

# Study shows joint effects of perceived risk and availability on cannabis use

Reviewed by Emily Henderson, B.Sc.

Jul 16 2021

Combined perceptions of the risk and availability of cannabis influence the risk of cannabis use more than perceived risk and perceived availability alone, according to a new study at Columbia University Mailman School of Public Health. Researchers observed that those who perceived cannabis as low-risk and available were more likely to report using the drug in the past year and almost daily compared to those individuals who perceived cannabis as high-risk and unavailable. This is the first study to consider the joint effects of perceived risk and perceived availability. The results are published in the journal *Drug and Alcohol Dependence*.

“ Our study described the evolution of joint perceptions of cannabis risk and availability from 2002-2018 and estimated the relationship between combined perceptions and past-year cannabis use, frequent use, and cannabis use disorder. Studying perceived risk and availability in conjunction revealed more nuanced patterns than considering each perception in isolation.”

*Natalie Levy, MPH, Doctoral Student, Department of Epidemiology at Columbia Mailman School, and First Author*

Using data on 949,285 participants from the National Surveys on Drug Use and Health from 2002-2018, researchers observed that the prevalence of perceiving cannabis use as low-risk doubled over this period while the prevalence of perceiving cannabis as available increased only marginally. When looking at joint categories of perceived risk and perceived availability, they found that prevalence of perceiving cannabis as both low-risk and available increased, from 17 percent in 2002 to 36 percent in 2018 while the proportion of the population perceiving cannabis as high-risk and available or high-risk and unavailable declined. By 2018, a larger proportion of the population perceived marijuana as low-risk and available (36 percent) than both high-risk and available and high-risk and unavailable, at 26 percent and 27 percent, respectively.

Individuals who perceived cannabis as low-risk were six times more likely to have used cannabis in the past-year than individuals who perceived the drug as high-risk. Similarly, individuals who perceived cannabis as available were five times more likely to have used cannabis in the past year than individuals who perceived it as unavailable. However, individuals who perceived marijuana as both low-risk and available were 22 times more likely to have used the drug in the past year than those who perceived cannabis as high-risk and unavailable.

In 2018, most individuals who reported no past-year cannabis use perceived cannabis as high-risk, whether or not they distinguished between its availability or non-availability. In contrast, the majority of individuals who used cannabis in the past year perceived the drug as low-risk and available and this perception rose to even higher levels among those reporting frequent use.

Cannabis perceptions also differed by gender. Overall, a larger proportion of males viewed cannabis as lower risk and more available compared with females, but patterns differed by age. "We found minimal differences in perceptions by gender in the 12-17-year age group while among all those 18 years of age and older, the prevalence of perceiving cannabis as low-risk and available was higher for males than females; perceiving cannabis as high-risk and unavailable was more common among females in every year," noted Levy.

"Our results provide an important starting point for exploring specific hypotheses regarding the effects of perceptions on individual cannabis outcomes and highlight the importance of exploring perceived risk and availability together," said Silvia Martins, MD, PhD, Columbia Mailman School associate professor of Epidemiology, director of the Substance Use Epidemiology Unit of the Department of Epidemiology, and senior author. "For example, our findings suggest that prevention efforts that focus only on the risks of cannabis use may be less effective among individuals who perceive cannabis as easily available.

"Trends in perceptions - especially among younger age groups -- may also identify priority groups for intervention," observed Levy. "Further understanding of these relationships is particularly important in light of

rapidly changing cannabis policies, a contextual factor that may influence perceptions of both risk and availability of cannabis and subsequent use."

---

**Source:**

Columbia University's Mailman School of Public Health

**Journal reference:**

Levy, N.S., *et al.* (2021) Joint perceptions of the risk and availability of Cannabis in the United States, 2002-2018. *Drug and Alcohol Dependence*. doi.org/10.1016/j.drugalcdep.2021.108873.

---