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Does teen cannabis use lead to behavior problems – or vice versa?

PHILADELPHIA – More youth use cannabis than smoke cigarettes in the United States. In other parts of the world, cannabis use has become almost as regular as tobacco use among adolescents and young adults.

With relaxed laws governing cannabis use in many U.S. states and localities, there is mixed and limited research on whether increasing legalization could lead to other unhealthy behaviors in addition to substance use disorders.

Now, new research led by the Annenberg Public Policy Center of the University of Pennsylvania finds that cannabis use among teens does not appear to lead to greater conduct problems or greater affiliation with other teens who smoke cannabis, associations that previous research had suggested to be possible.

Instead, it's the other way around: It is adolescents with conduct problems or whose friends use cannabis who are more likely to gravitate toward cannabis use. And that "cascading chain of events" appears to predict cannabis use disorder as the teens become young adults, [according to the study](#), newly published in the journal *Addiction*.

"Cannabis use in and of itself does not appear to lead to conduct problems or increasing attraction to peers who use cannabis," said coauthor [Dan Romer](#), research director of the [Annenberg Public Policy Center](#) (APPC).

The study follows a group of Philadelphia adolescents over eight years. "Previous studies have not been as able to isolate the effects of cannabis use in adolescents," Romer added. "But because we had measurements over the entire period of adolescence, we were able to disentangle the effects of cannabis use itself from other influences."

The Philadelphia Trajectory Study

The research uses data from the Philadelphia Trajectory Study, a six-wave study that began in 2004 with interviews of nearly 400 10- to 12-year-olds in Philadelphia. The adolescents were tested annually from 2004 to 2010, and then again in 2012 for a final two-year follow-up. The current study uses data from 364 teens from the final four waves of the study. The observational study is based on self-reports from the adolescents which were then validated by urine screening.

Ivy Defoe, the lead author and former APPC postdoctoral fellow, said, "Interestingly, the results show that not only do conduct problems such as school truancy and theft predict cannabis use, but adolescents who display conduct problems are also drawn to cannabis-using peers. These

affiliations predict increases in cannabis use and, eventually, cannabis use disorder, as our results show,” added Defoe, now a postdoctoral researcher at the University of Twente, the Netherlands.

Defoe said some theories would suggest that teens with conduct problems may be using cannabis as a coping mechanism to deal with disapproval of their behavior problems and perhaps to self-medicate. The study concludes that if youth with conduct problems “use unprescribed cannabis to cope with their condition, then healthier alternative coping strategies and support should be made available.”

Concerns about cannabis

One concern about use of an illegal drug is that it will lead adolescents to socialize with deviant peer groups, such as those who sell and use illegal drugs. However, the study suggests that adolescents using cannabis are no more likely to start affiliating with peers using cannabis.

The findings do suggest that with increasing legalization, there will be greater access to cannabis and thus a greater likelihood for youth to develop cannabis use disorder. However, just as with alcohol, which is legal for adults, research conducted as part of this project suggests that less than a quarter of youthful users would develop a mild cannabis use disorder.

“Disentangling longitudinal relations between youth cannabis use, peer cannabis use, and conduct problems: developmental cascading links to cannabis use disorder” is published open access [in the journal *Addiction*](#).

In addition to Defoe and Romer, the coauthors are Atika Khurana, Ph.D., an APPC distinguished research fellow at the University of Oregon, and Laura M. Betancourt, Ph.D., and Hallam Hurt, M.D., of the Children’s Hospital of Philadelphia.

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