

No More Reefer Madness: The Scientific Impacts of Youth THC Use

In recent years, THC levels in marijuana have been rising. This isn't the hippie weed some people remember from the 1960s. It's lab-designed, potent, and dangerous for the developing brains of our children. Doctors say this new, high-potency marijuana is responsible for a growing number of psychotic episodes among teenage users. I would know. Our 19-year-old son, Johnny, died by suicide after becoming psychotic from dabbing high-THC marijuana concentrates.

From new research, we know that youth THC use is associated with increased:

- Adolescent Brain Changes
- Anxiety Disorders
- Suicide
- Schizophrenia
- Depression Severity in Adolescents
- Hospital Visits for Substance-Related Causes

This article will provide a few research examples, and a full database is available at <https://JohnnysAmbassadors.org/research>.

Cannabis Use Changes the Developing Brain in Adolescents

Many parents and their children perceive marijuana as safe. After all, the drug is getting legalized across the United States, and many assume that all it did in years past was make users giddy.

The problem is that today's marijuana isn't like it was in years past. According to the [Potency Monitoring Project](#) out of the University of Mississippi, over the past 50 years, the average amount of THC in the marijuana plant has increased more than tenfold. Some marijuana products have even [higher, more dangerous potencies](#). This concentrated form of the drug is especially harmful to the adolescent brain, as shown by an article published in January 2024 in *ScienceNews*.

Written by biomedical writer Aimee Cunningham, who holds an MA in science journalism from New York University, the article cites multiple studies about the effects of today's high-potency marijuana on the teenage brain.

Cunningham writes about what happens when people use Delta-9-tetrahydrocannabinol, the psychoactive component in marijuana (also known as THC). THC binds to cannabinoid receptor 1 (CB1), a receptor in the body. This receptor, which affects organ development and the regulation of anxiety, pain, and memory, is known to cause structural changes in the developing brains of young adults.

The article also cites several studies about the dangers of marijuana use, just some of which found:

- An association between a [thinning of the prefrontal cortex](#) and adolescent cannabis use across 6 years
- A recent [13-fold increase in emergency department \(ED\) visits for cannabis hyperemesis syndrome \(CHS\)](#), where high-potency cannabis use leads to stomach pain, nausea, and repeated vomiting
- The main reasons high school seniors try cannabis are related to [coping with stress and anger](#)
- Cannabis users aged 12–17 were [twice as likely to develop depression or have suicidal ideation](#)

Cunningham includes links to many other studies, which link marijuana with increased risks of psychosis, cannabis dependency, using other drugs, and more.

Only 35% of teenagers think that casually smoking marijuana poses a great risk of harm. This indicates a need for greater awareness, so teens understand that using THC is neither casual nor the solution to their problems—it can devastate their future.

To read the full article, [visit this page](#).

Cannabis Use is Associated with the Development of Anxiety Disorders

Can cannabis cause users to develop anxiety disorders?

That's what researchers set out to discover in a study published in *eClinicalMedicine*, an open access journal from *The Lancet*. The answer was a certain yes.

Published in February 2024, the study was written by seven researchers—including Daniel T. Myran (a professor at the University of Ottawa and a physician practicing family medicine with an interest in addiction medicine); Lyndsay D. Harrison (a research coordinator at the Manitoba Centre for Health Policy at the University of Manitoba); and Michael Pugliese (a clinical research coordinator at the University of Ottawa).

Specifically, these researchers were interested in seeing whether individuals who had gone to the emergency department (ED) for cannabis use were at risk for an unexpected healthcare visit for an anxiety disorder. To do so, they studied healthcare data on more than 12 million residents of Ontario, Canada from 2008–2019. The individuals were of all ages, from 10 to 105, and all individuals had no previous healthcare visits for anxiety disorders.

Of the group studied, 2%—34,822 people—had an ED visit due to cannabis. Within three years of that visit, around 12% of that group—2,494 people—had a healthcare visit or hospitalization for an anxiety disorder. The researchers found that the risk of visiting the ED for an anxiety disorder was indeed higher in people who had ED visits for cannabis use compared to the general population, and that younger males were seen to be at a greater risk for these healthcare visits or hospitalizations.

At the time of this published post, this study is the largest assessment of the longitudinal relationship between cannabis use and anxiety.

Considering how popular [cannabis use is among teens](#) and the drug's clear dangers on mental health, it's critical to spread awareness about the full impact of using cannabis.

To read about this study in more detail, [visit this page](#).

Cannabis Accessibility by Legalization is Associated with Increased Suicide

In the United States, [suicide rates have increased](#) by around 36% within the past two decades. And researchers have [linked marijuana use with suicidal ideations, plans, and attempts](#).

It's no surprise, then, that researchers are now looking into whether changing marijuana policies are influencing suicide rates, particularly in teens.

In March 2024, a study was published exploring this very topic in the peer-reviewed *Journal of the American Academy of Child & Adolescent Psychiatry*. Eight authors contributed to the study—including Christopher J. Hammond, an assistant professor at Johns Hopkins University and the director of the university's Center for Adolescent Substance Abuse and Prevention, as well as J. Madison Hyer, principal biostatistician at the Center for Biostatistics at The Ohio State Wexner Medical Center.

The authors pulled nearly 20 years of data from records on all deaths occurring in the United States, from 2000–2019. These were compiled by state vital records offices and the National Center for Health Statistics. Examining the death records of people aged 12–25, the authors looked for associations between medical marijuana legalization, recreational marijuana legalization, and suicide-related deaths. What they found was that in states where legalization had occurred, there were higher suicide-related deaths—particularly for female youth, and for youth of both sexes aged 14–16.

The authors, who are calling for more related studies and for their work to inform legislative reform, aren't the only ones highlighting the dangers of cannabis. Among many other medical professionals, Dr. Frances R. Levin—director of Columbia University's Division of Substance Use Disorders—has also [noted the strong adverse effects of cannabis on teens](#). "Having depression or suicidality," says Dr. Levin, "may drive teens to use cannabis as a way to relieve their suffering." But tragically, using cannabis "likely worsens depressive and suicidal symptoms."

To read about the study in more detail, [visit this page](#).

Cannabis Use is Associated with Increased Rates of Schizophrenia

Clinicians and researchers across the world rely on the Diagnostic and Statistical Manual of Mental Disorders (DSM) for criteria to diagnose mental disorders. And despite increased public acceptance of cannabis over the years, in 2013, authors of the DSM recognized the drug's dangers by adding to the manual [cannabis use disorder](#) (CUD), a dangerous addiction to cannabis.

In May 2023, researchers published a study on CUD in *Psychological Medicine*, a peer-reviewed international journal published by Cambridge University Press. Carsten Hjorthøj, research leader at the Copenhagen Research Center for Mental Health, among eight other researchers, set out to examine whether CUD may be linked to schizophrenia, and if it was, whether that link varied by sex and age. They studied databases on the Danish population, looking at the health records of 7 million people aged between 16–49 from 1972–2021.

And the researchers did find a link between CUD and schizophrenia. They discovered that young males in particular were more susceptible to the effects of cannabis on schizophrenia. In 2021, among males, 15% of schizophrenia cases were attributable to CUD, compared to 4% among females. Up to 30% of schizophrenia cases in males aged 21–30 could've been prevented had they just not developed a cannabis addiction. The researchers claimed their results might even be "conservative" conclusions, considering they studied only cases of CUD and schizophrenia that had been diagnosed.

So many records were used in this study, which means the results are highly generalizable to any populations exposed to the same kinds of cannabis available on the Danish market. This isn't the first

study to suggest [a link between these two mental disorders](#), either. That's why it's so important for doctors to proactively screen for and detect CUD, especially in young males. It could save their lives from disaster.

To read the full study, [visit this page](#).

Cannabis Use is Associated with Increased Depression Severity in Adolescents

Over recent years, people in the United States have become more aware of the nation's mental health crisis. And there's been a lot of concern surrounding mental health and American youth in particular, considering that [11%–17% of teens in the country experience major depression in their lives](#), putting them at a [higher risk of suicide](#).

The National Comorbidity Survey—Adolescent Supplement shed more light on this issue. This was a large-scale study conducted from 2001–2004 that studied 10,000 American teenagers to see how frequently they experienced mental health disorders.

Recently, a group of researchers used data from that study to explore whether there was a link between cannabis use and suicidal behavior. The authors of this study included Jesse D. Hinckley and Susan K. Mikulich-Gilbertson, professors of psychiatry specializing in substance abuse at the University of Colorado School of Medicine, along with six other researchers.

Like many studies, their findings revealed that teen cannabis use is indeed linked to an increased risk of depression and suicide. Teenagers who had used marijuana at any point in their lives were at least twice as likely to have mild or moderate depression, and at least three times as likely to have severe depression. And the more marijuana a teen had used in the past 12 months, the higher their risk of attempting suicide and having more severe depression.

[There's a push to legalize cannabis nationwide](#), so it's urgent to make sure teens know the dangers of using this drug. "Just trying it once" can have devastating, irreversible effects on their mental health. The authors' findings were published in June 2023 in the peer-reviewed *Journal of the American Academy of Child and Adolescent Psychiatry*.

To read the full study, [visit this page](#).

Cannabis Use is Associated with Increased Visits to Children's Hospitals for Substance-Related Visits

A March 2024 study published in the *Journal of Adolescent Health* is shedding light on a troubling trend: a significant increase in visits to children's hospitals for substance-related issues.

The study's authors—who include Alexis Ball of Seattle Children's Hospital and Scott Hadland of MassGeneral Hospital for Children—examined data from the Pediatric Health Information System database, which has records from over 49 children's hospitals across the United States. The authors analyzed visits from youth aged 12–21 between 2016 and 2021, focusing on cases related to substance use, dependence, and overdoses.

In analyzing the 106,793 visits involving 84,632 kids, the authors discovered a staggering 47.9% increase in substance-related visits to children's hospitals over a five-year period. "Cannabis accounted for the

largest percentage of visits,” the authors wrote. Over half (52.2%) of all substance-related visits involved cannabis, and this number grew the most compared to other visits, by 82.4%.

This trend aligns with other recent research, like the 2021 National Survey on Drug Use and Health. This survey found that [many teens underestimate the risks of using cannabis](#). Only 35% of 12- to 17-year-olds surveyed thought that smoking marijuana once or twice a week was dangerous. That might reveal why they’re using the drug more.

Marijuana isn’t “just a plant.” Teens need to know that cannabis can have [lasting health consequences](#), especially in developing brains. That’s why authors of the study call for increased investment in programs and resources to address the rise in teen substance use. Raising awareness about the full scope of dangers associated with cannabis is so important to protect the health and well-being of our youth.

To read the full study, [visit this page](#).

It’s important we all do our part to sound the alarm and help educate others about the harms of youth THC use. Johnny’s Ambassadors Youth THC Prevention currently has 1,600+ Parents of Children with Cannabis-Induced Psychosis (POCCIP) in our private support group, who personally know these negative outcomes. If you are concerned about your child’s THC use, please reach out to Laura Stack at Laura@JohnnysAmbassadors.org.