health Services Administration. (2026). Results from the 2025 National Survey on Drug Use and Health: Detailed tables. https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm
2. Substance Abuse and Mental Health Services Administration. (2026). Results from the 2025 National Survey on Drug Use and Health: Detailed tables. https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm
3. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
4. Substance Abuse and Mental Health Services Administration. (2025). 2024 National Survey on Drug Use and Health: Public-use data file. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
5. Substance Abuse and Mental Health Services Administration. (2025). 2024 National Survey on Drug Use and Health: Public-use data file. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
6. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
7. Substance Abuse and Mental Health Services Administration. (2025). 2024 National Survey on Drug Use and Health: Public-use data file. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
8. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
9. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
10. Centers for Disease Control and Prevention. (2026). Mortality data on CDC WONDER. https://wonder.cdc.gov/mcd.html
11. Minnesota Department of Health. (2025). Minnesota Violent Death Reporting System (MNVDRS) dashboard. https://www.health.state.mn.us/communities/injury/midas/mnvdrs.html

12. Colorado Department of Public Health and Environment. (n.d.). Toxicology report. https://cannabishealthreport.colorado.gov/health-data/toxicology-report
13. Substance Abuse and Mental Health Services Administration. (2025). Drug Abuse Warning Network (DAWN): National estimates from drug-related emergency department visits, 2024. https://www.samhsa.gov/data/sites/default/files/reports/rpt56252/dawn-national-estimates-2024.pdf
14. Colby, A., Humiston, G., Edwards, V., & Johnson, J. (2026). Cannabis use trends in Massachusetts: Findings from the International Cannabis Policy Study, 2019–2023. Massachusetts Cannabis Control Commission. https://masscannabiscontrol.com/wp-content/uploads/2026/03/Cannabis-Use-Trends-in-Massachusetts-Findings-from-the-International-Cannabis-Policy-Study-2019-2023.pdf
15. New York State Department of Health. (2026). Trends in cannabis-related emergency department visits and hospital discharges in New York State. https://www.health.state.ny.us/community/cannabis/docs/2024_trends_in_ed_visits_hospital_discharges.pdf
16. Federal Bureau of Investigation. (n.d.). Crime Data Explorer. https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend
17. Substance Abuse and Mental Health Services Administration. (2026). Results from the 2025 National Survey on Drug Use and Health: Detailed tables. https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm
18. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
19. Centers for Disease Control and Prevention. (2026). Drug-Free Communities coalitions. https://www.cdc.gov/overdose-prevention/php/drug-free-communities/coalitions.html
20. Substance Abuse and Mental Health Services Administration. (2025). 2024 National Survey on Drug Use and Health: Public-use data file. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
21. Substance Abuse and Mental Health Services Administration. (2026). Treatment Episode Data Set (TEDS) 2024: Admissions to and discharges from substance use treatment services reported by single state agencies. https://www.samhsa.gov/data/data-we-collect/teds-treatment-episode-data-set/annual-report/2024

Introduction

1. Health Canada. (2025). Drug and alcohol use in Canada: Postsecondary students. https://health-infobase.canada.ca/substance-use/cpads/?cycles=2024h25-topic=3-indicator=45-timeframe=2-group=1-scale=fixed-subgroups=1_2_3
2. Marijuana Impact Group. (n.d.). Impact reports. https://themig.org/impact-reports/
3. National Organization for the Reform of Marijuana Laws. (2026). *Marijuana research library*. https://norml.org/marijuana/library

4. Smart Approaches to Marijuana. (2026). *Impact report 2026–2027: Lessons learned from state marijuana legalization*. https://learnaboutsam.org/wp-content/uploads/2026/01/SAM-impact-report-2026-2027.pdf
5. The Center for Drug Control Policy (2026). *The State of Substance Use: Trends in the Prevalence and Harms of Substance Use in the United States.* The Opioid Response Network. https://orn.qualtrics.com/jfe/form/SV_eQImuomKxxsFKcK
6. Swartz, J. A., Franceschini, D., Giangrande, E., Han, Y., Falso, P., & Schwartz, R. (2025). *2025 annual cannabis report.* Illinois Adult Use Cannabis Health Advisory Committee. https://illinoiscannabisproject.com/reports/annual-reports/Cannabis-Regulation-and-Tax-Act-Evaluation-Annual-Report-2025.pdf
7. National Academies of Sciences, Engineering, and Medicine. (2017). *The health effects of cannabis and cannabinoids: The current state of evidence and recommendations for research*. https://www.nationalacademies.org/publications/24625
8. National Academies of Sciences, Engineering, and Medicine. (2024). *Cannabis policy impacts public health and health equity*. https://www.nationalacademies.org/read/27766

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1. Substance Abuse and Mental Health Services Administration. (2026). Results from the 2025 National Survey on Drug Use and Health: Detailed tables. https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm
2. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
3. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). National data on substance use among adults ages 19 to 65, 1976–2025. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2026/07/mtfpanel2026.pdf
4. Substance Abuse and Mental Health Services Administration. (2025). 2023-2024 National Surveys on Drug Use and Health: Model-based prevalence estimates (50 states and the District of Columbia). https://www.samhsa.gov/data/sites/default/files/reports/rpt56957/2024-nsduh-sae-tables-percent-csvs/2024-nsduh-sae-tables-percent.pdf
5. Centers for Disease Control and Prevention. (n.d.). YRBS Explorer. https://yrbs-explorer.services.cdc.gov/
6. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
7. Substance Abuse and Mental Health Services Administration. (2026). Results from the 2025 National Survey on Drug Use and Health: Detailed tables. https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm
8. Substance Abuse and Mental Health Services Administration. (2020). Results from the 2019 National Survey on Drug Use and Health: Detailed tables. https://www.samhsa.gov/data/sites/default/files/reports/rpt29394/NSDUHDetailedTabs2019/NSDUHDetailedTabsTOC2019.htm

9. Substance Abuse and Mental Health Services Administration. (2026). *Results from the 2025 National Survey on Drug Use and Health: Detailed tables.* https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm
10. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
11. American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). https://psychiatryonline.org/doi/book/10.1176/appi.books.9780890425596
12. Substance Abuse and Mental Health Services Administration. (2026). *Results from the 2025 National Survey on Drug Use and Health: Detailed tables.* https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm
13. American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). https://psychiatryonline.org/doi/book/10.1176/appi.books.978089042559
14. Substance Abuse and Mental Health Services Administration. (n.d.). *2023–2024 National Survey on Drug Use and Health: Variable list.* https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2023-2024-rd02yr/variable-list
15. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
16. Substance Abuse and Mental Health Services Administration. (2026). *Results from the 2025 National Survey on Drug Use and Health: Detailed tables.* https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm
17. Substance Abuse and Mental Health Services Administration. (n.d.). *2023–2024 National Survey on Drug Use and Health: Variable list.* https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2023-2024-rd02yr/variable-list
18. Substance Abuse and Mental Health Services Administration. (2025). *2023-2024 National Surveys on Drug Use and Health: Model-based prevalence estimates (50 states and the District of Columbia).* https://www.samhsa.gov/data/sites/default/files/reports/rpt56957/2024-nsduh-sae-tables-percent-csvs/2024-nsduh-sae-tables-percent.pdf
19. Substance Abuse and Mental Health Services Administration. (2025). 2023-2024 National Surveys on Drug Use and Health: Model-based prevalence estimates (50 states and the District of Columbia). https://www.samhsa.gov/data/sites/default/files/reports/rpt56957/2024-nsduh-sae-tables-percent-csvs/2024-nsduh-sae-tables-percent.pdf
20. Substance Abuse and Mental Health Services Administration. (n.d.). 2023–2024 National Survey on Drug Use and Health: Variable list. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2023-2024-rd02yr/variable-list
21. Substance Abuse and Mental Health Services Administration (2025). 2024 National Survey on Drug Use and Health public use file data users' guide. https://www.samhsa.gov/data/sites/default/files/reports/rpt56775/2024-nsduh-puf-data-users-guide.pdf
22. National Academies of Sciences, Engineering, and Medicine. (2017). The health effects of cannabis and cannabinoids: The current state of evidence and recommendations for research. https://www.nationalacademies.org/publications/24625
23. Mennis, J. Stahler, G., & McKeon, T. (2021). Young adult cannabis use disorder treatment admissions declined as past month cannabis use increased in the U.S.: An analysis of states by year, 2008–2017. Addictive Behaviors. https://www.sciencedirect.com/science/article/abs/pii/S0306460321002343
24. Moran, L. V., Tsang, E. S., Ongur, D., Hsu, J., & Choi, M. Y. (2022). Geographical variation in hospitalization for psychosis associated with cannabis use and cannabis legalization in the United States. Psychiatry Research, 308, Article 114387. https://doi.org/10.1016/j.psychres.2022.114387
25. Joshi, S., Snyder, K. M., Thurstone, C., Rivera, B. D., Feldman, J., Cerdá, M., & Krawczyk, N. (2025). Changes in psychosis-related emergency department and hospitalization rates among youth following cannabis legalization in Colorado. Drug and Alcohol Dependence, 273, Article 112719. https://doi.org/10.1016/j.drugalcdep.2025.112719
26. Myran, D. T., Gibb, M., Pugliese, M., Fiedorowicz, J., Kirkbride, J. B., Anderson, K. K., Kurdyak, P., Tibbo, P. G., Colman, I., Correll, C. U., Ramsay, T., & Solmi, M. (2026). First-episode psychosis and substance use involvement across birth cohorts in Canada: A retrospective longitudinal population-based study. The Lancet Psychiatry, 13(3), 223–232. https://doi.org/10.1016/S2215-0366(25)00395-5
27. Di Forti, M., Quattrone, D., Freeman, T. P., Tripoli, G., Gayer-Anderson, C., Quigley, H., Rodriguez, V., Jongsma, H. E., Ferraro, L., La Cascia, C., La Barbera, D., Tarricone, I., Berardi, D., Szöke, A., Arango, C., Tortelli, A., Velthorst, E., Bernardo, M., Del-Ben, C. M., . . . EU-GEI WP2 Group. (2019). The contribution of cannabis use to variation in the incidence of psychotic disorder across Europe (EU-GEI): A multicentre case-control study. The Lancet Psychiatry, 6(5), 427–436. https://doi.org/10.1016/S2215-0366(19)30048-3 .
28. Woodhouse, L. (2022). San Diego ER seeing up to 37 marijuana cases a day—mostly psychosis. New York Post. https://nypost.com/2022/10/22/san-diego-er-seeing-up-to-37-marijuana-cases-a-day/
29. National Alliance on Mental Illness. (2025). Schizophrenia. https://www.nami.org/types-of-conditions/schizophrenia/
30. Substance Abuse and Mental Health Services Administration. (2026). Results from the 2025 National Survey on Drug Use and Health: Detailed tables. https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm

31. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
32. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
33. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
34. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
35. Washington State Liquor and Cannabis Board. (n.d.). *Understanding THC concentration and potency*. https://lcb.wa.gov/education/understanding_thc_concentration_and_potency
36. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
37. National Conference of State Legislatures. (2026). *State medical cannabis laws*. https://www.ncsl.org/health/state-medical-cannabis-laws
38. Committee on Substance Abuse, & Committee on Adolescence. (2015). The impact of marijuana policies on youth: Clinical, research, and legal update. *Pediatrics, 135*(3), 584–587. https://publications.aap.org/pediatrics/article/135/3/584/75419/The-Impact-of-Marijuana-Policies-on-Youth-Clinical
39. Colorado Department of Public Health and Environment. (n.d.). *Medical marijuana registry providers.* https://cdphe.colorado.gov/medical-marijuana-registry-providers
40. Food and Drug Administration. (2023). *FDA and cannabis: Research and drug approval process*. https://www.fda.gov/news-events/public-health-focus/fda-and-cannabis-research-and-drug-approval-process
41. Drug Enforcement Administration. (2026). *Marijuana rescheduling regulatory actions*. https://www.dea.gov/marijuana-rescheduling-regulatory-actions
42. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
43. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). National data on substance use among adults ages 19 to 65, 1976–2025. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2026/07/mtfpanel2026.pdf

44. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National data on substance use among adults ages 19 to 65, 1976–2025*. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2026/07/mtfpanel2026.pdf
45. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National data on substance use among adults ages 19 to 65, 1976–2025*. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2026/07/mtfpanel2026.pdf
46. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National data on substance use among adults ages 19 to 65, 1976–2025*. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2026/07/mtfpanel2026.pdf
47. Stringer, H. (2023). How does marijuana affect the brain? Psychological researchers examine impact on different age groups over time. *Monitor on Psychology*, 54(4), 20. https://www.apa.org/monitor/2023/06/marijuana-effects-brain
48. Haute Health. (n.d.). *Trips Ahoy Cookies—500 mg THC*. https://hautehealth.club/shop/cannabis-edibles/trips-ahoy-cookies-500mg-thc/
49. Stoney Patch Kids. (n.d.). Stoney Patch Kids – THC infused gummies brand information hub. https://stoneypatchkids.com/
50. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National data on substance use among adults ages 19 to 65, 1976–2025*. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2026/07/mtfpanel2026.pdf
51. Centers for Disease Control and Prevention. (n.d.). *YRBS Explorer*. https://yrbs-explorer.services.cdc.gov/
52. Centers for Disease Control and Prevention. (n.d.). *YRBS Explorer*. https://yrbs-explorer.services.cdc.gov/
53. Colorado Department of Public Health and Environment. (n.d.). *Healthy Kids Colorado Survey (HKCS) data*. https://cannabishealthreport.colorado.gov/health-data/healthy-kids-colorado-survey-hkcs-data
54. Arizona Criminal Justice Commission. (2024). *2024 Arizona Youth Survey: State report*. https://www.azcjc.gov/Portals/0/Documents/pubs/AYSReports/2024/AYS_2024_State_Report_Revised.pdf
55. Washington State Healthy Youth Survey. (n.d.). *Healthy Youth Survey data dashboard*. https://www.askhys.net/SurveyResults/DataDashboard
56. Idaho Governor's Office of Drug Policy. (2022). *Idaho Healthy Youth Survey 2021 state report*. https://prevention.odp.idaho.gov/wp-content/uploads/2025/08/IHYS-2021-State-Report-1.pdf
57. Illinois Department of Human Services. (2024). *Illinois Youth Survey: 2024 frequency report*. https://youthsurveytest.web.illinois.edu/wp-content/uploads/UserFiles/Servers/Server_178052/File/2024/IYS_2024%20Statewide%20Frequency%20Report.pdf
58. Texas Health and Human Services Commission. (2024). *2024 Texas School Survey of Drug and Alcohol Use.* https://www.texasschoolsurvey.org/Documents/Reports/State/24State712.pdf
59. Maine Department of Health and Human Services & Maine Department of Education. (2025). *2025 Maine Integrated Youth Health Survey high school report.* https://www.maine.gov/miyhs/sites/default/files/2025_Reports/Detailed_Reports/HS/MIYHS2025_Detailed_Reports_HS_State/Maine%20High%20School%20Detailed%20Tables.pdf
60. New Mexico Youth Risk and Resiliency Survey Dashboard. (n.d.). *Substance use*. https://data.youthrisk.org/substance-use.html
61. Ohio Healthy Youth Environments Survey. (2025). Ohio Healthy Youth Environments Survey – OHYES!: Entire state report for 2024–2025. Ohio Department of Mental Health and Addiction Services. https://youthsurveys.ohio.gov/wps/wcm/connect/gov/2af153e3-5109-4215-8e69-4f3397d71461/All+OHYES+2024-2025.pdf?MOD=AJPERES
62. Arkansas Department of Human Services. (2025). 2025 Arkansas prevention needs assessment survey: Statewide report. https://arkansas.isadata.com/
63. Montana Department of Public Health and Human Services. (2026). Montana prevention needs assessment survey: Profile report. https://montana.isadata.com/
64. Oklahoma Department of Mental Health and Substance Abuse Services. (n.d.). OPNA state of Oklahoma dashboard. https://odmhsaspublic.cloud.looker.com/embed/dashboards/24?School+Year=School+Year+2023-24&Question=Marijuana+Prevention+Messages+in+the+Past+12+Months&Grade=12th

65. Field, M., Davis, E., & Lauger, A. (2023). *Drug and alcohol use reported by youth in juvenile facilities, 2008–2018: Statistical tables*. Bureau of Justice Statistics. https://bjs.ojp.gov/document/dauryjf0818st.pdf
66. American College Health Association. (2026). *American College Health Association–National College Health Assessment III: Reference group executive summary, fall 2025*. https://www.acha.org/wp-content/uploads/NCHA-IIIb_FALL_2025_REFERENCE_GROUP_EXECUTIVE_SUMMARY.pdf
67. NCAA Research. (2024). Current findings on student-athlete substance use. National Collegiate Athletic Association. https://ncaaorg.s3.amazonaws.com/research/wellness/Jan2024RES_HW-SubstanceUseRelease.pdf
68. Healthy Minds Network. (n.d.). Data. https://healthymindsnetwork.org/data/
69. Eisenberg, D., Lipson, S. K., Heinze, J., & Zhou, S. (2026). The Healthy Minds Study: 2025–2026 faculty and staff report. Healthy Minds Network. https://healthymindsnetwork.org/wp-content/uploads/2026/09/2025-2026-HMS-National-Data-Report-Faculty-Staff.pdf
70. Colorado State University. (n.d.). *About OYOF*. https://oyof.colostate.edu/about/
71. Colorado State University. (n.d.). *Substance use rates.* https://oyof.colostate.edu/substance-use-rates/
72. The Trevor Project. (2026). Substance use, minority stress, and mental health among LGBTQ+ young people. https://www.thetrevorproject.org/research-briefs/substance-use-minority-stress-and-mental-health-among-lgbtq-young-people/
73. Hammond, D., Iraniparast, M., Danh Hong, D., Burkhalter, R., Rynard, V., & Corsetti, D. (2024). *International Cannabis Policy Study—United States 2023 cannabis report*. University of Waterloo. https://cannabisproject.ca/wp-content/uploads/2024/12/2023-ICPS-US-National-Report-Dec-6.pdf
74. Colby, A., Humiston, G., Edwards, V., & Johnson, J. K. (2026). *Cannabis use trends in Massachusetts: Findings from the International Cannabis Policy Study, 2019–2023*. Massachusetts Cannabis Control Commission. https://masscannabiscontrol.com/wp-content/uploads/2026/03/Cannabis-Use-Trends-in-Massachusetts-Findings-from-the-International-Cannabis-Policy-Study-2019-2023.pdf
75. Health Canada. (n.d.). Drug and alcohol use in Canada: Youth. https://health-infobase.canada.ca/substance-use/csads/
76. ESPAD Group. (2025). *ESPAD report 2024: Results from the European School Survey Project on Alcohol and Other Drugs*. Publications Office of the European Union. https://op.europa.eu/en/publication-detail/-/publication/0d6677fd-b940-11f0-b37f-01aa75ed71a1/language-en

Chapter 2: Risk and Protective Factors Associated with Youth Marijuana Use

1. Substance Abuse and Mental Health Services Administration. (2018). Selecting best-fit programs and practices: Guidance for substance misuse prevention practitioners. https://library.samhsa.gov/sites/default/files/selecting-best-fit-programs-pep19-02.pdf
2. Jalali, M., Botticelli, M., Hwang, R., Koh, H., & McHugh, R. (2020). The opioid crisis: A contextual, social-ecological framework. Health Research Policy and Systems, 18, Article 87. https://link.springer.com/article/10.1186/s12961-020-00596-8
3. Substance Abuse and Mental Health Services Administration. (2018). Selecting best-fit programs and practices: Guidance for substance misuse prevention practitioners. https://library.samhsa.gov/sites/default/files/selecting-best-fit-programs-pep19-02.pdf
4. Substance Abuse and Mental Health Services Administration. (2018). Selecting best-fit programs and practices: Guidance for substance misuse prevention practitioners. https://library.samhsa.gov/sites/default/files/selecting-best-fit-programs-pep19-02.pdf
5. National Institute on Drug Abuse. (n.d.). Prevention. https://nida.nih.gov/research-topics/prevention

6. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
7. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
8. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
9. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
10. Substance Abuse and Mental Health Services Administration. (2025). *Results from the 2024 National Survey on Drug Use and Health: Detailed tables*. https://www.samhsa.gov/data/sites/default/files/reports/rpt56484/NSDUHDetailedTabs2024/NSDUHDetailedTabs2024/2024-nsduh-detailed-tables-toc.htm
11. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
12. Substance Abuse and Mental Health Services Administration. (2025). *Results from the 2024 National Survey on Drug Use and Health: Detailed tables*. https://www.samhsa.gov/data/sites/default/files/reports/rpt56484/NSDUHDetailedTabs2024/NSDUHDetailedTabs2024/2024-nsduh-detailed-tables-toc.htm
13. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
14. Substance Abuse and Mental Health Services Administration. (2025). *Results from the 2024 National Survey on Drug Use and Health: Detailed tables*. https://www.samhsa.gov/data/sites/default/files/reports/rpt56484/NSDUHDetailedTabs2024/NSDUHDetailedTabs2024/2024-nsduh-detailed-tables-toc.htm
15. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
16. Substance Abuse and Mental Health Services Administration. (2025). *Results from the 2024 National Survey on Drug Use and Health: Detailed tables*. https://www.samhsa.gov/data/sites/default/files/reports/rpt56484/NSDUHDetailedTabs2024/NSDUHDetailedTabs2024/2024-nsduh-detailed-tables-toc.htm
17. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list

18. Substance Abuse and Mental Health Services Administration. (2025). *Results from the 2024 National Survey on Drug Use and Health: Detailed tables*. https://www.samhsa.gov/data/sites/default/files/reports/rpt56484/NSDUHDetailedTabs2024/NSDUHDetailedTabs2024/2024-nsduh-detailed-tables-toc.htm
19. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
20. Substance Abuse and Mental Health Services Administration. (2025). *Results from the 2024 National Survey on Drug Use and Health: Detailed tables*. https://www.samhsa.gov/data/sites/default/files/reports/rpt56484/NSDUHDetailedTabs2024/NSDUHDetailedTabs2024/2024-nsduh-detailed-tables-toc.htm
21. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
22. Substance Abuse and Mental Health Services Administration. (2025). *Results from the 2024 National Survey on Drug Use and Health: Detailed tables*. https://www.samhsa.gov/data/sites/default/files/reports/rpt56484/NSDUHDetailedTabs2024/NSDUHDetailedTabs2024/2024-nsduh-detailed-tables-toc.htm
23. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
24. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
25. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
26. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
27. NSDUH state Substance Abuse and Mental Health Services Administration. (2025). *2023-2024 National Surveys on Drug Use and Health: Model-based prevalence estimates (50 states and the District of Columbia).* https://www.samhsa.gov/data/sites/default/files/reports/rpt56957/2024-nsduh-sae-tables-percent-csvs/2024-nsduh-sae-tables-percent.pdf
28. Substance Abuse and Mental Health Services Administration. (n.d.). *2023–2024 National Survey on Drug Use and Health: Variable list.* https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2023-2024-rd02yr/variable-list
29. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf

30. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
31. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
32. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). *Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024*. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
33. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
34. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
35. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
36. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
37. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
38. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
39. Washington State Healthy Youth Survey. (n.d.). QxQ online query system. Washington State Health Care Authority, Department of Health, Office of Superintendent of Public Instruction, & Liquor and Cannabis Board. https://www.askhys.net/QxQ
40. Centers for Disease Control and Prevention. (2019). Adverse childhood experiences prevention resource for action: A compilation of the best available evidence. National Center for Injury Prevention and Control. https://www.cdc.gov/violence-prevention/media/pdf/resources-for-action/ACEs-Prevention-Resource_508.pdf
41. Centers for Disease Control and Prevention. (2026). About adverse childhood experiences. https://www.cdc.gov/aces/about/index.html
42. Washington State Healthy Youth Survey. (n.d.). Interpretive guide: Adverse childhood experiences (WAH-ACEs). https://www.askhys.net/HYS/GetDocument?path=Training&fileName=WAH-ACEs%20Interpretive%20Guide.pdf
43. Washington State Healthy Youth Survey. (n.d.). QxQ online query system. Washington State Health Care Authority, Department of Health, Office of Superintendent of Public Instruction, & Liquor and Cannabis Board. https://www.askhys.net/QxQ
44. Cleveland Clinic. (2025). Childhood trauma & adverse childhood experiences (ACEs). https://my.clevelandclinic.org/health/symptoms/24875-adverse-childhood-experiences-ace
45. Office of National Drug Control Policy. (2022). National Drug Control Strategy: Performance Review System report. Executive Office of the President. https://bidenwhitehouse.archives.gov/wp-content/uploads/2022/04/National-Drug-Control-2022Strategy.pdf

46. Pennsylvania Department of Drug and Alcohol. (n.d.). Pennsylvania Youth Survey (PAYS). https://www.bach-harrison.com/payswebtool/Crosstabs.aspx
47. Utah Department of Health and Human Services. (n.d.). Utah Student Health and Risk Prevention (SHARP) Survey. https://www.bach-harrison.com/utahsharpwebtool/Crosstabs.aspx
48. Miller, A. P., Baranger, D. A. A., Paul, S. E., Hatoum, A. S., Rogers, C., Bogdan, R., & Agrawal, A. (2023). Characteristics associated with cannabis use initiation by late childhood and early adolescence in the Adolescent Brain Cognitive Development (ABCD) Study. JAMA Pediatrics, 177(8), 861–863. https://doi.org/10.1001/jamapediatrics.2023.1801
49. Indiana Family and Social Services Administration. (2026). Risk and protective factors for substance use. https://www.in.gov/fssa/dmha/substance-misuse-prevention-and-mental-health-promotion/risk-and-protective-factors-for-substance-use

Chapter 3: The Correlates of Youth Marijuana Use

1. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
2. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
3. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
4. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). *Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024*. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
5. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). *Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024*. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
6. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). *Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024*. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
7. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). *Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024*. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
8. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). *Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024*. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
9. Centers for Disease Control and Prevention. (n.d.). *YRBS Analysis Tool*. https://yrbs-analysis.cdc.gov/
10. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). *Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024*. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
11. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
12. Substance Abuse and Mental Health Services Administration. (2025). 2024 National Survey on Drug Use and Health: Public-use data file. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
13. Substance Abuse and Mental Health Services Administration. (n.d.). *2023–2024 National Survey on Drug Use and Health: Variable list.* https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2023-2024-rd02yr/variable-list

14. Substance Abuse and Mental Health Services Administration. (2026). *Key substance use and mental health indicators in the United States: Results from the 2025 National Survey on Drug Use and Health*. https://www.samhsa.gov/data/sites/default/files/reports/rpt57150/2025-nsduh-annual-national-report.pdf
15. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
16. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Survey on Drug Use and Health: Public-use data file*. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2024-ds0001/variable-list
17. Colby, A., Humiston, G., Edwards, V., & Johnson, J. K. (2026). *Cannabis use trends in Massachusetts: Findings from the International Cannabis Policy Study, 2019–2023*. Massachusetts Cannabis Control Commission. https://masscannabiscontrol.com/wp-content/uploads/2026/03/Cannabis-Use-Trends-in-Massachusetts-Findings-from-the-International-Cannabis-Policy-Study-2019-2023.pdf
18. Health Canada. (2025). *Drug and alcohol use in Canada: Postsecondary students*. https://health-infobase.canada.ca/substance-use/cpads/?cycles=2024h25-topic=3-indicator=45-timeframe=2-group=1-scale=fixed-subgroups=1_2_3
19. Health Canada. (2025). *Drug and alcohol use in Canada: Youth (grade 7–12 students)*. Health Infobase. https://health-infobase.canada.ca/substance-use/csads/
20. Centers for Disease Control and Prevention. (n.d.). *YRBS Analysis Tool*. https://yrbs-analysis.cdc.gov/
21. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). *Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024*. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
22. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). *Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024*. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
23. Health Canada. (2025). *Drug and alcohol use in Canada: Postsecondary students*. https://health-infobase.canada.ca/substance-use/cpads/?cycles=2024h25-topic=3-indicator=45-timeframe=2-group=1-scale=fixed-subgroups=1_2_3
24. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). *Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024*. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
25. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). *Monitoring the Future: A continuing study of American youth (12th-grade survey), 2024*. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39444/versions/V2
26. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
27. Health Canada. (2025). Drug and alcohol use in Canada: Postsecondary students. https://health-infobase.canada.ca/substance-use/cpads/?cycles=2024h25-topic=3-indicator=45-timeframe=2-group=1-scale=fixed-subgroups=1_2_3
28. McCreary Centre Society.(2024). The big picture: An overview of the 2023 BC Adolescent Health Survey provincial results. https://mcs.bc.ca/pdf/2023_bcahs_the_big_picture.pdf
29. Washington State Healthy Youth Survey. (n.d.). QxQ online query system. Washington State Health Care Authority, Department of Health, Office of Superintendent of Public Instruction, & Liquor and Cannabis Board. https://www.askhys.net/QxQ
30. Washington Office of Superintendent of Public Instruction. (n.d.). Explanation of the Children's Hope Scale. https://ospi.k12.wa.us/sites/default/files/2023-08/explanation-childrens-hope-scale-2021.pdf
31. Pennsylvania Department of Drug and Alcohol. (n.d.). Pennsylvania Youth Survey (PAYS). https://www.bach-harrison.com/payswebtool/Crosstabs.aspx

32. Utah Department of Health and Human Services. (n.d.). Utah Student Health and Risk Prevention (SHARP) Survey. https://www.bach-harrison.com/utahsharpwebtool/Crosstabs.aspx
33. Oregon Health Authority. (n.d.). Oregon Student Health Survey: Crosstabs. https://www.bach-harrison.com/SHSDataPortal/Crosstabs.aspx

Chapter 4: Marijuana-Related Mortality

1. Centers for Disease Control and Prevention. (2026). Mortality data on CDC WONDER. https://wonder.cdc.gov/mcd.html
2. Missouri Department of Health and Senior Services. (n.d.). *State Unintentional Drug Overdose Reporting System (SUDORS): 2023 county fact sheet: Missouri*. https://health.mo.gov/sites/health/files/media/pdf/2026/07/2023-mo-fact-sheet.pdf
3. Forsberg, K., Sheats, K. J., Blair, J. M., Nguyen, B. L., Amoakohene, E., Betz, C. J., & Lyons, B. H. (2025). Surveillance for violent deaths—National Violent Death Reporting System, 50 states, the District of Columbia, and Puerto Rico, 2022. *MMWR Surveillance Summaries, 74*(5), 1–42. https://www.cdc.gov/mmwr/volumes/74/ss/ss7405a1.htm?s_cid=ss7405a1_w
4. Massachusetts Department of Public Health. (n.d.). *Population Health Information Tool (PHIT).* https://dphanalytics.hhs.mass.gov/ibmcognos/bi/?perspective=authoring&pathRef=.public_folders%2FMEPHTN%2Fdph%2FPHIT-Reports%2Fviolent-death-reporting-88&id=i49FA8372E9F44C97A2A7D36CEB3C63B0&action=run&format=HTML
5. Colorado Department of Public Health and Environment. (n.d.). *Toxicology report*. https://cannabishealthreport.colorado.gov/health-data/toxicology-report
6. Colorado Department of Public Health and Environment. (n.d.). *Toxicology report*. https://cannabishealthreport.colorado.gov/health-data/toxicology-report
7. Minnesota Department of Health. (2025). Minnesota Violent Death Reporting System (MNVDRS) dashboard. https://www.health.state.mn.us/communities/injury/midas/mnvdrs.html
8. Centers for Disease Control and Prevention. (2026). Mortality data on CDC WONDER. https://wonder.cdc.gov/mcd.html
9. National Center for Health Statistics. (2025). *Instructions for classifying the underlying cause of death, ICD-10, 2025*. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/nvss/manuals/2025/2a-2025.html
10. World Health Organization. (n.d.). *Cause of death*. https://www.who.int/standards/classifications/classification-of-diseases/cause-of-death
11. National Center for Health Statistics. (2025). *Instructions for classifying the underlying cause of death, ICD-10, 2025*. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/nvss/manuals/2025/2a-2025.html
12. Xu, J., Murphy, S., Kochanek, K., & Arias, E. (2025). Deaths: Final data for 2022. Centers for Disease Control and Prevention, National Center for Health Statistics. https://www.cdc.gov/nchs/data/nvsr/nvsr74/nvsr74-04.pdf
13. New Jersey Department of Health. (n.d.). Other standard cause of death groupings. https://www-doh.nj.gov/doh-shad/query/OtherCauses.html
14. Missouri Department of Health and Senior Services. (n.d.). Missouri resident leading causes of death profile. https://health.mo.gov/data-dashboards-tools/data-micas/missouri-resident-leading-causes-death-profile
15. Arizona Department of Health Services. (n.d.). Table 8-1: Drug-related deaths by category and specific diagnosis, Arizona residents, 2023. In Drug-related deaths, Arizona, 2013–2023. https://pub.azdhs.gov/health-stats/report/im/2023/drug-abuse/pdf/8-1.pdf
16. California Department of Public Health. (2022). County health status profiles 2022. Center for Health Statistics and Informatics. https://www.cdph.ca.gov/Programs/CHSI/CDPH%20Document%20Library/CHSP2022_20220421.pdf
17. Centers for Disease Control and Prevention (n.d.). Healthy People 2020 progress tables. https://www.cdc.gov/nchs/healthy_people/hp2020/progress-tables.htm

18. Office of National Drug Control Policy (2010). National drug control strategy. https://obamawhitehouse.archives.gov/sites/default/files/ondcp/policy-and-research/ndcs2010_0.pdf
19. Office of Disease Prevention and Health Promotion. (n.d.). How has Healthy People changed? Healthy People 2030. U.S. Department of Health and Human Services. https://odphp.health.gov/healthypeople/about/how-has-healthy-people-changed
20. Office of National Drug Control Policy (2025). Drug control data dashboard. https://public.tableau.com/app/profile/dcdd/viz/ONDCPTableofContents/ONDCPTableofContents
21. Swartz, J. A., Franceschini, D., Giangrande, E., Han, Y., Falso, P., & Schwartz, R. (2025). *2025 annual cannabis report*. Illinois Adult Use Cannabis Health Advisory Committee. https://illinoiscannabisproject.com/reports/annual-reports/Cannabis-Regulation-and-Tax-Act-Evaluation-Annual-Report-2025.pdf
22. Centre for Epidemiology and Evidence. (n.d.). Drug-induced and drug-related deaths. HealthStats NSW, NSW Ministry of Health. Retrieved October 13, 2026, from https://healthstats.nsw.gov.au/indicator?name=-beh-drugs-total-dth&location=NSW&view=Trend&measure=DSTRate&groups=
23. Kubeisy, C. (2026). Marijuana is implicated in thousands of deaths every year. The Drug Report. https://thedrugreport.org/2026/07/23/marijuana-is-implicated-in-thousands-of-deaths-every-year/
24. Centers for Disease Control and Prevention. (2026). Mortality data on CDC WONDER. https://wonder.cdc.gov/mcd.html
25. Centers for Disease Control and Prevention. (2026). Mortality data on CDC WONDER. https://wonder.cdc.gov/mcd.html
26. Forsberg, K., Sheats, K. J., Blair, J. M., Nguyen, B. L., Amoakohene, E., Betz, C. J., & Lyons, B. H. (2025). Surveillance for violent deaths—National Violent Death Reporting System, 50 states, the District of Columbia, and Puerto Rico, 2022. *MMWR Surveillance Summaries, 74*(5), 1–42. https://www.cdc.gov/mmwr/volumes/74/ss/ss7405a1.htm?s_cid=ss7405a1_w
27. Centers for Disease Control and Prevention. (2026). Mortality data on CDC WONDER. https://wonder.cdc.gov/mcd.html
28. Department of Health and Human Services. (2023). Basis for the recommendation to reschedule marijuana into schedule III of the Controlled Substances Act. https://static01.nyt.com/newsgraphics/documenttools/d1b41750bb7210f6/63765434-full.pdf
29. Drug Enforcement Administration. (2026). Drugs of abuse: A DEA resource guide. U.S. Department of Justice. https://www.getsmartaboutdrugs.gov/sites/default/files/2026-10/Drugs-Abuse-2026.pdf
30. Tanz, L., Quader, Z., Mattson, C., & Vivolo-Kantor, A. (2026). Notes from the field: Cannabis detection among overdose deaths—United States, 2021–2025. *Morbidity and Mortality Weekly Report*, 75(34), 539–541. https://www.cdc.gov/mmwr/volumes/75/wr/mm7534a2.htm
31. Centers for Disease Control and Prevention. (2025). *About the State Unintentional Drug Overdose Reporting System (SUDORS)*. https://www.cdc.gov/overdose-prevention/data-research/facts-stats/about-sudors.html
32. Missouri Department of Health and Senior Services. (n.d.). *State Unintentional Drug Overdose Reporting System (SUDORS): 2023 county fact sheet: Missouri*. https://health.mo.gov/sites/health/files/media/pdf/2026/07/2023-mo-fact-sheet.pdf
33. Colorado Department of Public Health and Environment. (n.d.). *SUDORS circumstances, toxicology, and injury location, 2020–2025, includes race/hispanic origin.* https://cohealthviz.dphe.state.co.us/t/HealthInformaticsPublic/views/SUDORS_Dashboard_FINAL/Story1
34. Tennessee Department of Health. (2025). *Tennessee State Unintentional Drug Overdose Reporting System (SUDORS) report 2025*. https://www.tn.gov/content/dam/tn/health/documents/pdo/sudors/SUDORS_Annual_Report_2025.pdf
35. Indiana Department of Health. (2024). *Fatal overdose and suicide report, 2023*. https://www.in.gov/dA/8ead3c64b4/2023-Indiana-Overdose-and-Suicide-Report-_FINAL.pdf?language_id=1
36. California Department of Public Health. (2026). *California State Unintentional Drug Overdose Reporting System: 2023 overview data report*. https://www.cdph.ca.gov/Programs/CCDPHP/sapb/CDPH%20Document%20Library/SUDORS_2023_Data_Report.pdf
37. Garnett, M. F., & Miniño, A. M. (2026). Drug overdose deaths in the United States, 2023–2024 (NCHS Data Brief No. 549). National Center for Health Statistics. https://www.cdc.gov/nchs/products/databriefs/db549.htm
38. Tanz, L., Quader, Z., Mattson, C., & Vivolo-Kantor, A. (2026). Notes from the field: Cannabis detection among overdose deaths—United States, 2021–2025. Morbidity and Mortality Weekly Report, 75(34), 539–541.

39. Lemos, N., & Ingle, E. (2011). Cannabinoids in postmortem toxicology. Journal of Analytical Toxicology. https://pubmed.ncbi.nlm.nih.gov/21871147/
40. Davis, G. G., Cadwallader, A. B., Fligner, C. L., Gilson, T., Hall, E., Harshbarger, K., Kronstrand, R., Mallak, C., McLemore, J., Middleberg, R. A., Middleton, O. L., Nelson, L. S., Rogalska, A., Tonsfeldt, E., Walterscheid, J., & Winecker, R. E. (2019). Recommendations for the investigation, diagnosis, and certification of deaths related to opioid and other drugs. National Association of Medical Examiners. https://www.thename.org/assets/docs/Opioid%20position%20paper%20Final%2012-17-2019.pdf
41. Centers for Disease Control and Prevention. (2022). State Unintentional Drug Overdose Reporting System (SUDORS) coding manual. https://www.cdc.gov/overdose-prevention/media/pdfs/2025/02/SUDORS_Coding_Manual_OD2A_v6.3b_Feb2025.pdf
42. Centers for Disease Control and Prevention. (2026). *SUDORS dashboard: Fatal drug overdose data*. https://www.cdc.gov/overdose-prevention/data-research/facts-stats/sudors-dashboard-fatal-overdose-data.html
43. Centers for Disease Control and Prevention. (n.d.). *Alcohol-Related Disease Impact (ARDI) application.* https://nccd.cdc.gov/DPH_ARDI/default/default.aspx
44. U.S. Department of Health and Human Services. (2014). *The health consequences of smoking—50 years of progress: A report of the Surgeon General.* https://www.ncbi.nlm.nih.gov/books/NBK179276/pdf/Bookshelf_NBK179276.pdf
45. Institute for Health Metrics and Evaluation. (n.d.). *Global Burden of Disease (GBD)*. https://www.healthdata.org/research-analysis/gbd
46. Australian Institute of Health and Welfare. (2024). *Australian Burden of Disease Study 2024*. https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2024/contents/summary
47. Colorado Department of Public Health and Environment. (n.d.). Toxicology report. Colorado Cannabis Health Report. https://cannabishealthreport.colorado.gov/health-data/toxicology-report
48. Colorado Department of Public Health and Environment. (n.d.). Toxicology report. Colorado Cannabis Health Report. https://cannabishealthreport.colorado.gov/health-data/toxicology-report
49. Massachusetts Department of Public Health. (n.d.). Population Health Information Tool (PHIT). https://dphanalytics.hhs.mass.gov/ibmcognos/bi/?perspective=authoring&pathRef=.public_folders%2FMEPHTN%2Fdph%2FPHIT-Reports%2Fviolent-death-reporting-88&id=i49FA8372E9F44C97A2A7D36CEB3C63B0&action=run&format=HTML
50. Minnesota Department of Health. (2025). Minnesota Violent Death Reporting System (MNVDRS) dashboard. https://www.health.state.mn.us/communities/injury/midas/mnvdrs.html
51. Australian Institute of Health and Welfare. (2024). Australian burden of disease study 2024. https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2024/contents/about

Chapter 5: Marijuana-Related Emergency Department Visits and Inpatient Hospitalizations

1. Substance Abuse and Mental Health Services Administration. (2022). *Drug Abuse Warning Network: Findings from drug-related emergency department visits, 2021*. https://library.samhsa.gov/sites/default/files/pep22-07-03-002.pdf
2. Substance Abuse and Mental Health Services Administration. (2025). *Drug Abuse Warning Network (DAWN): National estimates from drug-related emergency department visits, 2024*. https://www.samhsa.gov/data/sites/default/files/reports/rpt56252/dawn-national-estimates-2024.pdf
3. Vivolo-Kantor, A., Liu, S., Tanz, L., Mattson, C., & Schier, J. (2026). Trends in emergency department visits involving cannabis hyperemesis syndrome identified using a new diagnosis code—United States, January 2023–May 2026. *Morbidity and Mortality Weekly Report,* 75(30), 391–396. https://www.cdc.gov/mmwr/volumes/75/wr/mm7530a2.htm?s_cid=mm7530a2_w
4. California Department of Public Health. (2026). *Cannabis-related non-fatal emergency department (ED) visits among California residents, 2016-2024.* https://www.cdph.ca.gov/Programs/CCDPHP/sapb/cannabis/Pages/California-Cannabis-related-Emergency-Department-Visits-Dashboard.aspx
5. New York State Department of Health. (2026). *Trends in cannabis-related emergency department visits and hospital discharges in New York State*. https://www.health.state.ny.us/community/cannabis/docs/2024_trends_in_ed_visits_hospital_discharges.pdf

6. Colby, A., Humiston, G., Edwards, V., & Johnson, J. K. (2026). *Cannabis use trends in Massachusetts: Findings from the International Cannabis Policy Study, 2019–2023*. Massachusetts Cannabis Control Commission. https://masscannabiscontrol.com/wp-content/uploads/2026/03/Cannabis-Use-Trends-in-Massachusetts-Findings-from-the-International-Cannabis-Policy-Study-2019-2023.pdf
7. Substance Abuse and Mental Health Services Administration. (2025). *Drug Abuse Warning Network (DAWN): National estimates from drug-related emergency department visits, 2024*. https://www.samhsa.gov/data/sites/default/files/reports/rpt56252/dawn-national-estimates-2024.pdf
8. Substance Abuse and Mental Health Services Administration. (2022). *Drug Abuse Warning Network: Findings from drug-related emergency department visits, 2021*. https://library.samhsa.gov/sites/default/files/pep22-07-03-002.pdf
9. Substance Abuse and Mental Health Services Administration. (2023). *Drug Abuse Warning Network: Findings from drug-related emergency department visits, 2022*. https://library.samhsa.gov/sites/default/files/pep23-07-03-001.pdf
10. Substance Abuse and Mental Health Services Administration. (2024). *Drug Abuse Warning Network (DAWN): National estimates from drug-related emergency department visits, 2023*. https://www.samhsa.gov/data/sites/default/files/reports/rpt53161/dawn-national-estimates-2023.pdf
11. Substance Abuse and Mental Health Services Administration. (2025). *Drug Abuse Warning Network (DAWN): National estimates from drug-related emergency department visits, 2024*. https://www.samhsa.gov/data/sites/default/files/reports/rpt56252/dawn-national-estimates-2024.pdf
12. Substance Abuse and Mental Health Services Administration. (2025). *Drug Abuse Warning Network (DAWN): National estimates from drug-related emergency department visits, 2024*. https://www.samhsa.gov/data/sites/default/files/reports/rpt56252/dawn-national-estimates-2024.pdf
13. Schoeler, T., Ferris, J., & Winstock, A. R. (2022). Rates and correlates of cannabis-associated psychotic symptoms in over 230,000 people who use cannabis. *Translational Psychiatry,* 12, Article 369. https://www.nature.com/articles/s41398-022-02112-8
14. Zizaza, N. (2025). What is CHS? Maryland doctor explains an illness linked to chronic marijuana use. *CBS News*. https://www.cbsnews.com/baltimore/news/what-is-chs-maryland-doctor-explains-an-illness-linked-to-chronic-marijuana-use/
15. Anello, D. (2026). Boy, 4, hospitalized from THC lollipop included in birthday party goodie bag, mom says alert from school wasn't sent out for days. *People*. https://people.com/4-year-old-boy-hospitalized-from-thc-lollipop-in-birthday-party-goodie-bag-11992627
16. Wernau, J. (2024). More teens who use marijuana are suffering from psychosis. *The Wall Street Journal*. https://www.wsj.com/us-news/marijuana-depression-psychosis-869490d1
17. Kite, A., & Yager, P. (2026). Arlington woman arrested for intoxication manslaughter in March crash that killed her 6-year-old daughter. *FOX 4 Dallas-Fort Worth*. https://www.fox4news.com/news/arlington-woman-arrested-intoxication-manslaughter-march-crash-killed-her-6-year-old-daughter

18. Singleton, H. (2025). They took an edible. Anxiety haunted them for years. *GQ*. https://www.gq.com/story/edible-anxiety
19. Agency for Healthcare Research and Quality. (n.d.). *HCUPnet: Healthcare Cost and Utilization Project.* https://datatools.ahrq.gov/hcupnet/
20. Vivolo-Kantor, A. M., Liu, S., Tanz, L. J., Mattson, C. L., & Schier, J. (2026). Trends in emergency department visits involving cannabis hyperemesis syndrome identified using a new diagnosis code—United States, January 2023–May 2026. *Morbidity and Mortality Weekly Report,* 75(30), 391–396. https://www.cdc.gov/mmwr/volumes/75/wr/mm7530a2.htm?s_cid=mm7530a2_w
21. Substance Abuse and Mental Health Services Administration. (n.d.). *2023–2024 National Survey on Drug Use and Health: Variable list.* https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2023-2024-rd02yr/variable-list
22. Roehler, D. R., Smith, H., IV, Radhakrishnan, L., Holland, K. M., Gates, A. L., Vivolo-Kantor, A. M., & Hoots, B. E. (2023). Cannabis-involved emergency department visits among persons aged <25 years before and during the COVID-19 pandemic—United States, 2019–2022. MMWR. Morbidity and Mortality Weekly Report, 72(28), 758–765. https://doi.org/10.15585/mmwr.mm7228a1
23. California Department of Public Health. (2026). *Cannabis-related non-fatal emergency department (ED) visits among California residents, 2016–2024.* https://www.cdph.ca.gov/Programs/CCDPHP/sapb/cannabis/Pages/California-Cannabis-related-Emergency-Department-Visits-Dashboard.aspx
24. New York State Department of Health. (2026). *Trends in cannabis-related emergency department visits and hospital discharges in New York State*. https://www.health.state.ny.us/community/cannabis/docs/2024_trends_in_ed_visits_hospital_discharges.pdf
25. Arizona High Intensity Drug Trafficking Area. (2022). Marijuana legalization in Arizona: A baseline report. https://themig.org/impact-reports/
26. Young-Wolff, K. C., Cortez, C. A., Alexeeff, S. E., Silver, L. D., Pacula, R. L., Slama, N. E., Padon, A. A., Satre, D. D., Campbell, C. I., Koshy, M. T., Does, M. B., & Sterling, S. A. (2026). Adolescent cannabis use and risk of psychotic, bipolar, depressive, and anxiety disorders. JAMA Health Forum, 7(2). https://doi.org/10.1001/jamahealthforum.2025.6839
27. Illinois Cannabis Regulation and Tax Act Evaluation Project. (n.d.). *Public health effects*. https://illinoiscannabisproject.com/public-health-effects-8.html
28. Swartz, J. A., Franceschini, D., Giangrande, E., Han, Y., Falso, P., & Schwartz, R. (2025). *2025 annual cannabis report*. Illinois Adult Use Cannabis Health Advisory Committee. https://illinoiscannabisproject.com/reports/annual-reports/Cannabis-Regulation-and-Tax-Act-Evaluation-Annual-Report-2025.pdf
29. Minnesota Department of Health. (2025). *Cannabis use in Minnesota: Report to the Legislature, 2025*. https://www.health.state.mn.us/data/mchs/pubs/cannabisuse2025.pdf
30. Colby, A., Humiston, G., Edwards, V., & Johnson, J. (2026). *Cannabis use trends in Massachusetts: Findings from the International Cannabis Policy Study, 2019–2023*. Massachusetts Cannabis Control Commission. https://masscannabiscontrol.com/wp-content/uploads/2026/03/Cannabis-Use-Trends-in-Massachusetts-Findings-from-the-International-Cannabis-Policy-Study-2019-2023.pdf
31. Abrapudi, S., Codner, A., & Poulin, S. (2025). *Cannabis public health surveillance: 2025 cannabis health statistics report*. Connecticut Department of Public Health. https://portal.ct.gov/dph/-/media/departments-and-agencies/dph/dph/hems/cannabis/2025-cannabis-health-statistics-report-final.pdf

Chapter 6: Additional Outcomes Associated with Youth Marijuana Use

1. National Center for Education Statistics. (2020). *Percentage of students in grades 9–12 who reported that illegal drugs were made available to them on school property during the previous 12 months, by selected student characteristics: Selected years, 1993 through 2019* (Digest of Education Statistics, Table 232.70). U.S. Department of Education. https://nces.ed.gov/programs/digest/d20/tables/dt20_232.70.asp

2. Wang, K., Kemp, J., & Burr, R. (2022). Crime, violence, discipline, and safety in U.S. public schools: Findings from the School Survey on Crime and Safety: 2021–22. National Center for Education Statistics, U.S. Department of Education. https://nces.ed.gov/pubs2024/2024043.pdf
3. Federal Bureau of Investigation. (n.d.). *Crime Data Explorer*. https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend
4. Substance Abuse and Mental Health Services Administration. (2026). *Results from the 2025 National Survey on Drug Use and Health: Detailed tables.* https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm
5. Child and Adolescent Health Measurement Initiative. (n.d.). *Interactive data query: National Survey of Children's Health (2022–present)*. Data Resource Center for Child & Adolescent Health. https://www.childhealthdata.org/browse/survey#57_1
6. Cannabis Public Policy Consulting. (2025, March). *Maryland Medical Cannabis Patient Survey report 2024*. Maryland Cannabis Administration. https://cannabis.maryland.gov/Documents/2025_PDF_Files/MMCPS-24%20Final%20Report%20V3%203.3.25.pdf
7. Beuhler, M. C., Feldman, R., Gummin, D. D., Mowry, J. B., Rivers, L. J., Brown, K., Pham, N. P. T., Johnson-O'Leary, K., Spyker, D. A., & Bronstein, A. C. (2025). 2024 annual report of the National Poison Data System (NPDS) from America's Poison Centers: 42nd annual report. *Clinical Toxicology,* 63(12), 1029–1280. https://www.tandfonline.com/doi/abs/10.1080/15563650.2025.2571299
8. National Institute on Drug Abuse. (2024). *Cannabis potency data*. https://nida.nih.gov/research/research-data-measures-resources/cannabis-potency-data
9. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students.* Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
10. National Center for Education Statistics. (2020). *Percentage of students in grades 9–12 who reported that illegal drugs were made available to them on school property during the previous 12 months, by selected student characteristics: Selected years, 1993 through 2019* (Digest of Education Statistics, Table 232.70). U.S. Department of Education. https://nces.ed.gov/programs/digest/d20/tables/dt20_232.70.asp
11. Kann, L., McManus, T., Harris, W. A., Shanklin, S. L., Flint, K. H., Queen, B., Lowry, R., Chyen, D., Whittle, L., Thornton, J., Lim, C., Bradford, D., Yamakawa, Y., Leon, M., Brener, N., & Ethier, K. A. (2018). *Youth Risk Behavior Surveillance—United States, 2017*. Internet Archive. https://archive.org/details/ss-6708-1
12. Kann, L., McManus, T., Harris, W. A., Shanklin, S. L., Flint, K. H., Queen, B., Lowry, R., Chyen, D., Whittle, L., Thornton, J., Lim, C., Bradford, D., Yamakawa, Y., Leon, M., Brener, N., & Ethier, K. A. (2018). *Youth Risk Behavior Surveillance—United States, 2017*. Internet Archive. https://archive.org/details/ss-6708-1
13. Kann, L., McManus, T., Harris, W. A., Shanklin, S. L., Flint, K. H., Queen, B., Lowry, R., Chyen, D., Whittle, L., Thornton, J., Lim, C., Bradford, D., Yamakawa, Y., Leon, M., Brener, N., & Ethier, K. A. (2018). Youth Risk Behavior Surveillance—United States, 2017. Internet Archive. https://archive.org/details/ss-6708-1
14. Wang, K., Kemp, J., & Burr, R. (2022). Crime, violence, discipline, and safety in U.S. public schools: Findings from the School Survey on Crime and Safety: 2021–22. National Center for Education Statistics, U.S. Department of Education. https://nces.ed.gov/pubs2024/2024043.pdf
15. California Department of Education. (n.d.). California School Climate, Health, and Learning Surveys (CalSCHLS) public dashboards. https://calschls.org/reports-data/public-dashboards/643316de-100f-4b99-a2c1-3eff5800aa45/
16. California Department of Education. (2026). California School Parent Survey, statewide results, 2023–2025, main report. https://calschls.org/docs/statewide_2325_csps.pdf
17. California Department of Education. (2026). California School Staff Survey, statewide results, 2023–2025, main report. https://calschls.org/docs/statewide_2325_csss.pdf

18. U.S. Department of Education. (n.d.). *General trend data* https://ope.ed.gov/campussafety/Trend/public/
19. National Center for Juvenile Justice. (2025). *Juvenile court statistics 2023*. https://www.ojp.gov/publications/juvenile-court-statistics-2023.pdf
20. Federal Bureau of Investigation. (n.d.). *Crime Data Explorer*. https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend
21. Federal Bureau of Investigation. (n.d.). *Crime Data Explorer*. https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend
22. National Organization for the Reform of Marijuana Laws. (2026). *FBI: Nearly 1 in 4 drug arrests nationwide are for marijuana possession*. https://norml.org/blog/2026/08/25/fbi-nearly-1-in-4-drug-arrests-nationwide-are-for-marijuana-possession/
23. American Civil Liberties Union (2020). *A tale of two countries: Racially targeted arrests in the era of marijuana reform*. https://www.aclu.org/publications/tale-two-countries-racially-targeted-arrests-era-marijuana-reform
24. The Center for Drug Control Policy (2026). *The State of Substance Use: Trends in the Prevalence and Harms of Substance Use in the United States.* The Opioid Response Network. https://orn.qualtrics.com/jfe/form/SV_eQImuomKxxsFKcK
25. Substance Abuse and Mental Health Services Administration. (2026). *Results from the 2025 National Survey on Drug Use and Health: Detailed tables.* https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm
26. Substance Abuse and Mental Health Services Administration. (2026). *Results from the 2025 National Survey on Drug Use and Health: Detailed tables.* https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm
27. Zhang, X., & Steinbach, R. (2025). *2024 Traffic Safety Culture Index*. AAA Foundation for Traffic Safety. https://newsroom.aaa.com/wp-content/uploads/2025/12/2024_TSCI_Final_Report.pdf
28. Substance Abuse and Mental Health Services Administration. (n.d.). *2023–2024 National Survey on Drug Use and Health: Variable list.* https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2023-2024-rd02yr/variable-list
29. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). *National data on substance use among adults ages 19 to 65, 1976–2025*. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2026/07/mtfpanel2026.pdf
30. Pennsylvania Department of Drug and Alcohol. (n.d.). Pennsylvania Youth Survey (PAYS). https://www.bach-harrison.com/payswebtool/Crosstabs.aspx
31. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). *Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024*. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
32. Swartz, J. A., Franceschini, D., Giangrande, E., Han, Y., Falso, P., & Schwartz, R. (2025). *2025 annual cannabis report*. Illinois Adult Use Cannabis Health Advisory Committee. https://illinoiscannabisproject.com/reports/annual-reports/Cannabis-Regulation-and-Tax-Act-Evaluation-Annual-Report-2025.pdf
33. Substance Abuse and Mental Health Services Administration. (2026). *Results from the 2025 National Survey on Drug Use and Health: Detailed tables.* https://www.samhsa.gov/data/sites/default/files/reports/rpt57152/2025-nsduh-detailed-tabs/2025-nsduh-detailed-tables-toc.htm
34. Substance Abuse and Mental Health Services Administration. (2025). Marijuana and pregnancy. https://www.samhsa.gov/substance-use/learn/marijuana/pregnancy
35. Centers for Disease Control and Prevention. (2025). Cannabis and pregnancy. https://www.cdc.gov/cannabis/health-effects/pregnancy.html
36. Office of the Surgeon General. (2019). U.S. Surgeon General's advisory: Marijuana use and the developing brain. U.S. Department of Health and Human Services. https://www.hhs.gov/surgeongeneral/reports-and-publications/addiction-and-substance-misuse/advisory-on-marijuana-use-and-developing-brain/index.html

37. Colorado Department of Public Health and Environment. (n.d.). Pregnancy Risk Assessment Monitoring System (PRAMS) data. https://cannabishealthreport.colorado.gov/health-data/pregnancy-risk-assessment-monitoring-system-prams-data
38. Georgia Department of Public Health. (2016). *Neonatal abstinence syndrome: Annual surveillance report 2016*. https://dlg.galileo.usg.edu/data/dlg/ggpd/pdfs/dlg_ggpd_y-ga-bp780-pp7-bs1-bn4-b2016-belec-p-btext.pdf
39. Minnesota Department of Health. (2025). *Cannabis use in Minnesota: Report to the legislature*. https://www.health.state.mn.us/data/mchs/pubs/cannabisuse2025.pdf
40. Maricopa County Department of Public Health. (n.d.). *Neonatal abstinence syndrome data*. https://www.hsd.maricopa.gov/6268/Neonatal-Abstinence-Syndrome-Data
41. Krause, K. H., Gruber, J. F., Ailes, E. C., Anderson, K. N., Fields, V. L., Hauser, K., Howells, C. L., Longenberger, A., McClung, N., Oakley, L. P., Reefhuis, J., Honein, M. A., & Watkins, S. M. (2021). Assessment of neonatal abstinence syndrome surveillance—Pennsylvania, 2019. *Morbidity and Mortality Weekly Report, 70*(2), 40–45. https://www.cdc.gov/mmwr/volumes/70/wr/mm7002a3.htm
42. Child and Adolescent Health Measurement Initiative. (n.d.). *Interactive data query: National Survey of Children's Health (2022–present)*. Data Resource Center for Child & Adolescent Health. https://www.childhealthdata.org/browse/survey#57_1
43. Vermont Department of Health. (2026). *2025 Vermont Youth Risk Behavior Survey: Statewide report*. https://www.healthvermont.gov/sites/default/files/document/hsi-yrbs-2025-statewide-report.pdf
44. North Dakota Department of Health and Human Services. (2023). *2023 Youth Risk Behavior Survey results.* https://www.hhs.nd.gov/sites/default/files/documents/website-archive/public-health/2023%20High%20School%20Summary%20Data-archived.pdf
45. Hammond, D., Iraniparast, M., Hong, D. D., Burkhalter, R., Rynard, V., & Corsetti, D. (2024). *International Cannabis Policy Study—United States 2023 cannabis report*. University of Waterloo. https://cannabisproject.ca/wp-content/uploads/2024/12/2023-ICPS-US-National-Report-Dec-6.pdf
46. Cannabis Public Policy Consulting. (2025). *Maryland Medical Cannabis Patient Survey report 2024*. Maryland Cannabis Administration. https://cannabis.maryland.gov/Documents/2025_PDF_Files/MMCPS-24%20Final%20Report%20V3%203.3.25.pdf
47. Beuhler, M. C., Feldman, R., Gummin, D. D., Mowry, J. B., Rivers, L. J., Brown, K., Pham, N. P. T., Johnson-O'Leary, K., Spyker, D. A., & Bronstein, A. C. (2025). 2024 annual report of the National Poison Data System (NPDS) from America's Poison Centers: 42nd annual report. Clinical Toxicology, 63(12), 1029–1280. https://doi.org/10.1080/15563650.2025.2571299
48. Hammond, D., Hong, D., Fataar, F., Iraniparast, M., Rynard, V., & Burkhalter, R. (2026). International Cannabis Policy Study—Washington 2025 cannabis report. University of Waterloo. https://lcb.wa.gov/sites/default/files/2026-06/ICPS2025_Washington_Report_Key_Indicators.pdf
49. Smart Approaches to Marijuana. (2026). Impact report 2026–2027: Lessons learned from state marijuana legalization. https://learnaboutsam.org/wp-content/uploads/2026/01/SAM-impact-report-2026-2027.pdf
50. Colorado Department of Public Health and Environment. (2021). M*onitoring health concerns related to marijuana in Colorado: 2020.* https://drive.google.com/drive/u/0/folders/1dSy0On6qgCRRRk8o7mXF4g3mg-OZwJOE
51. Cannabis Public Policy Consulting. (2025). *Maryland Medical Cannabis Patient Survey report 2024*. Maryland Cannabis Administration. https://cannabis.maryland.gov/Documents/2025_PDF_Files/MMCPS-24%20Final%20Report%20V3%203.3.25.pdf
52. Centers for Disease Control and Prevention. (2024). *Cannabis and secondhand smoke*. https://www.cdc.gov/cannabis/health-effects/secondhand-smoke.html
53. California Office of Environmental Health Hazard Assessment. (2022). *Cannabis (marijuana) smoke*. https://www.p65warnings.ca.gov/fact-sheets/cannabis-marijuana-smoke
54. UCLA Health. (2020). *Secondhand marijuana smoke: What are the risks to your health?* https://www.uclahealth.org/news/article/secondhand-marijuana-smoke-what-are-the-risks-to-your-health

55. Environmental Protection Agency. (2026). *Secondhand marijuana smoke and indoor air quality*. https://www.epa.gov/indoor-air-quality-iaq/secondhand-marijuana-smoke-and-indoor-air-quality
56. National Institute on Drug Abuse. (2024). *Cannabis potency data*. https://nida.nih.gov/research/research-data-measures-resources/cannabis-potency-data
57. Smart Approaches to Marijuana. (2023). *The unforeseen consequences of rising THC levels in marijuana: A growing public health concern.* https://learnaboutsam.org/wp-content/uploads/2023/12/The-Unforeseen-Consequences-of-Rising-THC-Levels-in-Cannabis-A-Growing-Public-Health-Concern-a-resource-produced-by-Smart-Approaches-to-Marijuana.pdf
58. Washington State Liquor and Cannabis Board. (n.d.). Understanding THC concentration and potency. https://lcb.wa.gov/education/understanding_thc_concentration_and_potency
59. Colorado Department of Revenue, Marijuana Enforcement Division. (2021). 2020 regulated marijuana market update. https://sbg.colorado.gov/sites/sbg/files/2020-Regulated-Marijuana-Market-Update-Final.pdf
60. Sofis, M., & Slade, M. (2022). *Cannabis markets & associated outcomes—survey findings and implications*. Maine Office of Cannabis Policy. https://www.maine.gov/dafs/ocp/sites/maine.gov.dafs.ocp/files/inline-files/Maine%20OCP%20AHP%20Report%2006-22.pdf
61. Headset. (2026). *Cannabis prices in 2026: Average prices by category and state*. https://www.headset.io/data/cannabis-prices
62. University of Colorado Boulder, Business Research Division. (n.d.). Q2 2026 Colorado marijuana market update. https://public.tableau.com/app/profile/cu.business.research.division/viz/ColoradoMEDDashboard/Overview
63. World Health Organization. (2023). Commercial determinants of health. https://www.who.int/news-room/fact-sheets/detail/commercial-determinants-of-health
64. Volkow, N. (2024). Commercial interests contribute to drug use and addiction. National Institute on Drug Abuse. https://nida.nih.gov/about-nida/noras-blog/2024/09/commercial-interests-contribute-to-drug-use-addiction
65. DeBevec, N. (2013). The issue: Should marijuana be regulated like alcohol? United Press International. https://www.upi.com/Top_News/US/2013/11/24/The-Issue-Should-marijuana-be-regulated-like-alcohol/37731385287500/
66. Drug Policy Alliance. (2025). State-level marijuana reform: Lessons learned and ongoing challenges. https://drugpolicy.org/wp-content/uploads/2025/07/DPA-StateLevelMJReport_InDesign-07.29.2025.pdf
67. Warner, J. (2015). Marijuana legalization 2015: Major pot activist quits Marijuana Policy Project, says industry is taking over movement. International Business Times. https://www.ibtimes.com/marijuana-legalization-2015-major-pot-activist-quits-marijuana-policy-project-says-2203385
68. Jaeger, K. (2022). Big marijuana businesses are failing state legalization efforts, South Dakota campaign says as another poll shows initiative trailing. Marijuana Moment. https://www.marijuanamoment.net/big-marijuana-businesses-are-failing-state-legalization-efforts-south-dakota-campaign-says-as-another-poll-shows-initiative-trailing/
69. Ballotpedia. (n.d.). Florida Amendment 3, Marijuana Legalization Initiative (2024). https://ballotpedia.org/Florida_Amendment_3,_Marijuana_Legalization_Initiative_(2024)
70. Lehman, C. F. (2024). Half baked. City Journal. https://www.city-journal.org/article/new-hampshires-half-baked-marijuana-policy
71. Volkow, N. (2024). Commercial interests contribute to drug use and addiction. National Institute on Drug Abuse. https://nida.nih.gov/about-nida/noras-blog/2024/09/commercial-interests-contribute-to-drug-use-addiction
72. Pavlou, D. (2025). Senate approves ban of THCA, other THC products in shutdown bill. Straight Arrow News. https://san.com/cc/senate-approves-ban-of-thca-other-thc-products-in-shutdown-bill/
73. Centers for Disease Control and Prevention. (2021). Increases in availability of cannabis products containing delta-8 THC and reported cases of adverse events. https://stacks.cdc.gov/view/cdc/109759
74. America's Poison Centers. (n.d.). Delta-8 THC. https://poisoncenters.org/track/delta-8-THC
75. Food and Drug Administration. (2022, May 4). 5 things to know about delta-8 tetrahydrocannabinol – delta-8 THC. https://www.fda.gov/consumers/consumer-updates/5-things-know-about-delta-8-tetrahydrocannabinol-delta-8-thc

76. Federal Trade Commission. (2023). FTC sends cease and desist letters with FDA to companies selling edible products containing delta-8 THC in packaging nearly identical to food children eat. https://www.ftc.gov/news-events/news/press-releases/2023/07/ftc-sends-cease-desist-letters-fda-companies-selling-edible-products-containing-delta-8-thc
77. Office of National Drug Control Policy. (2026). National Drug Control Strategy. Executive Office of the President. https://www.whitehouse.gov/wp-content/uploads/2026/05/National-Drug-Control-Strategy-2026-1.pdf
78. Marijuana Policy Project. (n.d.). What are state regulators doing? https://www.mpp.org/policy/federal/delta-8/what-are-state-regulators-doing/
79. Roeloffs, M. W. (2026). Senate continues spending bill talks today—Here's the hemp ban holding it up. Forbes. https://www.forbes.com/sites/maryroeloffs/2026/08/06/senate-continues-spending-bill-talks-today-heres-the-hemp-ban-holding-it-up/
80. Administration for Children and Families (2025). Child maltreatment, 2024. https://acf.gov/sites/default/files/documents/cb/cm2024.pdf
81. Arizona Department of Health Services. (2025). Arizona Child Fatality Review Team: 32nd annual report. https://www.azdhs.gov/documents/prevention/womens-childrens-health/reports-fact-sheets/child-fatality-review-annual-reports/cfr-annual-report-2025.pdf
82. Texas Department of Family and Protective Services. (2026). Fiscal year 2025 child maltreatment fatalities and near fatalities annual report. https://dfps.texas.gov/About_DFPS/Reports_and_Presentations/Office_of_Child_Safety/documents/child-fatality-reports/2026-02-27_Child_Maltreatment_Fatalities_and_Near_Fatalities_Annual_Report.pdf
83. Florida State Child Abuse Death Review Committee. (2021). Child abuse death review committee: Annual report. Florida Department of Health. https://www.flcadr.com/documents/2021CADRAnnualReport_Final.pdf
84. Kubeisy, C. (2025). Recommendations for the next era of drug policy. *Addiction Psychiatry Insights*. https://www.flipsnack.com/aaapnewsletter/fall-2025/full-view.html
85. Office of National Drug Control Policy. (1993). National drug control strategy: Progress in the war on drugs. https://www.ojp.gov/pdffiles1/ondcp/140556.pdf
86. Office of National Drug Control Policy. (1989). National drug control strategy. https://www.ojp.gov/pdffiles1/ondcp/119466.pdf
87. Office of National Drug Control Policy. (2002). National drug control strategy. https://www.ojp.gov/pdffiles1/ondcp/192260.pdf
88. Office of National Drug Control Policy (2020). National drug control strategy. https://trumpwhitehouse.archives.gov/wp-content/uploads/2020/02/2020-NDCS.pdf
89. Office of National Drug Control Policy. (2026). National Drug Control Strategy. Executive Office of the President. https://www.whitehouse.gov/wp-content/uploads/2026/05/National-Drug-Control-Strategy-2026-1.pdf
90. Rees, V., Kubeisy, C., & Koh, H. (2024). Toward a comprehensive measure of drug-attributable harm. *Journal of the American Medical Association.* https://jamanetwork.com/journals/jama/article-abstract/2821245
91. Commonwealth of Australia (2017). National drug strategy, 2017–2026. https://www.health.gov.au/sites/default/files/national-drug-strategy-2017-2026.pdf

92. Miech, R., Patrick, M., O'Malley, P., Jager, J., & Jang, J. (2026). National Survey Results on Drug Use, 1975–2025: Overview and detailed results for secondary school students. Institute for Social Research, University of Michigan. https://monitoringthefuture.org/wp-content/uploads/2025/12/mtfvol12026.pdf
93. McCarthy, J. (2025). Americans much more positive about progress on drugs. Gallup. https://news.gallup.com/poll/697445/americans-positive-progress-drugs.aspx
94. Cerda, A., & Gramlich, J. (2026). 10 facts about Americans and marijuana. Pew Research Center. https://www.pewresearch.org/short-reads/2026/05/26/facts-about-marijuana/
95. Emerson College Polling. (2021). Crosstabulations. Smart Approaches to Marijuana. https://learnaboutsam.org/wp-content/uploads/2022/01/Crosstabs-for-National-Emerson-Poll-2021.pdf
96. Pew Research Center. (2024). *Most Americans favor legalizing marijuana for medical, recreational use*. https://www.pewresearch.org/politics/2024/03/26/most-americans-favor-legalizing-marijuana-for-medical-recreational-use/
97. Saad, L. (2022). *Americans not convinced marijuana benefits society*. Gallup. https://news.gallup.com/poll/396893/americans-not-convinced-marijuana-benefits-society.aspx
98. Brenan, M. (2024). *Americans' views of marijuana effects worsen*. Gallup. https://news.gallup.com/poll/648821/americans-views-marijuana-effects-worsen.aspx
99. Ballard, J. (2024). *Most Americans believe marijuana is safer than alcohol and tobacco*. YouGov. https://yougov.com/en-us/articles/49190-most-americans-believe-marijuana-is-safer-than-alcohol-and-tobacco
100. Manhattan Institute. (2024). *Post-election survey: Crosstabs*. https://media4.manhattan-institute.org/wp-content/uploads/ManhattanInstitute_PostElectionSurvey_Crosstabs.pdf
101. Jones, J. M. (2019). *In U.S., medical aid top reason why legal marijuana favored*. Gallup. https://news.gallup.com/poll/258149/medical-aid-top-reason-why-legal-marijuana-favored.aspx
102. Health Canada. (2025). *Drug and alcohol use in Canada: Postsecondary students*. https://health-infobase.canada.ca/substance-use/cpads/?cycles=2024h25-topic=3-indicator=45-timeframe=2-group=1-scale=fixed-subgroups=1_2_3

Chapter 7: Interventions

1. Substance Abuse and Mental Health Services Administration. (n.d.). 2023–2024 National Survey on Drug Use and Health: Variable list. https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2023-2024-rd02yr/variable-list
2. Miech, R. A., Johnston, L. D., Patrick, M. E., & O'Malley, P. M. (2025). Monitoring the Future: A continuing study of American youth (8th- and 10th-grade surveys), 2024. Inter-university Consortium for Political and Social Research. https://www.icpsr.umich.edu/web/NAHDAP/studies/39445/versions/V2
3. Centers for Disease Control and Prevention. (2026). Drug-Free Communities coalitions. https://www.cdc.gov/overdose-prevention/php/drug-free-communities/coalitions.html
4. Office of National Drug Control Policy. (2025). Drug-Free Communities Support Program: End-of-year 2024 report—National cross-site evaluation. https://www.cdc.gov/overdose-prevention/media/pdfs/2025/08/DFC-National-Evaluation-Report_2024__FINAL_2025_JUN_508compliant_corr8.4.pdf
5. Substance Abuse and Mental Health Services Administration. (2026). Treatment Episode Data Set (TEDS) 2024: Annual detailed tables. https://www.samhsa.gov/data/data-we-collect/teds-treatment-episode-data-set/annual-report/2024
6. Substance Abuse and Mental Health Services Administration. (2025). 2024 National Substance Use and Mental Health Services Survey (N-SUMHSS) release. https://www.samhsa.gov/data/data-we-collect/n-sumhss-national-substance-use-and-mental-health-services-survey/annual-releases/2024
7. Association of Recovery Schools. (n.d.). *Find a school.* https://recoveryschools.org/find-a-school/
8. Association of Recovery in Higher Education. (2026). Number of collegiate recovery programs. https://arhe.maps.arcgis.com/apps/dashboards/45592dfa44b0453b8d93e21019726f3b#
9. Substance Abuse and Mental Health Services Administration. (n.d.). *2023–2024 National Survey on Drug Use and Health: Variable list.* https://datatools.samhsa.gov/das/nsduh/2024/nsduh-2023-2024-rd02yr/variable-list
10. Centers for Disease Control and Prevention. (n.d.). *School Health Profiles Explorer.* https://profiles-explorer.cdc.gov/
11. Centers for Disease Control and Prevention. (2026). *Drug-Free Communities coalitions*. https://www.cdc.gov/overdose-prevention/php/drug-free-communities/coalitions.html
12. Office of National Drug Control Policy. (2025). *Drug-Free Communities Support Program: End-of-year 2024 report—National cross-site evaluation*. https://www.cdc.gov/overdose-prevention/media/pdfs/2025/08/DFC-National-Evaluation-Report_2024__FINAL_2025_JUN_508compliant_corr8.4.pdf
13. National Institute on Drug Abuse. (n.d.). *National Drug and Alcohol Facts Week (NDAFW)*. https://web.archive.org/web/20260212231114/https://nida.nih.gov/research-topics/national-drug-alcohol-facts-week/ndafw-events-map
14. Substance Abuse and Mental Health Services Administration. (2026). *Treatment Episode Data Set (TEDS) 2024: Annual detailed tables*. https://www.samhsa.gov/data/data-we-collect/teds-treatment-episode-data-set/annual-report/2024
15. Cleveland Clinic. (2024). *Cannabis use disorder*. https://my.clevelandclinic.org/health/diseases/cannabis-use-disorder
16. Substance Abuse and Mental Health Services Administration. (n.d.). *Treatment Episode Data Set—Admissions (TEDS-A), 2024.* https://datatools.samhsa.gov/das/teds-a/2024/teds-a-2024-ds0001/variable-list
17. Substance Abuse and Mental Health Services Administration. (2025). *2024 National Substance Use and Mental Health Services Survey (N-SUMHSS) release*. https://www.samhsa.gov/data/data-we-collect/n-sumhss-national-substance-use-and-mental-health-services-survey/annual-releases/2024
18. Association of Recovery Schools. (n.d.). *What is a recovery high school?* https://recoveryschools.org/what-is-a-recovery-high-school/
19. Office of National Drug Control Policy. (2024). *National Drug Control Strategy: Performance Review System report*. Executive Office of the President. https://bidenwhitehouse.archives.gov/wp-content/uploads/2025/01/ONDCP_NDCS-2024-Performance-Review-System-Report_Final.pdf

20. Office of National Drug Control Policy. (2026). National Drug Control Strategy. Executive Office of the President. https://www.whitehouse.gov/wp-content/uploads/2026/05/National-Drug-Control-Strategy-2026-1.pdf
21. Association of Recovery Schools. (n.d.). What is a recovery high school? https://recoveryschools.org/what-is-a-recovery-high-school/
22. 5280 Recovery High School. (n.d.). *Frequently asked questions*. https://5280highschool.org/about/faqs/
23. Association of Recovery Schools. (n.d.). *Find a school.* https://recoveryschools.org/find-a-school/
24. Association of Recovery in Higher Education. (2026). *Programs*. https://collegiaterecovery.org/crps-crcs/
25. Association of Recovery in Higher Education. (2026). *Number of collegiate recovery programs.* https://arhe.maps.arcgis.com/apps/dashboards/45592dfa44b0453b8d93e21019726f3b#
26. Office of National Drug Control Policy. (2024). *National Drug Control Strategy: Performance Review System report*. Executive Office of the President. https://bidenwhitehouse.archives.gov/wp-content/uploads/2025/01/ONDCP_NDCS-2024-Performance-Review-System-Report_Final.pdf
27. University of Michigan, Wolverine Wellness. (n.d.). *U-M's Collegiate Recovery Program*. https://wolverinewellness.umich.edu/collegiate-recovery-program
28. University of Utah, Center for Campus Wellness. (n.d.). *Recovery at the U*. https://wellness.utah.edu/programs/alcohol-substance-use/recovery-program.php
29. University of Kentucky, Student Success. (n.d.). *Collegiate Recovery Program*. https://studentsuccess.uky.edu/power/services/collegiate-recovery-program
30. University of Alabama, Collegiate Recovery and Intervention Services. (n.d.). *Community*. https://cris.sl.ua.edu/community/
31. University of California, Berkeley, Center for Support and Intervention. (n.d.). *Collegiate Recovery Program*. https://csi.berkeley.edu/collegiate-recovery-program/
32. Association of Recovery in Higher Education. (2026). *Number of collegiate recovery programs*. https://arhe.maps.arcgis.com/apps/dashboards/45592dfa44b0453b8d93e21019726f3b#
33. Washington State Liquor and Cannabis Board. (2025). *Annual report: Fiscal year 2025*. https://lcb.wa.gov/sites/default/files/2025-12/2025%20annual-report-final-12-23-25-opt.pdf
34. Colorado Department of Revenue, Marijuana Enforcement Division. (2026). *Marijuana Enforcement Division regulatory and enforcement activity*. https://drive.google.com/file/d/1must2H-AKdcB6gEOLucPZU9vieelADUB/view
35. NORML. (2026). *Compliance check data from legal states confirms that licensed retailers don't sell cannabis to minors.* https://norml.org/blog/2026/03/17/compliance-check-data-from-legal-states-confirms-that-licensed-retailers-dont-sell-cannabis-to-minors/
36. California State Auditor. (2025). *2024-105 Department of Cannabis Control.* https://www.auditor.ca.gov/reports/2024-105/
37. National Parent Teacher Association. (2021). *Position statement: Dangers of marijuana use among children and adolescents under the age of 21*. https://www.pta.org/docs/default-source/files/advocacy/position-statements/dangers-of-marjuana-ps-final.pdf
38. Rockefeller Institute of Government. (n.d.). *Marijuana opt-out tracker.* https://rockinst.org/issue-areas/state-local-government/municipal-opt-out-tracker/
39. City and County of Denver. (2026). *Marijuana facility location guide*. https://www.denvergov.org/files/assets/public/v/17/business-licensing/documents/marijuana-facility-location-guide.pdf

40. Maryland Cannabis Administration. (2024). *Cannabis policy FAQs*. https://cannabis.maryland.gov/Documents/2024_Laws_and_Regulations/Cannabis%20Policy%20FAQs_091024.pdf
41. Flowhub. (n.d.). *5 Montana cannabis laws you must know.* https://www.flowhub.com/montana-cannabis-laws

Appendix

1. National Conference of State Legislatures. (2026). *State medical cannabis laws*. https://www.ncsl.org/health/state-medical-cannabis-laws
2. MJBizDaily. (2025). *Where marijuana is legal in the United States*. https://mjbizdaily.com/map-of-us-marijuana-legalization-by-state/
3. Department of Health and Human Services. (2023). Basis for the recommendation to reschedule marijuana into schedule III of the Controlled Substances Act. https://static01.nyt.com/newsgraphics/documenttools/d1b41750bb7210f6/63765434-full.pdf
4. American Academy of Child and Adolescent Psychiatry. (2012). *Medical marijuana*. https://www.aacap.org/AACAP/Policy_Statements/2012/AACAP_Medical_Marijuana_Policy_Statement.aspx
5. American Academy of Child and Adolescent Psychiatry. (2017). *Marijuana legalization*. https://www.aacap.org/AACAP/Policy_Statements/2014/AACAP_Marijuana_Legalization_Policy.aspx
6. American Academy of Child and Adolescent Psychiatry. (2019). *Use of medical marijuana in children and adolescents with autism spectrum disorder for core autism symptoms or co-occurring emotional or behavioral problems*. https://www.aacap.org/AACAP/Policy_Statements/2019/Use_of_Medical_Marijuana_in_Children_and_Adolescents_with_Autism_Spectrum_Disorder_for_Core_Autism_S.aspx
7. Committee on Substance Abuse & Committee on Adolescence. (2015). The impact of marijuana policies on youth: Clinical, research, and legal update. *Pediatrics, 135*(3), 584–587. https://publications.aap.org/pediatrics/article/135/3/584/75419/The-Impact-of-Marijuana-Policies-on-Youth-Clinical?autologincheck=redirected
8. American Psychiatric Association. (2025). *Position statement on the ongoing need to monitor and assess the public health and safety consequences of legalizing cannabis*. https://www.psychiatry.org/getattachment/5813d2f3-6994-4c9a-91a0-86e46ba37854/Position-Public-Health-Consequences-of-Legalizing-Marijuana.pdf
9. American Psychiatric Association. (2025). *Position statement on the impact of cannabis on children and adolescents*. https://www.psychiatry.org/getattachment/e9899829-1006-4e55-8eba-447d07f16e82/Position-Cannabis-Impact-Children-Adolescents.pdf
10. American Psychiatric Association. (2025). *Position statement in opposition to cannabis as medicine for psychiatric disorders*. https://www.psychiatry.org/getattachment/12aa44f8-016e-4f8c-8b92-d3fb11a7155f/Position-Cannabis-as-Medicine.pdf
11. American Medical Association. (2025). *Cannabis legalization for adult use (commonly referred to as recreational use) H-95.924.* AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2FHOD.xml-H-95.924.xml
12. American Medical Association. (2025). *Marketing guardrails for the "over-medicalization" of cannabis use D-95.958.* AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2Fdirectives.xml-D-95.958.xml
13. American Medical Association. (2025). *Advocacy for more protective regulations on distribution of cannabis D-95.949.* AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2Fdirectives.xml-D-95.949.xml
14. American Medical Association. (2025). *Cannabis and cannabinoid research H-95.952.* AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/H-95.952?uri=%2FAMADoc%2FHOD.xml-0-5331.xml

15. American Medical Association. (2023). *Cannabis legalization for medicinal use D-95.969.* AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2Fdirectives.xml-D-95.969.xml
16. American Medical Association. (2022). *Expungement, destruction, and sealing of criminal records for legal offenses related to cannabis use or possession H-95.910.* AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2FHOD.xml-H-95.910.xml
17. American Medical Association. (2024). *Ban on dual ownership, investment, marketing, or distribution of adult-use cannabis, psychedelic agents, or empathogens by medical companies H-95.897.* AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2FHOD.xml-H-95.897.xml
18. American Medical Association. (2023). *Cannabis intoxication as a criminal defense H-95.997.* AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2FHOD.xml-0-5376.xml
19. American Medical Association. (2026). *Banning flavored cannabis e-cigarettes D-95.944.* AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2Fdirectives.xml-D-95.944.xml
20. American Medical Association. (2025). *Taxes on cannabis products H-95.923.* AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2FHOD.xml-H-95.923.xml
21. American Medical Association. (2026). *Cannabis use in older adults H-95.893.* AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2FHOD.xml-H-95.893.xml
22. American Medical Association. (2023). Cannabis warnings for pregnant and breastfeeding women H-95.936. AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2FHOD.xml-0-5315.xml
23. American Medical Association. (2021). *Medical marijuana license safety D-95.959.* AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2Fdirectives.xml-D-95.959.xml
24. American Medical Association. (2024). Cannabis product safety D-95.956. AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2Fdirectives.xml-D-95.956.xml
25. American Medical Association. (2023). Preventing the elimination of cannabis from occupational and municipal drug testing programs H-95.902. AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2FHOD.xml-H-95.902.xml
26. American Medical Association. (2021). Alcohol and drug use and addiction education H-170.992. AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2FHOD.xml-0-1017.xml
27. American Medical Association. (2025). Unregulated hemp-derived intoxicating cannabinoids and derived psychoactive cannabis products (DPCP) D-95.952. AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2Fdirectives.xml-D-95.952.xml
28. American Medical Association. (2022). Regulation of cannabidiol products H-120.926. AMA PolicyFinder. https://policysearch.ama-assn.org/policyfinder/detail/cannabis?uri=%2FAMADoc%2FHOD.xml-H-120.926.xml
29. American Public Health Association. (2021). A public health approach to regulating commercially legalized cannabis. https://www.apha.org/policy-and-advocacy/public-health-policy-briefs/policy-database/2021/01/13/a-public-health-approach-to-regulating-commercially-legalized-cannabis
30. American Public Health Association. (2015). Regulating commercially legalized marijuana as a public health priority. https://www.apha.org/policy-and-advocacy/public-health-policy-briefs/policy-database/2015/01/23/10/17/regulating-commercially-legalized-marijuana-as-a-public-health-priority

31. American Society of Addiction Medicine. (2020). *Cannabis*. https://www.asam.org/advocacy/public-policy-statements/details/public-policy-statements/2020/10/10/cannabis
32. American College of Obstetricians and Gynecologists. (2025). *Cannabis use during pregnancy and lactation*. https://www.acog.org/clinical/clinical-guidance/clinical-consensus/articles/2025/10/cannabis-use-during-pregnancy-and-lactation
33. American College of Obstetricians and Gynecologists. (2024). *The use of cannabis products for the management of pain associated with gynecologic conditions*. https://www.acog.org/clinical/clinical-guidance/clinical-consensus/articles/2024/07/the-use-of-cannabis-products-for-the-management-of-pain-associated-with-gynecologic-conditions
34. Crowley, R., Cline, K., Hilden, D., & Beachy, M. (2024). Regulatory framework for cannabis: A position paper from the American College of Physicians. Annals of Internal Medicine, 177(8), 1104–1105. https://doi.org/10.7326/M24-0638
35. American Academy of Family Physicians. (2025). Cannabis: Health, research and regulatory considerations. https://www.aafp.org/about/policies/cannabis-position-paper
36. American Academy of Neurology. (2020). AAN position: Use of medical cannabis for neurological disorders. https://www.aan.com/advocacy/medical-cannabis-position-statement
37. American Epilepsy Society. (2022). AES position statement on cannabis as a treatment for patients with epileptic seizures. https://aesnet.org/about/about-aes/position-statements/aes-position-statement-on-cannabis-as-a-treatment-for-patients-with-epileptic-seizures
38. International Association for the Study of Pain Presidential Task Force on Cannabis and Cannabinoid Analgesia. (2021). International Association for the Study of Pain Presidential Task Force on Cannabis and Cannabinoid Analgesia position statement. Pain, 162. https://doi.org/10.1097/j.pain.0000000000002265
39. Ramar, K., Rosen, I. M., Kirsch, D. B., Chervin, R. D., Carden, K. A., Aurora, R. N., Kristo, D. A., Malhotra, R. K., Martin, J. L., Olson, E. J., Rosen, C. L., & Rowley, J. A. (2018). Medical cannabis and the treatment of obstructive sleep apnea: An American Academy of Sleep Medicine position statement. Journal of Clinical Sleep Medicine, 14(4), 679–681. https://doi.org/10.5664/jcsm.7070
40. NAADAC, the Association for Addiction Professionals. (n.d.). NAADAC position statement on the medical and recreational use of cannabis. https://www.naadac.org/position-statement-on-the-medical-and-recreational-use-of-cannabis
41. Page, R. L., II, Allen, L. A., Kloner, R. A., Carriker, C. R., Martel, C., Morris, A. A., Piano, M. R., Rana, J. S., & Saucedo, J. F. (2020). Medical marijuana, recreational cannabis, and cardiovascular health: A scientific statement from the American Heart Association. Circulation, 142(10). https://doi.org/10.1161/CIR.0000000000000883
42. American Lung Association. (2024). Public policy position – Lung health. https://www.lung.org/policy-advocacy/what-we-advocate-for/public-policy-positions/public-policy-position-lung-health
43. American Cancer Society Cancer Action Network. (2026). Cannabis use and public health: Protecting workers and communities. https://www.fightcancer.org/sites/default/files/cannabis_and_smokefree_laws_2026_final.pdf
44. American Osteopathic Association. (2026). Medical cannabis – research on (Policy H425-A/26). https://osteopathic.org/wp-content/uploads/policies/h425-a-26-research-on-medical-cannabis.pdf
45. American Osteopathic Association. (2025). Prevention of pediatric consumption of cannabis, its derivatives, and synthetic cannabinoids (Policy H323-A/25). https://osteopathic.org/wp-content/uploads/policies/H323-A-25-Prevention-of-Pediatric-Consumption-of-Cannabis,-its-Derivatives-and-Synthetic-Cannabinoids.pdf
46. American Osteopathic Association. (2018). Cannabis reclassification: Effect on research (Resolution H628-A/2018). https://osteopathic.org/wp-content/uploads/past-resolutions/H628-A2018-CANNABIS-RECLASSIFICATION-EFFECT-ON-RESEARCH-SOMA-WITHACTION.pdf
47. American College of Medical Toxicology. (2025). ACMT position statement revision: Preventing cannabis exposures in children. https://www.acmt.net/news/acmt-position-statement-revision-preventing-cannabis-exposures-in-children/

About Laura Stack and Johnny's Ambassadors

Laura Stack is Johnny Stack's mom and the Founder & CEO of the nonprofit, Johnny's Ambassadors Youth THC Prevention. In the business world, Laura was known by her professional moniker, The Productivity Pro®. For over thirty years, she was a Hall-of-Fame professional speaker, corporate spokesperson for many major brands, and bestselling author of eight previous books on employee productivity.

On November 20, 2019, Laura suddenly acquired the undesired wisdom of knowing what it's like to lose one's child. Her nineteen-year-old son, Johnny, died by suicide after becoming psychotic from dabbing high-potency THC concentrates.

Laura's world took a one-eighty. She filed for and received 501(c)(3) nonprofit status for Johnny's Ambassadors, Inc., with the mission to educate teens, parents, and communities about the dangers of today's potent THC products (marijuana, dabs, vapes, edibles)—youth addiction, effects on adolescent brain development, and mental illness—through school assemblies, educational resources, and conference presentations. https://JohnnysAmbassadors.org

Laura wrote the bestselling book about Johnny's life and death story, *The Dangerous Truth About Today's Marijuana: Johnny Stack's Life and Death Story*. Her second volume on the subject, *The Impact of THC on Our Children: A Parent's Worst Nightmare*, amplifies the voices of other parents whose children have experienced cannabis-induced psychosis (CIP).

Described as a woman with unstoppable drive and unwavering purpose, Laura hopes to help other teens, parents, and all adults with teens in their lives by honestly and boldly sharing Johnny's story of his high-potency marijuana addiction, psychosis, and suicide.

The devastating loss of her child gives Laura a powerful voice and a platform for change. Laura sees it as her responsibility to share Johnny's warning to prevent other families from having to go through what she did and save other young lives from the harms of marijuana.

Laura now travels around the US with her husband, speaking at school assemblies and prevention conferences. Her platform brings education about youth THC use, mental illness, and suicide. She presents in-person and virtual keynotes, breakout sessions, and training for parents, teens, schools, anti-drug coalitions, communities, and healthcare and government agencies.

In July 2026, Laura testified at hearings conducted by the Drug Enforcement Administration for the US Department of Justice regarding the proposed rescheduling of all recreational marijuana. She spoke against it being moved from a Schedule I drug under the Controlled Substances Act to a Schedule III substance. Laura is the recipient of the Drug-Free America Foundation's Moxie Award

for protecting youth from substances, the Leadership in Advocacy Award from the National Speakers Association, and the American Association of Suicidology's Loss Survivor of the Year Award. Johnny's story has been told in *People Magazine*, *The New York Times*, *The Wall Street Journal*, and on *PBS* and *Dr. Phil*.

By sharing Johnny's own warning about marijuana, "Marijuana has ruined my mind and my life," Laura is determined to start a movement to bring teen marijuana use, mental illness, and suicide into the spotlight. There are now over 20,000 Johnny's Ambassadors around the world who share their stories and education to save others. Laura lives with her husband, John, in south Denver, Colorado, and has two surviving adult children and two grandsons.

Connect with Laura Stack and Johnny's Ambassadors

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Teacher portal:
https://JohnnysAmbassadors.org/teachers

Get help for a child using THC:
https://johnnysambassadors.org/parents

Speaking Inquiries (virtual and in person):
https://johnnysambassadors.org/speaking

Facebook public prevention group:
https://www.facebook.com/groups/JohnnysAmbassadors

Facebook private Parents of Children with Cannabis-Induced Psychosis (POCCIP) group:
https://www.facebook.com/groups/POCCIP

Facebook THC child loss group (by invitation only):
https://www.facebook.com/groups/thcdeath

LinkedIn:
https://www.linkedin.com/in/laurastack

YouTube:
https://www.youtube.com/johnnysambassadors

If you or someone you know is experiencing a mental health or substance use crisis, **call or text 988**. You can also chat via **988lifeline.org**. The 988 Suicide and Crisis Lifeline connects you with a trained crisis counselor who can provide free, confidential support. Help is available 24 hours a day, 7 days a week.

Individuals seeking treatment for mental health or substance use disorders can go to **FindTreatment.gov** or **call 1-800-662-HELP (4357)**. FindTreatment.gov is a free, anonymous resource that allows individuals to search for substance use and mental health facilities, health care centers, buprenorphine practitioners, and opioid treatment providers.

The State of Youth Marijuana Use aims to be the most comprehensive overview to date of youth marijuana use and related outcomes. In line with Johnny's Ambassadors' focus on education and prevention rather than advocacy, the report does not endorse or oppose specific marijuana policies. Instead, the report attempts to present data in a balanced way, allowing readers to come to their own conclusions and use the information however they choose.

Chapter 1 summarizes the latest trends in youth marijuana use, while Chapter 2 examines the risk and protective factors that underlie youth marijuana use. Chapter 3 explores the associations between youth marijuana use and non-substance outcomes, such as mental health, academic performance, and antisocial behavior. Chapters 4 and 5 highlight various health outcomes, including deaths and emergency department visits. Chapter 6 covers additional topics related to marijuana use, including arrests for the possession of marijuana, individuals driving under the influence of marijuana and public opinion. Chapter 7 reviews interventions that are focused on preventing the initiation of youth marijuana use and helping current users quit.

No single report can capture every aspect of youth marijuana use. Even so, we hope this resource will help parents, prevention professionals, advocates, and policymakers better understand the available evidence. Please support our efforts to improve the health and well-being of young people and their communities by preventing youth marijuana use.



About Laura Stack, Founder and CEO Johnny's Ambassadors Youth Cannabis Prevention

For 30 years, Laura Stack was best known in the business world as "The Productivity Pro." Her career as a keynote speaker, bestselling author of eight books, and corporate spokesperson came to a screeching halt on November 20, 2019, when her 19-year-old son, Johnny, died by suicide after becoming psychotic from dabbing high-THC marijuana concentrates. Laura responded by forming the nonprofit, Johnny's Ambassadors, to educate teens, parents, and communities about the dangers of today's high-THC cannabis products (marijuana, dabs, vapes, edibles) on youth addiction, adolescent brain development, and mental illness. Her platform now brings prevention education to drug prevention conferences, community groups, and schools to prevent youth cannabis use. Johnny's story has been told in *People Magazine*, the *New York Times*, the *Wall Street Journal*, the *Epoch Times*, the Ingraham Angle, the Untold Story with Martha MacCallum, and PBS. Laura is the recipient of the Drug-Free America Foundation's Moxie Award for protecting youth from substances, the Leadership in Advocacy Award from the National Speakers Association, and the American Association of Suicidology's Loss Survivor of the Year Award. Laura is a powerful speaker who brings Johnny's personal warning and solid research together in her book, *The Dangerous Truth About Today's Marijuana: Johnny Stack's Life and Death Story*.

Saving Our Youth from the Harms of Cannabis

Johnny's Ambassadors' mission is to educate parents, teens, and communities about the dangers of today's high-THC cannabis products on adolescent brain development, mental illness, and suicide.

Visit our website for
more information and resources

JohnnysAmbassadors.org