

SPECIAL REPORT | **ADHD and SUBSTANCE ABUSE**

# ADHD & RECREA

## *What's the Attraction?*

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# TIONAL MARIJUANA

**T**HE PERCEPTION that marijuana is therapeutic for ADHD continues to increase in popularity. Anecdotes from people with ADHD who feel that recreational cannabis use provides therapeutic benefits are common. There is little clinical research to support these claims, however.

Despite an absence of research, there is much chatter online. A relatively recent study looked at the content of online forum threads on ADHD and marijuana use. At least three times as many comments advocated for its therapeutic effects on ADHD compared to comments that cannabis was either harmful, was both therapeutic and harmful, or had no effect on ADHD. (These findings were specific to ADHD. They did not generalize to mood, non-ADHD psychiatric conditions, or general quality of life.)

The study concluded that comments favoring therapeutic effects mostly had to do with the belief that cannabis improved the inattentive symptoms as opposed to the hyperactive-impulsive symptoms of ADHD. Also, while there were relatively few comments comparing cannabis to ADHD medications, many commenters said they considered cannabis “medicinal.”

Although the belief that recreational cannabis is therapeutic for ADHD may be widespread, currently there are no clinical recommendations or evidence supporting this belief. As more jurisdictions legalize cannabis, it remains to be seen whether legalization will also pave the way for systematic clinical research.

## A look at the statistics

Marijuana is one of the most widely used psychoactive substances worldwide after tobacco and alcohol. Higher rates of all substance use disorders are well documented among adults with ADHD. Compared to people who do not have ADHD, those with ADHD are at increased risk for early initiation of cannabis use, for heavy use, and for developing a cannabis use disorder.

The National Epidemiological Survey on Alcohol & Related Conditions in the United States determined that adults with ADHD use cannabis two to three times more than adults without ADHD. Some research suggests that over their lifetime, people with ADHD are almost eight times as likely to use cannabis compared to those who do not have ADHD.



Cannabis use disorder is also more common in adults with ADHD. Studies show they are more than twice as likely to meet the criteria than adults without ADHD. Looking at the rates from a different perspective, we learn that among individuals who seek treatment for a cannabis use disorder, the rates of ADHD are estimated to be 34 to 46 percent.

### **What research says about presentations of ADHD**

Are particular presentations of ADHD in childhood more or less predictive of a substance use disorder in adulthood? Some research suggests that impulsivity and oppositionality during childhood seem to predict increased risk of cannabis consumption in adulthood. The combination of ADHD and a substance use disorder is also associated with a worse prognosis and quality of life.

Some research shows that inattentive symptoms are more predictive of substance use disorders. Other research shows that hyperactive/impulsive symptoms are more predictive of substance use disorders.

Research indicates that individuals with ADHD who use cannabis use all categories of substances more commonly than those with ADHD who do not use cannabis. More specifically, rates of nicotine, alcohol, and drug use are significantly greater in those who use cannabis. Rates of alcohol use disorders, nicotine dependence, and drug use disorders are significantly greater among people with ADHD who use cannabis, compared to those with ADHD who do not. The most common drug use disorders in adults with ADHD who use cannabis involve cocaine, followed by opioids, and then amphetamines.

In some studies, no significant differences were found in the prevalence of ADHD subtypes among individuals with ADHD who report cannabis use. However, some research suggests that the average age of initiation of cannabis use is significantly younger among those with ADHD with the hyperactive/impulsive presentation, compared to those with the inattentive presentation.

Research also suggests that individuals with the hyperactive/impulsive presentation tend to begin their most intensive period of cannabis use earlier than those with the inattentive presentation. The age of cannabis abuse

tends to be younger among those with the combined presentation of ADHD, compared to those with the inattentive presentation.

### **Efforts at self-medication**

There are several possible explanations for substance use and substance use disorders in adults with ADHD. The risk is particularly striking in people whose childhood ADHD symptoms persist into adulthood, when substances are more readily available. Recreational cannabis use may be associated with impulsivity, sensation-seeking, poor choices in peer groups, impaired occupational and social functioning, and the desire for intoxication.

Both recreational substance use and substance use disorders may be associated with efforts at self-medication of the various ADHD symptoms themselves.

The co-occurrence may reflect efforts to self-medicate with respect to negative emotionality, such as anger, sadness, anxiety, and inadequate emotional regulation. Self-medication may not necessarily be specific to ADHD symptoms, but rather a way of relieving co-occurring mood and anxiety-related symptoms that are common in people with ADHD.

For some individuals, stimulant medication for the treatment for ADHD may cause adverse effects such as excessive arousal and insomnia. Cannabis use may be an attempt to try and counter those adverse effects.

Dopamine neurotransmission has been shown to be involved in both ADHD and substance use. In the case of ADHD, this has to do with an underproduction of dopamine and norepinephrine. Studies show that acute use of THC (the psychoactive component of cannabis) causes increased dopamine release, while long-term THC use is associated with blunting of the dopamine system. Thus, cannabis use may also be an attempt at self-medicating—that is, “chasing dopamine.”

In addition, studies show that cannabis use (in particular, early-onset use and ongoing use) and ADHD are both associated with deficits in neurocognition, including attention, memory, and executive functions. Both ADHD and regular cannabis use are associated with motivational issues.

Determining a diagnosis of ADHD in individuals who are actively using cannabis—or in those who have recently been abstinent following active cannabis use—can be



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quite difficult. The clinician must tease out whether those neurocognitive deficits are more cannabis-induced, true ADHD, or a combination of both. **A**

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