

# Health risks of using cannabis are higher in adolescents than in adults, study finds

May 8 2024

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Using cannabis on a regular basis may be significantly more dangerous for adolescents than adults, with adolescents showing higher levels of cannabis use disorder and reporting greater negative impacts on daily

functioning than adults, in a new study led by the University of Bath in the UK.

### The study

. published in the *European Archives of Psychiatry and Clinical Neuroscience*, is a collaboration between the University of Bath, Kings College London and University College London.

It's the first to show that the quantity and strength of cannabis consumed does not account for the increased vulnerability to

cannabis use disorder seen in young people.

"Our analysis shows that adolescents scored consistently higher on a measure of cannabis use disorder symptoms over a 12-month period, compared to adults," said study first author Dr. Rachel Lees.

Symptoms of cannabis use disorder—a recognized psychiatric disorder—include:

- Unsuccessful attempts at reducing or quitting cannabis
- Cannabis use interfering with daily obligations
- Worsening mental or physical health
- Using cannabis in physically hazardous situations, and
- Experiencing craving, tolerance and withdrawal symptoms

Most people who use cannabis will not experience serious long-term harms; however, around a quarter are thought to develop a cannabis use disorder, with adolescents showing greater vulnerability.

"We already knew, from earlier research, that adolescents (people up to the age of 25) have higher rates of cannabis use disorder than adults, but

until now we didn't know if this was because younger people were simply using more or stronger cannabis than adults. We now know this isn't the case."

### **A popular pastime with risks**

It's estimated that nearly 6% of 15 to 16-year-olds used cannabis in the past year. It's likely that this cohort has received little information about the link between early cannabis use and negative outcomes, which include poorer mental health, addiction, and sociodemographic disadvantage in adulthood.

Dr. Lees said, "We found that 70% of the adolescents reported having failed to do what was normally expected of them because of using cannabis, whereas only 20% of the adults reported having experienced this. Also, 80% of the adolescents reported devoting a great deal of time to getting, using or recovering from cannabis use, compared to 50% of the adults.

"This is concerning as this group may not be aware of the symptoms of cannabis use disorder and may perceive cannabis to be associated with a low level of risk for harm."

Experts speculate that adolescents are particularly vulnerable to cannabis use disorder because their brains are still developing. Young brains exhibit higher neuroplasticity, which could make them more susceptible to the effects of psychoactive substances.

### **Taking cannabis regularly**

For the study, 70 adults (aged 26 to 29) and 76 adolescents (aged 16 to 17)—all frequently using cannabis—were assessed every three months over the course of a year.

At the beginning of the study, the two groups used cannabis on the same number of days per week. The researchers tracked in detail the types of cannabis the participants used, including the strength (based on its content of THC—the primary psychoactive component in the cannabis plant).

Participants were also assessed on their symptoms of cannabis use disorder.

Dr. Lees said, "A [higher score](#) meant more negative experiences from cannabis use. Across the 12 months of the study, adolescents consistently scored higher than adults, indicating they faced more struggles with cannabis. We found that this effect was not due to the adolescents using more cannabis than the adults."

She added, "We hope these findings will increase awareness among young people of the potential risks from cannabis use, encouraging them to consider ways they can mitigate these risks such as stopping or reducing use."

The method used in the study to quantify the quantity of cannabis consumed was developed by Bath psychologist and study senior author Dr. Tom Freeman.

He said, "By measuring quantity of THC consumed, we can get a really detailed picture of how much cannabis someone has used, across different methods of administration. This allows us to be more accurate in our measurement of the relationship between cannabis use and health effects."

"What we need to do now is to generate safer use guidelines for people who use cannabis based on levels of consumption, in the same way that alcohol guidelines can help people who drink to reduce their risks."

**More information:** Rachel Lees et al, Persistent increased severity of cannabis use disorder symptoms in adolescents compared to adults: a one-year longitudinal study, *European Archives of Psychiatry and Clinical Neuroscience* (2024). [DOI: 10.1007/s00406-024-01806-y](https://doi.org/10.1007/s00406-024-01806-y)

Provided by University of Bath

Citation: Health risks of using cannabis are higher in adolescents than in adults, study finds (2024, May 8) retrieved 16 August 2024 from <https://medicalxpress.com/news/2024-05-health-cannabis-higher-adolescents-adults.html>

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