Does pot really dull a teen's brain?

18 April 2018, by Dennis Thompson, Healthday Reporter

Pot-smoking teens may not be dooming themselves to a destiny of dim-wittedness, a new review suggests.

The memory and thinking abilities of teenagers do not appear to be as strongly affected by heavy marijuana use as previously suspected, according to an evaluation of data from dozens of previous studies.

Further, intellectual effects that do crop up from frequent pot use appear to wear off soon after a teenager stops partaking, researchers report.

However, this study only looked at the short-term intellectual effects of heavy pot use, not use for many years, which could have a significant detrimental impact, experts said.

Study said lead researcher J. Cobb Scott said that after 72 hours of abstinence, the memory and thinking deficits of heavy users diminishes to the point of insignificance when compared against the intellectual capacity of nonusers. He is a neuropsychologist with the University of Pennsylvania's Perelman School of Medicine in Philadelphia.

"The length of abstinence was associated with how big the effect size was," Scott said. "We don't know if three days is a perfect cutoff for this. We don't know the maximum point at which abstinence might benefit cognitive functioning."

It's still unknown whether smoking pot for decades could lead to deeper and more persistent declines in mental ability, Scott said. Teens also might be at increased risk of other potential problems linked to marijuana use, such as psychosis or addiction, which were not examined in this review.

"The more you use cannabis, the more likely you are to have problems with cannabis, just like any other substance," Scott said.

For the review, Scott and his colleagues pooled data from 69 studies involving more than 2,100 pot users. The ages of participants ranged from 18 to 30 in most of the included research.

The scientists found there were detectable differences in mental ability between heavy pot users and nonusers, "but they were smaller than expected," Scott said.

"It's considered a small difference between groups, so the clinical significance of that is kind of questionable," Scott said. "It does raise a question of how big are these differences in a practical sense, and what those differences mean in someone's life."

The researchers also found that risk of damage to memory and thought did not vary based on age. "Adolescents were not at heightened risk compared to young adults," Scott said.

And finally, the study found the intellectual effects of pot smoking tended to fade when teens stopped using.

The findings were published April 19 in the journal *JAMA Psychiatry*.

"It's somewhat refreshing to see that, after a period of abstinence, it may not have the same impacts as what we thought," said Dr. Scott Krakower, assistant unit chief of psychiatry at Zucker Hillside Hospital in Glen Oaks, N.Y. He was not involved with the study.

These findings likely apply to "the majority of users of cannabis," Scott said. "Most people who use cannabis don't use it heavily for 20 years."

But it's still an open question whether teens who continually smoke cannabis heavily for years will have ongoing problems with their ability to remember and reason, Scott said.

"It's important to think about the much longer-term effects of heavy use of cannabis, which this analysis doesn't tell us that much about," Scott said.

Experts have been concerned that teenage brains are still developing, and heavy pot use could alter their neurology in key ways that will affect their future ability to think and reason.

This review does not clear up those concerns completely, because it shows that there are detectable effects between pot smokers and nonusers, Krakower said.

"They're saying basically there's not maybe as large of a difference in cognitive functioning, but they're still saying there is potentially some cognitive dysfunction," Krakower said. "Even the smaller changes in cognitive function can still have long-lasting impacts on younger adults and adolescents."

Additionally, it's tough to gain knowledge from reviews like this because the researchers are combining data from vastly different studies, which used different ways to measure mental ability and to judge the frequency of pot use, Krakower added.

"It's hard to make an interpretation based on all of this," he concluded.

More information: J. Cobb Scott et al. Association of Cannabis With Cognitive Functioning in Adolescents and Young Adults, *JAMA Psychiatry* (2018). DOI: 10.1001/jamapsychiatry.2018.0335