

Addressing Cannabis Use

Why is this important?

Did you know that approximately 44% of people will have tried marijuana by the time they are 18 years old and that now more youth are using marijuana than cigarettes? ¹

A lot of conflicting and confusing information exists today about cannabis or marijuana² which is also known by many other names.³ The public health and legal environments are rapidly changing and it is hard to keep up with the most current research, laws, and recommendations.

For an in-depth discussion about many aspects of marijuana use, please [click here](#) and/or listen to [Dr. Wilson Compton](#).

Our goal is to give you science-based information and tips you can use to have important conversations with your college student.



What should I know?

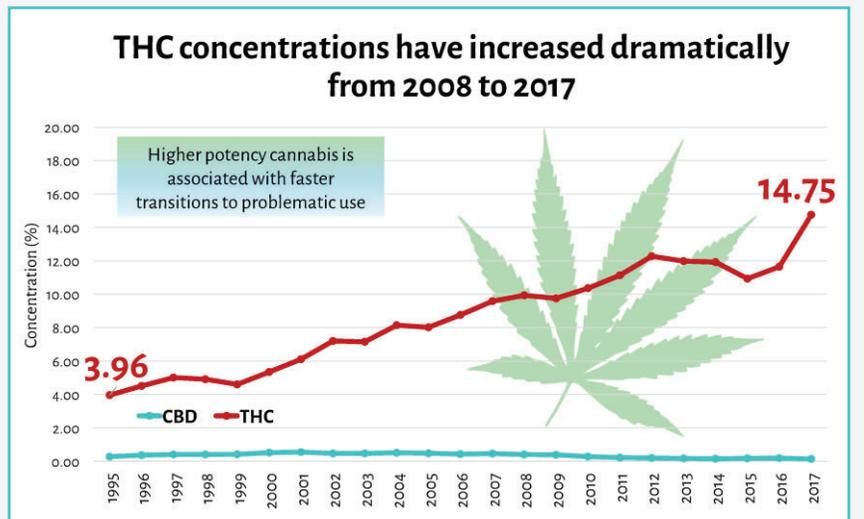
How does the potency of today's cannabis compare to that of the past?

Today's typical cannabis is a lot more potent and most likely carries greater risk than what was used in past generations

The strength of cannabis is measured by the tetrahydrocannabinol (THC) concentration. THC is the component in cannabis that gives the "high" feeling. The higher the THC concentration, the stronger the cannabis. THC levels have increased significantly in recent years (see figure below).⁴⁻⁵ Cannabis available today on average has about 5 times more THC than in previous decades. The levels of CBD (cannabidiol), the non-psychoactive component of cannabis (i.e., it does not produce a "high" feeling"), have remained mostly the same.

In states that have legalized the sale of cannabis, cannabis products can be purchased that contain as much as 90% THC. Therefore, young people who use cannabis today are exposed to much higher levels of THC than past generations. Higher potency can mean more acute reactions to the drug, a faster transition to addiction, and eventually worse health outcomes.⁵ Cannabis that is available to consumers, even "medicinal" marijuana, is not regulated by the U.S. Food and Drug Administration.⁶

The bottom line is that potency has increased. Because of this increased potency, many scientists believe cannabis used today carries a greater risk than the cannabis used in previous years.



Chandra S, Radwan MM, Majumdar CG, Church JC, Freeman TP, ElSohly MA. New trends in cannabis potency in USA and Europe during the last decade (2008-2017). *Eur Arch Psychiatry Clin Neurosci.* 2019;269(1):5-15.
ElSohly MA, Mehmedic Z, Foster S, Gon C, Chandra S, Church JC. Changes in cannabis potency over the last 2 decades (1995-2014): Analysis of current data in the United States. *Biol Psychiatry.* 2016;79(7):613-619.

Is cannabis addictive?

Cannabis is addictive and those who start early and/or use regularly have an increased risk of cannabis use disorder

It is possible to become addicted to cannabis. "Cannabis use disorder" is the term that health professionals use to describe the problems that people experience as a result of using cannabis. The criteria for this disorder are the same as those for other substance use disorders. Almost one third of all persons who used marijuana in the past year developed a cannabis use disorder.⁷ The risk of becoming addicted to marijuana increases when a person starts using at an earlier age, uses more often, uses higher amounts, or uses stronger marijuana.⁸ If you're interested in learning more about this disorder and how many people develop this disorder, please see the Resources section.

One major sign of cannabis use disorder is continued use despite negative consequences. Individuals with this disorder also spend a lot of time preoccupied with getting the drug, using the drug, or getting over the effects of the drug. Why does this happen? From scientific research studies, we know that the path to addiction is more than a problem with willpower. Over-use of a psychoactive substance changes the brain and can make it harder to experience the happiness that results from other rewarding experiences, like eating good food, exercising, spending time with family and friends, doing well in school, and simple things like watching a good movie. The positive feelings from these natural rewards are drained as drug use begins to be prioritized. The drug later becomes the main source of pleasure once the natural reward system is worn down.⁹ This can happen with cannabis use.

Signs your child might be experiencing cannabis withdrawal

- ▶ Increased feelings of nervousness
- ▶ Nausea
- ▶ Decreased hunger
- ▶ Difficulty sleeping
- ▶ Irritability
- ▶ Increased feelings of sadness and hopelessness

A step in the right direction is making efforts to stop using or even cut down how often the drug is used, with the intention of eventually stopping altogether. Sometimes when a person tries to stop or cut down cannabis use, they experience withdrawal and become irritable or nervous. A person who tries to cut down or quit might also have trouble sleeping, feel anxious, or have a decreased appetite. A longer duration and higher frequency of cannabis use often results in more severe withdrawal symptoms. If a person is dependent on cannabis, their withdrawal symptoms are typically more intense. Experiencing these withdrawal symptoms can frustrate a person and increase their desire to continue to use. Eventually, these symptoms will subside with continued abstinence, but sometimes a person will need help to quit altogether.¹⁰

What impact does cannabis have on academics?

Cannabis use can negatively impact academic performance and can have adverse consequences for personal and professional success in later adulthood

Regular cannabis use can negatively affect the parts of the brain involved in learning and memory, which are important for doing well in school and at work. This is especially true during college where students must learn a large amount of information in a short time. Cannabis use can also reduce a person's ability to concentrate and pay attention.

Using any kind of psychoactive substance, including cannabis, provides an immediate, but short-lived, pleasurable sensation. Regular use can reinforce this immediate reward.¹¹ As cannabis use becomes more and more regular, other activities and interests, and relationships that were once rewarding, can lose their value. A person becomes mainly focused on the immediate reward of getting and using the drug. Academic pursuits in college are challenging, require sustained focus, but carry long-term rewards. After a while, the immediate gratification from drug use can overtake one's academic motivation, leading to a loss of interest in school, and becoming disengaged.¹²

The end result is that cannabis use can reduce students' ability to complete assignments and projects. Research studies have linked marijuana use to skipping class during college and frequent marijuana users are more likely to have lower grade point averages than their classmates who do not use marijuana.¹³⁻¹⁴ In the long term, people who continue their regular cannabis use into later adulthood might decrease their chances of graduating, getting a good job and earning a decent salary.

What impact does cannabis have on mental health?

Cannabis can worsen and/or raise the risk of mental health problems

Regular cannabis use can contribute to the onset of mental health problems or worsen the symptoms of existing mental health disorders. It can increase the number of negative thoughts felt by those with anxiety and depression. It can also increase the risk of developing psychosis, depression, or suicidal thoughts.¹⁵⁻¹⁶

One common reason why young people report using cannabis is for relief from stress or feelings of anxiety. Feeling stress is a natural human response. It can help people stay motivated and solve problems in their daily lives. However, when there are too many stressors in a person's life or an event is particularly stressful, a person can feel overwhelmed. Using any psychoactive substance (including drinking alcohol or using cannabis) is not a healthy way to relieve stress. These substances only numb a person's uncomfortable feelings rather than help them manage them in a healthy way. Learning healthy ways to cope with stress and negative emotions as opposed to using cannabis can be very beneficial for young people and can help them practice skills to successfully meet the demands of adult responsibilities.

Healthy coping strategies are those that focus on reducing stress by addressing the stressors rather than avoiding them. For example, reaching out to others for support rather than withdrawing from friends would be a healthy coping strategy. Similarly, reframing a problem and identifying the potential positives would be a healthy coping strategy. In contrast, engaging in wishful thinking and hoping for a miracle to solve a problem rather than active problem solving would be an unhealthy coping strategy. Focusing on self-criticism and blaming oneself for the situation is another example of an unhealthy coping strategy. Additionally, getting enough sleep and exercise, and eating healthy foods are always important for providing the body with strength for coping with stressors.

As a parent, what should I do?

The guidance that might be most useful for you differs by the level of involvement with cannabis.

How would you describe your grown child's cannabis use?

I'm not sure if my child is using cannabis

Starting the conversation

- Start from a place of care and concern.
- Ask for permission to talk about it.
- Ask about possible opportunities to use cannabis (friends, situations, etc...).
- Set clear expectations around cannabis use and tell your child that your expectations and disapproval are the same for cannabis as they are for all other drugs.

Say  **something like this...**

"I'm worried about what goes on out there and I care about you. It would mean a lot to me if we could talk about this. Is that okay with you?"

"I want to be clear that I disapprove of cannabis use. I don't want you to become distracted by something that will take you away from what you want to achieve - in school, in your life and in your personal relationships with other people."

Focus on the positives

- Emphasize how important your child's health is to you, your family, and their friends.
- Discuss your child's natural gifts, accomplishments and how cannabis use might halt their progress, and be a barrier to success during college.

Offer your child support

- Offer a line of communication for when your child is feeling sad or distressed.
- Discuss healthy behaviors that help to alleviate the stressors of young adulthood. Healthy behaviors might include exercise, using social supports, talking about their stressors, relaxation techniques, seeking professional help...

Say  **something like this...**

"I am proud of what you have accomplished in life so far. You are important to us and I want you to make the most of your twenties. However, with added responsibilities, young adulthood can get extremely stressful. I would like to talk to you about how to deal with stress and your emotions in a healthy way. I want you to be able to handle whatever comes your way. Let's work together to find ways that work best for you."

- Discuss potential risky situations and brainstorm effective strategies for how to respond.

Say  **something like this...**

"I want to make sure you feel prepared in any situation. [Brainstorm risky situations that could come up.] Let's talk about what you can say or do if you find yourself in one of these situations."

Be a reliable source of information for your child and correct misinformation

- Discuss any family history of mental illness and addiction. Even without a family history, cannabis can increase the risk of developing a mental illness or worsen mental health problems.

Say  **something like this...**

"If you don't know, your relative struggled with alcohol use and it affected him, as well as the family, in this way. We might also be prone to an increased risk of..."

"Because we have family members who have had problems with addiction, we might have more risk than other people for developing an addiction/ it might be riskier for us than other people who don't have a family history of addiction./ I want you to have this information when you are making your decisions./so you can make informed choices-decisions"

"I don't know about all of our family members – some of them might have struggled with this stuff and we might never know."

- Talk about how there is a lot of misinformation on the internet and social media about cannabis.
- Emphasize the negative impacts of using cannabis that they might not have thought about (e.g., overdose vs. potentially serious impacts on academic success and personal achievement).

Say  **something like this...**

"I know there is a lot of misinformation on the internet about marijuana being a stress reliever and you might meet people who use marijuana to relax. However, using cannabis is not a healthy way to relieve stress."

"Cannabis is much stronger than it was when I was your age. Research shows that with this stronger cannabis people can become addicted and addicted faster and that it can be unhealthy for the brain, especially for people who might already feel anxious or sad."

"Eventually, this can cause people to lose interest in things that they really like to do. People may not even realize that they are spending a lot of time focused on their cannabis use."

My child uses cannabis, but I'm not sure how much or how often

Starting the conversation

- Remain calm and resist temptation to blame.
- Restate your expectations related to disapproval of cannabis use and all drugs.

Say  something like this...

"I want you to know that I am aware that you are using cannabis and I want to be clear that I disapprove of cannabis use. I just don't want you to become distracted by something that will take you away from what you want to achieve - in school, in your life and in your personal relationships with other people."

Focus on the positives

- Emphasize how important your child's health is to you, your family, and their friends.
- Discuss your child's natural gifts, accomplishments and how cannabis use might halt their progress, and be a barrier to success during college.

Offer your child support

- Offer a line of communication for when your child is feeling sad or distressed.
- Discuss healthy behaviors that help to alleviate the stressors of young adulthood. Healthy behaviors might include exercise, using social supports, talking about their stressors, relaxation techniques, seeking professional help...

Say  something like this...

"I am proud of what you have accomplished in life so far. You are important to us and I want you to make the most of your twenties. However, the responsibilities of young adulthood can get extremely stressful. I would like to talk to you about how to deal with stress and your emotions in a healthy way. I want you to be able to handle whatever comes your way. Let's work together to find ways that work best for you."

"Young adulthood can be a stressful time. I'm hearing you like to use cannabis because it helps you to calm down when you're stressed out. I want you to know that cannabis only provides short-term relief. It does not solve what might be actually causing your problems. However, we could discuss some healthier ways to cope with those stressful situations."

- Discuss potential risky situations and brainstorm effective strategies for how to respond.

Say  something like this...

"I want to make sure you feel prepared in any situation. [Brainstorm risky situations that have or could come up.] Let's talk about what you can say or do to avoid or remove yourself from these situations."

Be a reliable source of information for your child and correct misinformation

- Discuss any family history of mental illness and addiction. Even without a family history, cannabis can increase the risk of developing a mental illness or worsen mental health problems.

Say  something like this...

"If you don't know, your relative struggled with alcohol use and it affected him, as well as the family, in this way. We might also be prone to an increased risk of..."

"Because we have family members who have had problems with addiction, we might have more risk than other people for developing an addiction/ it might be riskier for us than other people who don't have a family history of addiction./ I want you to have this information when you are making your decisions./so you can make informed choices-decisions."

"I don't know about all of our family members - some of them might have struggled with this stuff and we might never know."

- Talk about how there is a lot of misinformation on the internet and social media about cannabis.
- Emphasize the negative impacts of using cannabis that they might not have thought about (e.g., overdose vs. potentially serious impacts on academic success and personal achievement).
- Emphasize that your child might never know the THC or CBD concentration or what else their cannabis products contain because the FDA does not regulate any sold products.
- State that the potency of cannabis might differ from product to product.
- Be sure to include how frequent use can increase the risk of developing a substance use disorder, worsen mental health outcomes, and impact their academic achievement.

Say  something like this...

"I know there is a lot of misinformation on the internet about marijuana being a stress reliever and you might meet people who use marijuana to relax. However, using cannabis is not a healthy way to relieve stress."

"Cannabis is much stronger than it was when I was your age. Research shows that with this stronger cannabis people can become addicted and addicted faster and that it can be unhealthy for the brain, especially for people who might already feel anxious or sad."

"Eventually, this can cause people to lose interest in things that they really like to do. People may not even realize that they are spending a lot of time focused on their cannabis use."

In a supportive, non-judgmental way gather information about their use patterns

- Ask how frequently your child is using cannabis and under what circumstances.

Say  something like this...

"Can you tell me how often and in what situations you use cannabis? How regularly?"

- Acknowledge stressors and attempt to redirect child to use healthy stress management tools instead of cannabis use.

Offer a challenge¹⁷

- Challenge your child to quit using cannabis for a brief period and see how it goes.
 - If they are able to stop using: Ask if/how life differed from before and discuss the pros and cons of using cannabis based on this experience.
 - If they are unable to stop using: Ask about what got in the way of stopping completely. Ask what types of situations/events trigger their desire to use. Discuss some solutions for how they could try again.
 - If they are unwilling to try to stop using: Ask about motivations for continued use. Ask them to discuss the pros and cons of use..

Say 
something
like this...

"I do not want your cannabis use to start impacting your health or other responsibilities in your life. I am here to help you. I want to challenge you to quit using cannabis for x number of days/weeks."

Seek treatment

- If you are worried about your child's safety, seek treatment from professional resources.

My child uses cannabis regularly

Starting the conversation

- Ask about possible opportunities to use cannabis (friends, situations, etc...).
- Set clear expectations around cannabis use and tell your child that your expectations and disapproval are the same for cannabis as they are for all other drugs.

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"I want to be clear that I disapprove of cannabis use. I just don't want you to become distracted by something that will take you away from what you want to achieve - in school, in your life and in your personal relationships with other people."

Focus on the positives

- Don't blame yourself. You are not alone in your situation and it's important for you to seek support for yourself as well.
- Emphasize how important your child's health is to you, your family, and their friends.
- Discuss your child's natural gifts, accomplishments and how cannabis use might halt their progress, and be a barrier to success during college.

Offer your child support

- Offer a line of communication for when your child is feeling sad or distressed.
- Discuss healthy behaviors that help to alleviate the stressors of young adulthood. Healthy behaviors might include exercise, using social supports, talking about their stressors, relaxation techniques, seeking professional help...

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"I am proud of what you have accomplished in life so far. You are important to us and I want you to make the most of your twenties. However, with added responsibilities, young adulthood can get extremely stressful. I would like to talk to you about how to deal with stress and your emotions in a healthy way. I want you to be able to handle whatever comes your way. Let's work together to find ways that work best for you."

"Young adulthood can be a stressful time. I'm hearing you like to use cannabis because it helps you to calm down when you're stressed out. I want you to know that cannabis only provides short-term relief. It does not solve what might be actually causing your problems. However, we could discuss some healthier ways to cope with those stressful situations."

"I want to take this opportunity to discuss how I am worried about you. Your cannabis use has become a problem. I am concerned that it is negatively impacting your mental health, your academic achievement, and how you go about your daily life. I have also noticed that you do not seem as happy as you once were. I have also noticed that you are continuing to use cannabis regardless of the negative consequences it is causing. I don't want you to feel isolated or helpless."

- Discuss potential risky situations and brainstorm effective strategies for how to respond.

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"I want to make sure you feel prepared in any situation. [Brainstorm risky situations that have or could come up.] Let's talk about what you can say or do to avoid or remove yourself from these situations."

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- Discuss any family history of mental illness and addiction. Even without a family history, cannabis can increase the risk of developing a mental illness or worsen mental health problems.

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"I don't know about all of our family members – some of them might have struggled with this stuff and we might never know."

- Talk about how there is a lot of misinformation on the internet and social media about cannabis.
- Emphasize that there are several factors that influence the risk of developing a substance use disorder. These factors include early initiation of use, the strength of the drug, the frequency of use, and certain genetic predispositions.
- Emphasize the negative impacts of using cannabis that they might not have thought about (e.g., overdose vs. potentially serious impacts on academic success and personal achievement).

Say 
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"I know there is a lot of misinformation on the internet about marijuana being a stress reliever and you might meet people who use marijuana to relax. However, using cannabis is not a healthy way to relieve stress."

"Cannabis is much stronger than it was when I was your age. Research shows that with this stronger cannabis people can become addicted and addicted faster and that it can be unhealthy for the brain, especially for people who might already feel anxious or sad."

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Offer a challenge¹⁷

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 - If they are able to stop using: Ask if/how life differed from before and discuss the pros and cons of using cannabis based on this experience.
 - If they are unable to stop using: Ask about what got in the way of stopping completely. Ask what types of situations/events trigger their desire to use. Discuss some solutions for how they could try again. Most of all, consider seeking outside help (e.g. treatment, counseling) as not being able to quit can be a symptom of cannabis use disorder.
 - If they are unwilling to try to stop using: Ask about motivations for continued use. Ask them to discuss the pros and cons of use. Consider seeking outside help (e.g. treatment, counseling).

Say  something like this...

"I do not want your cannabis use to start impacting your health or other responsibilities in your life. I am here to help you. I want to challenge you to quit using cannabis for x number of days/weeks."

Encouraging and facilitating treatment seeking

- Know that treatment for cannabis use disorder can be a long process and that change usually is not immediate.
- Discuss how the apathy associated with cannabis use can influence the desire to seek treatment..

Say  something like this...

"You might feel like treatment for your cannabis use is unnecessary. It might be possible for some people to stop using cannabis on their own. However, there are people that can help you. I would like you to talk to these people to find out what help you need so that you can stop using cannabis. I will help and support you in any way I can through the process."

Want to know more?

General Resources

- Adolescent Brain Development and Drugs ([RESEARCH ARTICLE](#))
- Center for Adolescent Substance Abuse Research (CASAR) ([RESEARCH CENTER](#))
- Counseling Parents and Teens About Marijuana Use in the Era of Legalization of Marijuana ([CLINICAL REPORT](#))
- FDA Regulation of Cannabis and Cannabis-Derived Products, Including Cannabidiol (CBD) ([REGULATION](#))
- Partnership to End Addiction ([ORGANIZATION](#))
- U.S. Surgeon General's Advisory: Marijuana Use and the Developing Brain ([ADVISORY](#))

Cannabis Use Disorder

Criteria for Cannabis Use Disorder

- Diagnostic criteria for Cannabis Use Disorder (CUD), as well as Cannabis Withdrawal, are defined by the American Psychiatric Association.¹⁸

Diagnostic Criteria: Cannabis Use Disorder

- A. A problematic pattern of cannabis use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:
1. Often taken in larger amounts or over a longer period than was intended.
 2. A persistent desire or unsuccessful efforts to cut down or control use.
 3. A great deal of time is spent in activities necessary to obtain, use, or recover from its effects.
 4. Craving, or a strong desire or urge to use.
 5. Recurrent use resulting in a failure to fulfill major role obligations at work, school, or home.

Severity

- 2 - 3 symptoms ▶ Mild
- 4 - 5 symptoms ▶ Moderate
- 7+ symptoms ▶ Severe

Continued on next page...

6. Continued use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects.
7. Important social, occupational, or recreational activities are given up or reduced because of use.
8. Recurrent use in situations in which it is physically hazardous.
9. Continued use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by use.
10. Tolerance, as defined by either of the following:
 - a. A need for markedly increased amounts of cannabis to achieve intoxication or desired effect.
 - b. Markedly diminished effect with continued use of the same amount of cannabis.
11. Withdrawal, as manifested by either of the following:
 - a. The characteristic withdrawal syndrome for cannabis (refer below to Criteria A and B of the criteria set for cannabis withdrawal.)
 - b. Cannabis (or a closely related substance) is taken to relieve or avoid withdrawal symptoms.

Diagnostic Criteria: Cannabis Withdrawal

- A. Cessation of use that has been heavy and prolonged (i.e., usually daily or almost daily use over a period of at least a few months).
- B. Three (or more) of the following signs and symptoms develop within approximately 1 week after Criterion A (cessation of heavy and prolonged use):
 1. Irritability, anger, or aggression.
 2. Nervousness or anxiety.
 3. Sleep difficulty (e.g., insomnia, disturbing dreams).
 4. Decreased appetite or weight loss.
 5. Restlessness.
 6. Depressed mood.
 7. At least one of the following physical symptoms causing significant discomfort: abdominal pain, shakiness/tremors, sweating, fever, chills, or headache.
- C. Signs or symptoms of Criterion B cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- D. Signs or symptoms are not attributable to another medical condition and are not better explained by another mental disorder, including intoxication or withdrawal from another substance.

Trends in Cannabis Use Disorder

For more information on cannabis use disorder trends, please refer to the following research articles.

Marijuana Use, Recent Marijuana Initiation, and Progression to Marijuana Use Disorder Among Young Male and Female Adolescents Aged 12-14 Living in US Households [\(ARTICLE\)](#)

 Key finding: Approximately 17% of past year marijuana users ages 12-14 developed marijuana use disorder (MUD) within a year of their first use.

Higher Average Potency Across the United States is Associated with Progression to First Cannabis Use Disorder Symptom [\(ARTICLE\)](#)

 Key finding: There is evidence that use of higher potency cannabis places users at increased risk of developing cannabis use disorder (CUD).

DSM-5 Cannabis Use Disorder in the National Epidemiologic Survey on Alcohol and Related Conditions-III: Gender-Specific Profiles [\(ARTICLE\)](#)

 Key finding: Women might have faster progression to cannabis use disorder (CUD) after use compared with men.

Notes and References

1. Schulenberg JE, Johnston LD, O'Malley PM, Bachman JG, Miech RA, Patrick ME. *Monitoring the Future national survey results on drug use, 1975-2019: Volume II, college students and adults ages 19-60*. Ann Arbor: Institute for Social Research, University of Michigan; 2020. [Available online.](#)
2. We recognize that "cannabis" is the scientific name for the plant and that many people still use the term "marijuana" in surveys to understand patterns of use, scientific publications and resources including those that are provided by the National Institute on Drug Abuse. On this page we have chosen to use the term cannabis, but when study findings are reported, we will use the term used in that particular study. No matter what term(s) are used, it is important for parents to be informed and to have conversations with their grown children. We welcome your thoughts and feedback about this page and how to improve it.
3. Examples of other names include weed, pot, hash, blunt, grass, joint, reefer, and skunk.
4. Chandra S, Radwan MM, Majumdar CG, Church JC, Freeman TP, ElSohly MA. New trends in cannabis potency in USA and Europe during the last decade (2008-2017). *Eur Arch Psychiatry Clin Neurosci*. 2019;269(1):5-15. [Available online.](#)
5. ElSohly MA, Mehmedic Z, Foster S, Gon C, Chandra S, Church JC. Changes in cannabis potency over the last 2 decades (1995-2014): analysis of current data in the United States. *Biological Psychiatry*. 2016;79(7):613-619. [Available online.](#)
6. See [FDA Regulation of Cannabis and Cannabis-Derived Products, Including Cannabidiol \(CBD\)](#).
7. Hasin DS, Saha TD, Kerridge BT, Goldstein RB, Chou SP, Zhang H, Jung J, Pickering RP, Ruan WJ, Smith SM, Huang B, Grant BF. Prevalence of marijuana use disorders in the United States between 2001-2002 and 2012-2013. *JAMA Psychiatry*. 2015;72(12):1235-1242. [Available online.](#)
8. Ramesh D, Schlosburg JE, Wiebelhaus JM, Lichtman AH. Marijuana dependence: not just smoke and mirrors. *ILAR J*. 2011;52(3):295-308. [Available online.](#)
9. Volkow ND, Wise RA, Baler R. The dopamine motive system: implications for drug and food addiction. *Nat Rev Neurosci*. 2017;18(12):741-752. [Available online.](#)
10. Bonnet U, Preuss UW. The cannabis withdrawal syndrome: current insights. *Subst Abuse Rehabil*. 2017;8:9-37. [Available online.](#)
11. DuPont RL. *Chemical slavery: Understanding addiction and stopping the drug epidemic*. Rockville, MD: Institute for Behavior and Health; 2018.
12. Arria AM, Barrall AL, Allen HK, Bugbee BA, Vincent KB. The academic opportunity costs of substance use and untreated mental health concerns among college students. In: Cimini MD, Rivero EM, eds. *Promoting Behavioral Health and Reducing Risk Among College Students: A Comprehensive Approach*. New York: Routledge; 2018:3-22.
13. Arria AM, Caldeira KM, Bugbee BA, Vincent KB, O'Grady KE. The academic consequences of marijuana use during college. *Psychol Addict Behav*. 2015;29(3):564-575. [Available online.](#)
14. Suerken CK, Reboussin BA, Egan KL, Sutfin EL, Wagoner KG, Spangler J, Wolfson M. Marijuana use trajectories and academic outcomes among college students. *Drug Alcohol Depend*. 2016;162:137-145. [Available online.](#)
15. Hall W, Degenhardt L. Cannabis use and the risk of developing a psychotic disorder. *World Psychiatry*. 2008;7(2):68-71. [Available online.](#)
16. Bonn-Miller MO, Moos RH. Marijuana discontinuation, anxiety symptoms, and relapse to marijuana. *Addict Behav*. 2009;34(9):782-785. [Available online.](#)
17. Adapted from Ryan SA, Ammerman SD, Gonzalez PK, Patrick SW, Quigley J, Walker LR, AAP Committee on Substance Use, Prevention. Counseling parents and teens about marijuana use in the era of legalization of marijuana. *Pediatrics*. 2017;139(3):e20164069. [Available online.](#)
18. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders: DSM-5*. Arlington, VA: American Psychiatric Publishing; 2013.