



UNDERSTAND THE
BIG DEAL

HOW MARIJUANA
HARMS YOUTH

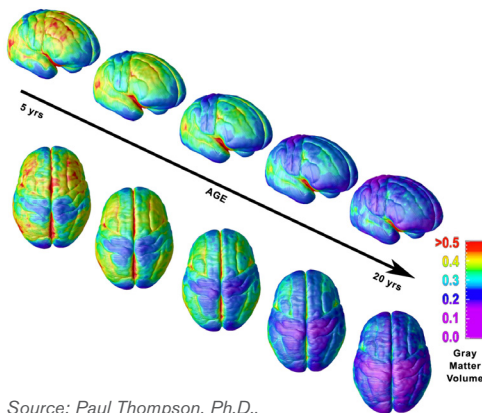
The human brain isn't fully mature until roughly the age of 25. That means children and adolescents are in stages of brain growth and development that leave them especially vulnerable to problems caused by drug use, abuse and addiction.

When someone says it's not that big of a deal for kids to smoke a little weed, don't believe them. Marijuana is addictive, and 1 in 6 people who try it before the age of 18 develop a clinical diagnosis of marijuana abuse or dependence.

Marijuana's use is a risk factor for:

- Poor school performance & dropout
- Risky sexual behavior resulting in disease transmission and/or teen pregnancy
- Aggression
- Anxiety
- Accidents causing death
- Psychosis

The growing adolescent brain



Source: Paul Thompson, Ph.D.,
UCLA School of Medicine

How the brain matures

The color blue indicates maturity. Other colors indicate immaturity. The part of our brain that craves pleasure matures much earlier than the area that controls our ability to understand risks and consequences.

In adolescence, the brain works hard to become more efficient. It prunes unnecessary synapses, or connections, and it myelinates, or grows little fat cells, to make nervous impulses travel more effectively. Studies show that drug use and abuse during this critically important phase of development can have negative, lifelong effects, including impaired cognition and memory.

The brain matures from the bottom up and from the front to back. That's a pattern of development important to understand. Why? Because it means the parts of our brain that drive our desire to seek pleasure, rewards, thrills and adventure outpace development of the areas that help us stop what we're doing long enough to think through the potential consequences of our actions.

In other words, the adolescent brain craves pleasure and doesn't know how to weigh risks or say enough is enough. That's why youth are more likely than adults to become addicted to drugs.

Today's marijuana is more potent



The marijuana smoked today is more addictive than ever. For decades, the level of tetrahydrocannabinol (THC), marijuana's active ingredient, averaged 2.3 percent. Today, marijuana's average THC level exceeds 8 percent — and often reaches 35 percent in medical grades. These high levels of THC typically result from marijuana growers' manipulation and modification of the plant — much like tobacco companies' titration of the nicotine content of cigarettes to make their products stronger.

Underscoring marijuana's potency and potential harmfulness to adolescents is this: abuse of the drug accounts for 67 percent of admissions to adolescent substance-abuse treatment in the United States, according to the Substance Abuse and Mental Health Services Administration.

How marijuana undermines student learning

If Teens Didn't Use Marijuana Before Age 18 There Would Be...

17% **LESS**
High School Dropout

5% **LESS**
College Non-Attendance

3% **LESS**
College Dropout

Source: Fergusson et al., 2010

Marijuana use has acute (meaning up to six hours), sub-acute (6 hours to 20 days) and long-term (more than 20 days) effects. So even if a youth isn't currently using the drug, his or her abilities to learn and interact successfully at school could be compromised for extended periods of time.

Long-term, regular users who started smoking the drug before the age of 18 often cause changes in their brain's structure and functioning that result in permanent cognitive deficits. Essentially, they can create for themselves a level of "normal" performance that is lower functioning than the level of normal performance they may have achieved had they not used marijuana. Deficits can be found even long after a person has stopped using the drug. For example, research has found the loss of verbal intelligence, which measures the ability to analyze information and solve problems using language.

Studies show that when marijuana users are intoxicated, their working memory is impaired, and they are more impulsive, less attentive, less motivated and slower to make decisions.

Marijuana users withdrawing from the drug are often aggressive and irritable — which can contribute to bad decision-making.

For adolescents, the impaired performance and decision-making that stem from marijuana use increase the risk of school dropout. A study published in 2010 that followed more than 6,300 New Zealand children to adulthood found that people who did not smoke marijuana before the age of 18 were nearly four times more likely to earn a high school degree and graduate from college than a person who started smoking before the age of 15.

What contributes to marijuana use?

Three Major Things:

- Availability of the drug
- Social norms surrounding the drug's use
- Perceived harmfulness of the drug

The more available a drug is, the more socially acceptable it is to use it, and the less harm the drug is perceived to have, the more likely teens are to use the drug.

The 2010 Monitoring the Future study reported an increase in marijuana smoking among high schoolers nationwide. Compared to adolescents in the previous year, the 46,500 youth surveyed in 2010 also reported that accessing marijuana has become easier, that they are less likely to disapprove of their friends' marijuana use and that marijuana is less harmful.

It's also important to note that numerous studies show adolescents are especially influenced by media — and that marijuana in Colorado is advertised in places youth often frequent, including public transportation, radio stations and alternative newspapers and magazines.

How to help prevent drug use & dependence in children

It's never too early to start having age-appropriate conversations with kids about drugs.

Elementary students

Help them understand self-control and how to deal positively with their emotions. Help them understand how to solve social problems effectively. Provide academic support — especially with reading.

Middle school and high school students

Keep the lines of communication open, and periodically explain that drug use is unhealthy and unwise — and that it isn't allowed. Help children build self-esteem and self-confidence through good study habits and academic performance and through healthy, prosocial activities. Encourage them to build healthy, positive friendships, and remind them that not all kids try drugs.



Warning signs of a worsening problem

Marijuana use is rising

Of the 46,500 students surveyed in 2010, 8 percent of 8th graders, 16.7 percent of 10th graders and 21.4 percent of 12th graders reported using marijuana in the previous month. Use increased in all three grades over the 2009 study. In 2010, there was also a significant increase in **daily use** in all three grades, reaching 1.2 percent, 3.3 percent and 6.1 percent in grades 8, 10 and 12, respectively.

Perception of marijuana's harmfulness is decreasing

Students surveyed in 2010 reported that occasional and regular marijuana use were less harmful than did students surveyed the previous year.

Fewer students disapprove of marijuana use

In 2010, students were less likely to disapprove of peers who occasionally and regularly use marijuana.

Marijuana is easier to get

In 2010, more students reported that marijuana was “fairly easy” to “very easy” to get.

Source: Monitoring the Future (monitoringthefuture.org)

Colorado schools are reporting alarming growth in drug-related problems.

During the 2009-10 academic year, Colorado schools recorded 5,048 disciplinary reports for drug offenses — a concerning increase of 33.5 percent over the previous school year. In that same period, school expulsions for drug offenses shot up 40 percent, and out-of-school suspensions were up 32.5 percent. The data include, but are not limited to, marijuana-related offenses. These troublesome increases happened in the same year that hundreds of marijuana dispensaries opened in Colorado, and federal Safe and Drug-Free Schools funds made available to school districts for drug-prevention programs were eliminated. Fewer resources are available to address changing social norms.

Go Online for More Information

Find a more detailed fact sheet and slide show about marijuana's effects on adolescents at www.cde.state.co.us/DropoutPrevention/Resources.htm

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This publication has been made possible by the Expelled and At-Risk Student Services grant program administered by the Dropout Prevention and Student Engagement Unit of the Colorado Department of Education.

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