

What is cannabis?

- Cannabis refers to the entire plant: leaves, stock, flower, etc. Cannabinoids are the chemicals found within the plant such as, the main cannabinoids: tetrahydrocannabinol (THC) and cannabidiol (CBD). (4)
- THC is the cannabinoid that produces the high feeling when ingested. CBD is thought to help treat anxiety, epilepsy, arthritis pain, and difficulty sleeping. (4)
- There are varying strains of *Cannabis sativa* and *Cannabis indica*. They differ in the relative amounts of THC and CBD. The hemp plant contains mostly CBD and < 0.3% THC.

Delta-9 vs Delta-8

- Delta-8-THC is very similar to Delta-9-THC in chemical structure and how it behaves in the body. Delta-8-THC is made from CBD extracted from the hemp plant. CBD is then synthetically converted to Delta-8 THC by dissolving the CBD in an organic solvent (toluene or hexane) and heated with an acid catalyst. (4)
- Retail Delta-8-THC must contain less than 0.3% Delta-9-THC and be produced from legal hemp. That means, the many by-products or impurities in the making of Delta-8 are neither monitored nor regulated. (4)

“To know is to be sure and free of doubt. To be sure is to be clear about what you know and don't know. Knowledge, truly is power”
— Asuni La

References

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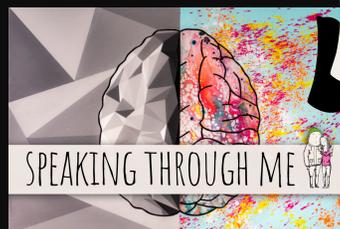


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CANNABIS

and the Adolescent Brain



WARREN CENTER

FOR NEUROSCIENCE DRUG DISCOVERY

at Vanderbilt University

Higher potency cannabis "It's not just weed"

Impact on adolescent brain development

Cannabis-Induced Psychosis (CIP)

Change in % THC between 1995-2021

Figure adapted from University of Mississippi, Potency Monitoring Program.

The potency of THC in cannabis products has significantly increased over the past two decades. Average concentrations in 2023:

- ~16% THC (for cannabis flower)
- ~95% THC (for cannabis concentrates)

Higher potency cannabis use during adolescence increases the risk of developing Cannabis Use Disorder (CUD) and psychosis. (2)

Adolescence is a period of significant brain development which can be compromised by use of marijuana during this crucial stage.

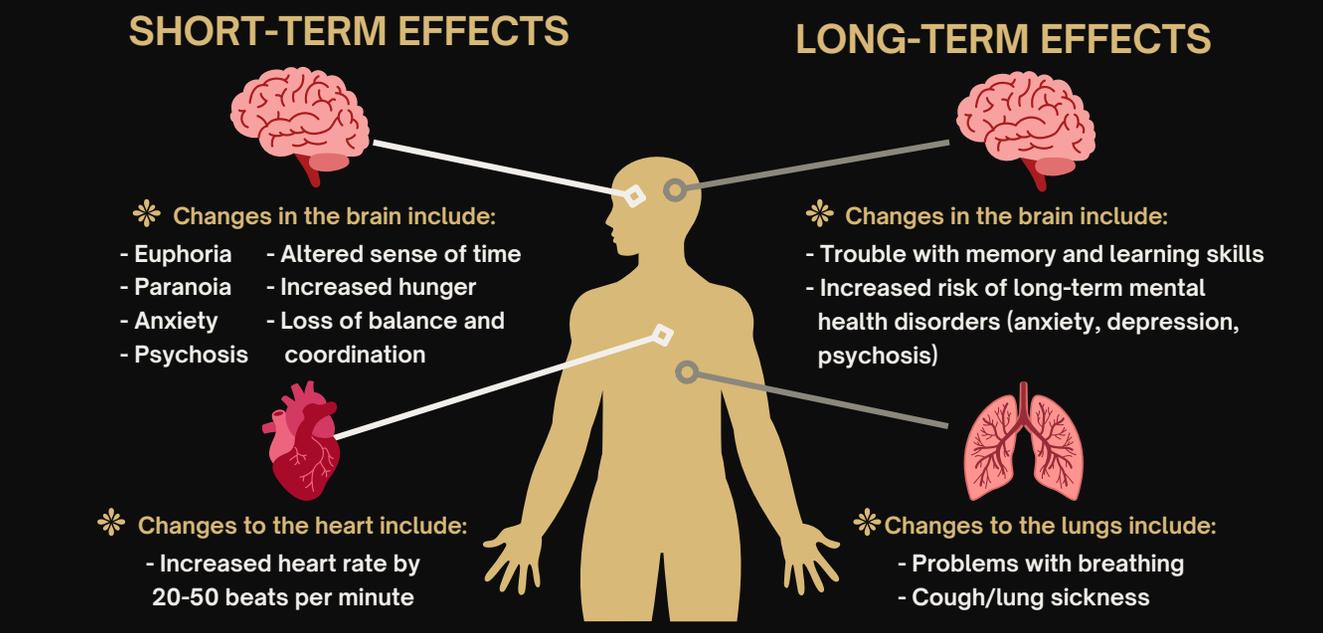
- A ~30% greater reduction in prefrontal cortical thickness was seen in adolescent participants (age 14-19) who used cannabis compared to those who never used. (1)
- Significant evidence has been found linking adolescent cannabis use to poorer cognitive function and changes to brain structure and function. (1)
- Exposure to THC during adolescence has profound effects on the brain's excitatory and inhibitory systems in the prefrontal cortex that can be seen into adulthood. (5)

A mental health disorder characterized by the loss of contact with reality.

FACTORS INFLUENCING THE DEVELOPMENT OF CIP

- Genetic predisposition to schizophrenia
- Using higher potency cannabis
- Early first use
- Frequency and duration of use
- Previous "temporary" symptoms of psychosis while ingesting cannabis

Not all individuals who use cannabis will develop psychosis and not all people who develop psychosis use cannabis.



TEEN USE STATISTICS - 2022 DATA

- 12th graders who have used cannabis in the past year: 30.7% (6.3% reported daily use). 12th graders who vaped cannabis in the past year: 20.6% (2.1% reported daily use) (Data from NIH.gov)
- About 1 in 6 people who start using marijuana as a teen become addicted to marijuana. Daily use of higher potency marijuana increases this risk. (Data from SAMSHA)
- One-fifth of schizophrenia cases might be prevented by avoiding the development of CUD.(3)