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# Preventing Youth Marijuana Use

Saving Our Youth from the Harms of Marijuana



**JOHNNY'S**  
AMBASSADORS

*Distributed by*  
**Johnny's Ambassadors**  
**Youth Marijuana**  
**Prevention Nonprofit**

# Marijuana Facts



**Cannabis** is a genus with different plant species. These species contain hundreds of different chemicals called “cannabinoids.”



**THC** stands for delta-9-tetrahydrocannabinol and is the most common cannabinoid in the cannabis plant. It is psychoactive, meaning it affects your mind. This gives users a high feeling.



**Marijuana** is a variety of cannabis that contains greater than .3% THC and is used to make drugs. THC comes from marijuana and is psychoactive.



**CBD** stands for cannabidiol and is the second most common cannabinoid in the cannabis plant. It is not psychoactive by itself, but delta-8-THC can be created chemically from CBD and is psychoactive.



**Hemp** is a variety of cannabis that contains less than .3% THC and is used to make paint, rope, and paper.

## QUESTION:

Why are the terms “cannabis” and “marijuana” not interchangeable?

## REFLECT



# THC Potency

Many people think marijuana is safe, but there are real risks.

Old-school marijuana (before you were born) contained 2–5%\* THC. Today's marijuana has been cultivated to be much stronger, 15–30%\* THC and sometimes more (it's like smoking several old-school joints at one time).

Old-school marijuana used to contain equal amounts of CBD and THC, which was a protective factor. Today's marijuana contains almost no CBD, just THC.

Today's chemists invented new marijuana products that didn't exist in the past. Raw THC is extracted from marijuana using a machine and turned into concentrates. These products, such as wax, shatter, and crystal (called *dabs*), can be 60–99%\* pure THC.

Extracted THC can be further distilled into oils, which can be 80–99%\* pure. These oils can be vaped or put into edibles. Marijuana might start as a plant, but these products are created in a lab, and there's nothing natural about them!

Marijuana is a very different drug than it used to be—it's like comparing apples to oranges. Many plants, such as poison ivy, arsenic, hemlock, and marijuana, aren't safe and can hurt you, which is why we don't mess with them!

*\*THC percentages are based on samples seized by the DEA and current marijuana products available in dispensaries.*



**FACT:**  
ALL marijuana products today, whether flower, dabs, vapes, or edibles are **HIGH POTENCY** (over 10% THC) and **UNSAFE**. There are **NO** studies that indicate today's high-potency marijuana products are healthy for youth.

**QUESTIONS:** All the research done on youth marijuana use has proven it's harmful and no studies of today's high-potency marijuana have shown any benefit for youth. Does this worry you? Are you willing to roll the dice with your brain and your future?

**REFLECT**



# The Endocannabinoid System

Recently, researchers studied how the THC in marijuana makes people high. They found the receptors it binds to and named them the Cannabinoid-1 (CB1) receptor in the nervous system and the Cannabinoid-2 (CB2) receptor in the immune system. Our brains are rich in CB1 receptors, which control central nervous system functions such as pain, sleep, metabolism, and movement.

We have an internal endocannabinoid in our bodies called anandamide. This is the brain's natural feel-good chemical, which naturally binds with our receptors. It is released after running, for example, which is often called the runner's high. Anandamide is also found in chocolate!

THC and anandamide molecules aren't exactly the same, but THC is close enough to TRICK THE BRAIN into letting it bind to the CB1 receptors! When THC gets into the brain, it interferes with our normal bodily functions. Teens who use marijuana may have attention deficits, memory loss, and impaired learning ability. When your brain is forming, marijuana use can change its structural development, causing changes in the prefrontal cortex. You want your brain to function and develop the way it's supposed to!

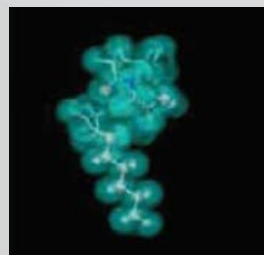
Research: [www.ncbi.nlm.nih.gov/pmc/articles/PMC4789136](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4789136)

**CB1 RECEPTORS = Nervous System**

**BRAIN  
RETINA  
SPINAL CORD  
LUNG  
HEART  
REPRODUCTIVE SYSTEM**

**CB2 RECEPTORS = Immune System**

**DIGESTION  
LIVER  
BONES  
SPLEEN  
COLON  
PANCREAS**



ANANDAMIDE



DRUG - THC

## QUESTION:

Why are attention, memory, and learning important to your future career goals?

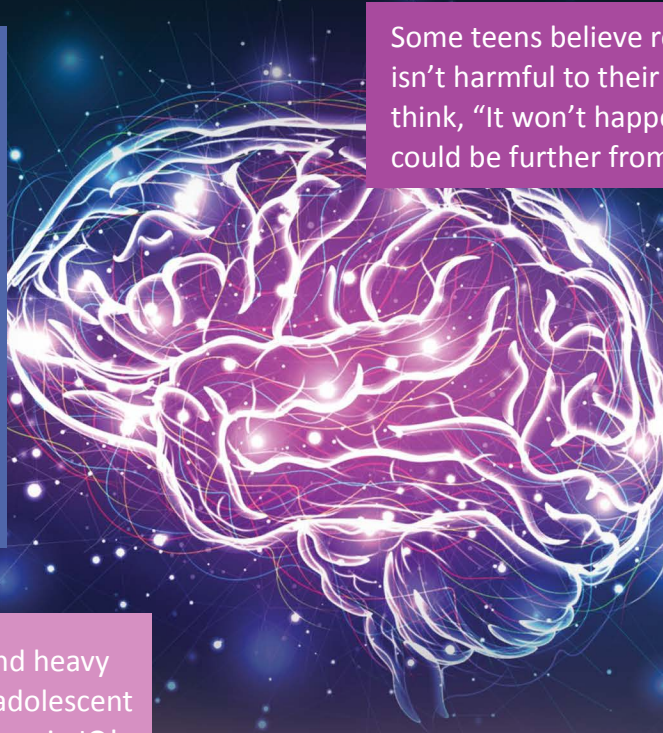
## REFLECT



# Teen Brain Development

It's illegal for youth under 21 years old to use marijuana because your brain is still forming. The human brain continues to grow until age 25 for females and up to age 30 for males. Anything that interferes with brain programming can lead to cognitive, emotional, and mental health problems.

Some teens believe regular cannabis use isn't harmful to their mental health or think, "It won't happen to me." Nothing could be further from the truth!



In one study, researchers performed MRI scans on the brains of 799 youth ages 14 and 19. The more these teens used marijuana, the thinner their prefrontal cortex became. Without all your brainpower available, your ability to make decisions when you get older will be impacted.

Researchers also found heavy marijuana use as an adolescent predicts an 8-point drop in IQ! So, if you are an A student, that is a C. If you are a C student, that is an F.

When your brain doesn't form correctly, you won't have all the brainpower you would have had to make good decisions as an adult, and your career opportunities could be limited.

**QUESTION:** How comfortable are you knowing that using marijuana is literally causing damage to your brain?

**REFLECT**

Research links:  
[jamanetwork.com/journals/jamapsychiatry/fullarticle/2781289](http://jamanetwork.com/journals/jamapsychiatry/fullarticle/2781289)  
[www.pnas.org/content/109/40/E2657](http://www.pnas.org/content/109/40/E2657)



# MARIJUANA Addiction & Dependence

“I would never get addicted to marijuana.” Contrary to common belief, you CAN become addicted to marijuana, which medical professionals call Cannabis Use Disorder (CUD). One out of six teens who start using marijuana at a young age will become addicted to it, and one in three teens who use marijuana daily will become addicted.

**If you are using marijuana, how do you know if you are addicted?**

**Ask yourself these questions. Do you:**

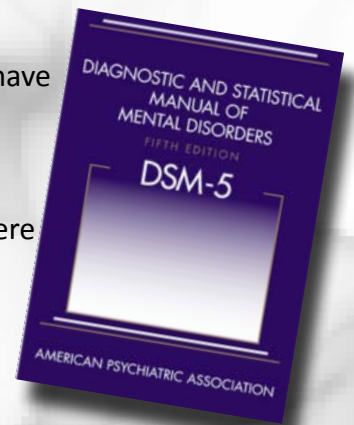
1. Use marijuana longer than you meant to?
2. Try to cut back but can't?
3. Spend a lot of time getting, using, and recovering from marijuana?
4. Crave marijuana and want to use it all the time?
5. Skip school or miss work because you're high?
6. Keep using marijuana, even when it causes problems in your life?
7. Stop doing activities you used to enjoy?
8. Use marijuana, even when you feel sick?
9. Keep using, even when you have physical or mental problems from it?
10. Have to use more marijuana to feel as high as you used to?
11. Feel bad when you attempt to stop?

W. Hall and L. Degenhardt, "Adverse Health Effects of Non-Medical Cannabis Use," *Lancet* 374 (2019): 1383-1391.

**According to the American Psychiatric Association (APA), as listed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), if you answered YES:**

- To two or three of these questions, you have a mild addiction.
- To four or five questions, you have a moderate addiction.
- To six or more questions, you have a severe addiction.

The good news is it's never too late to get help! Talk with a parent, counselor, teacher, or trusted adult and tell them you are having problems with your marijuana use and wish to stop!



**QUESTIONS:** When you feel uncomfortable, what could you do to feel better instead of using a chemical? What do you usually do when you're happy? How can doing things that make you happy help you feel better when you're sad?

**REFLECT**









# Short-Term Long-Term







# Effects




When you use marijuana, some things happen to you in the short term, and if you keep using it, more things can happen in the long term. Short-term effects of marijuana include:


-  Lethargy
-  Impaired coordination and balance
-  Slurred speech
-  Increased heart rate
-  Poor decision making
-  Anxiety and panic attacks


**Possible death.** While overdosing on marijuana won't stop your breathing, it does kill people indirectly by:


-  Increased car crashes from driving high, which causes slowed reaction time
-  House fires from people trying to make homemade marijuana concentrates
-  Increased thoughts of suicide
-  Non-stop vomiting, called cannabinoid hyperemesis syndrome, which causes your organs to shut down from dehydration

Long-term effects on youth who use marijuana include:

 **Brain impacts.** Teens who use marijuana have impaired cognition and memory problems. They also have lower graduation rates and lower IQ. Marijuana can cause permanent IQ loss of as much as eight points when people start using it at a young age. These IQ points do not come back, even after quitting marijuana.

 **Poor life outcomes.** Using marijuana can affect performance and how well people do in life. Research shows that people who use marijuana are more likely to have relationship problems, worse educational outcomes, lower career achievement, and reduced life satisfaction.

 **Mental health issues.** Studies link marijuana use to depression and anxiety. Marijuana use can also cause delusional thinking and psychosis, which can lead to permanent schizophrenia, bipolar disorder, and other mental illnesses. Marijuana use is also correlated with an increase in suicidal thinking, suicide attempts, and suicide.

 **Overdoses.** It is possible to overdose with today's dangerously high THC products. Dr. Karen Randall, an emergency room physician in Pueblo, Colorado, says she sees teens in the ER with acute psychotic episodes, poisonings, and uncontrollable vomiting as a result of using too much THC.

**QUESTION:** Are you willing to "roll the dice" and possibly experience these negative outcomes on your brain and your life?

REFLECT

Research: [www.samhsa.gov/marijuana](http://www.samhsa.gov/marijuana)



# TOP TEN MARIJUANA MYTHS

- 1. You can't get addicted to marijuana.** Studies show 17% of adolescents who use marijuana become addicted, and 50% of daily users become addicted. [www.ncbi.nlm.nih.gov/pmc/articles/PMC4827335/pdf/nihms762992.pdf](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4827335/pdf/nihms762992.pdf)
- 2. Marijuana can't lower your intelligence.** Heavy marijuana exposure starting in adolescence predicts an 8-point drop in IQ. [doi.org/10.1073/pnas.1206820109](https://doi.org/10.1073/pnas.1206820109)
- 3. Marijuana won't increase the odds of you using other drugs.** Adolescent marijuana users are 2.5 times more likely to abuse prescription opioids. [www.ncbi.nlm.nih.gov/pmc/articles/PMC3552239/pdf/nihms388189.pdf](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3552239/pdf/nihms388189.pdf)
- 4. Marijuana makes you a better driver.** Marijuana decreases your reaction time, motor coordination, and driving skills. [www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812440-marijuana-impaired-driving-report-to-congress.pdf](http://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812440-marijuana-impaired-driving-report-to-congress.pdf)
- 5. Students who use marijuana are less likely to drop out of school.** Young people who use cannabis are at an increased risk of poor academic performance and dropping out of school. [pubmed.ncbi.nlm.nih.gov/11219366](https://pubmed.ncbi.nlm.nih.gov/11219366)
- 6. Marijuana can't cause mental illness.** Marijuana use can increase your risk of psychosis and schizophrenia four-fold. [www.ncbi.nlm.nih.gov/pmc/articles/PMC4988731](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4988731)
- 7. Your fertility rates can't drop if you use marijuana.** Marijuana can reduce fertility due to decreased sperm counts and delayed ovulation. [pubmed.ncbi.nlm.nih.gov/26283092](https://pubmed.ncbi.nlm.nih.gov/26283092)
- 8. You'll feel more motivated to do things if you use marijuana.** Long-term marijuana users have lower levels of dopamine and are less ambitious and motivated. [www.sciencedaily.com/releases/2016/09/160901211303.htm](http://www.sciencedaily.com/releases/2016/09/160901211303.htm)
- 9. Smoking marijuana is not harmful to your health.** Marijuana smoke can cause symptoms of chronic bronchitis, a heavy cough, and lung irritation. [www.drugabuse.gov/publications/research-reports/marijuana/what-are-marijuanas-effects-lung-health](http://www.drugabuse.gov/publications/research-reports/marijuana/what-are-marijuanas-effects-lung-health)
- 10. Marijuana can't kill you.** People have died from cannabinoid hyperemesis syndrome (CHS), characterized by uncontrollable vomiting. [pubmed.ncbi.nlm.nih.gov/29768651](https://pubmed.ncbi.nlm.nih.gov/29768651)

## QUESTION:

Which one of your beliefs about marijuana was changed by this information?

## REFLECT

