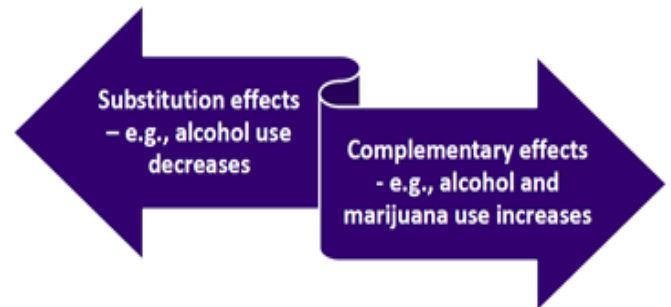


## Alcohol and Marijuana

Although a growing number of states in the U.S. have legalized recreational use of marijuana, questions remain about when, how and what happens when marijuana is used in combination with other legal substances such as alcohol.

Do individuals *substitute* marijuana use for alcohol use or does the use of marijuana *complement/increase* the use of alcohol? What are the risks of simultaneous use of marijuana and alcohol? This brief report summarizes what is known and highlights areas where more research is needed.



Graphic: Lee CM, presented at [3rd Symposium on Marijuana Research in Washington](#), May 18, 2018. (11)

### What is the Prevalence of Using Marijuana in Combination with Alcohol?

The 2016 U.S. National Survey of Drug Use and Health (NSDUH) estimated that about half of people age 12 and over currently drink alcohol and about 9% currently use marijuana. (1) Among people who currently drink alcohol, estimates of co-use range from 10-27%. (2,3) Among people with an addiction to alcohol (Alcohol Use Disorder), estimates of co-use range from 23-58%. (2,4,5)

However, estimates of use and co-use may be higher for key populations, specifically, young adults. (2-4) More than 20% of people aged 18-29 currently use marijuana, and estimates of co-use range from 50-70%. (2,4,6)

Co-use of marijuana and alcohol may also be more likely for males (2,3,5,7), people of color (3,7), and people living on the West coast of the U.S. (8). People who live in states that have legalized recreational marijuana use may also be more likely to use it in combination with alcohol. For instance, a study of primary care patients in Washington State found prevalence of marijuana use (15%) and co-use with alcohol (27%) were both higher than national estimates. (2)

### Patterns of Co-use of Alcohol and Marijuana

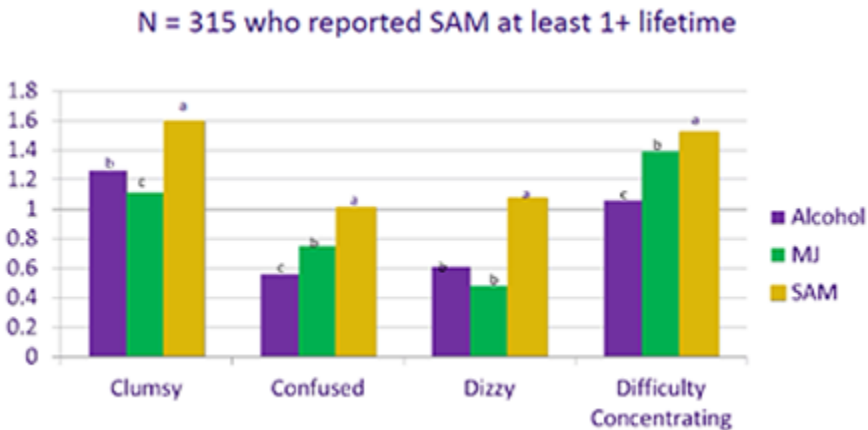
People who use both alcohol and marijuana may use them *simultaneously* (i.e. they use both substances at the same time), *orconcurrently* (i.e. they use both alcohol and marijuana, but not at the same time). Simultaneous use is more common and is associated with greater alcohol consumption (4,7,9). People who use marijuana and alcohol at the same time may do so to increase their intoxication or because they are already intoxicated and are no longer making rational decisions about their drug use (10,11). It has also been suggested that people may substitute marijuana for alcohol to reduce drinking (12); however, the effectiveness of this type of substitution is not supported by research. (13)

There is evidence that substitution of marijuana for alcohol may occur as a response to policy changes, such as when tax on alcohol is raised (11). Policies that legalize the sale and use of marijuana may result in either substitution (decrease in alcohol, increase in marijuana) or complementary use (increase in both alcohol and marijuana), depending on other characteristics of the group studied. (11)

### Risks of Co-use of Alcohol and Marijuana

Simultaneous use of alcohol and marijuana (aka “SAM”) is associated with greater harms than using either substance alone, including:

- Stronger perceived effects on body and mind than either substance alone, like being clumsy, confused dizzy, or having difficulty concentrating. (14, graph by Lee CM, presented at 3rd Symposium on Marijuana Research in Washington, May 18, 2018)



- More marijuana-related consequences (e.g. strong desire/cravings for marijuana, acute anxiety/paranoia, short-term memory loss etc.) (10,15-17)
- More alcohol-related consequences (e.g. strong desire/cravings for alcohol, hangovers, vomiting nausea etc.) (15-17)
- More depression (e.g. low mood, loss of interest in normally enjoyable activities) (18,19)
- More injuries and physical fights (20)
- Unprotected sex (21) and sexually transmitted infections (18)
- Poorer academic performance (16,22)
- Higher likelihood of arrest (18,22) or trouble with police (16)

Driving under the influence of alcohol and marijuana is also much more dangerous than driving under the influence of either substance alone. (7) Research has shown that marijuana and alcohol both impairs driving in a dose-response manner, meaning the more you consume the more you impair your ability to drive (though the effect is smaller for marijuana than alcohol). (23) Alcohol and marijuana appear to have a synergistic effect on driving impairment, meaning they interact in a way that severely impairs our ability to drive (more than either one alone). (4) Consequently, the risk of being in a car accident is considerably greater for drivers impaired by both alcohol and marijuana.

### Alcohol and Marijuana Use Disorders

People who are addicted to marijuana (e.g. continue to use marijuana even when they have symptoms or problems caused by their marijuana use, otherwise known as a Marijuana Use Disorder) are more likely to develop Alcohol Use Disorder. (4) Large population surveys have also shown that the vast majority of people who have Marijuana Use Disorder in their lifetime have also had Alcohol Use Disorder. (8,24)

### What We Don't Know

There is still a lot we must learn about the impact of using marijuana and alcohol at the same time. Most of the research to date on concurrent and simultaneous use of marijuana and alcohol has been done in populations of high school and college students. (4) There is a need for more research in the general adult population, as well as populations for whom use of marijuana and alcohol together may be especially risky (like pregnant women or individuals with psychiatric vulnerabilities such as serious mental illnesses).

There is also a lot more we need to learn about the outcomes with using alcohol and marijuana at the same time. Here are a few examples of important research questions:

1. **How does using marijuana and alcohol together impact brain development?** Some researchers have found that adolescents who use alcohol and marijuana at the same time have abnormal brain development that impacts their ability to function normally as an adult. (4)

2. **How does marijuana use affect our motivation to use alcohol and vice versa?** Some researchers have found that marijuana may slow the absorption of alcohol, dampening the effect of alcohol and possibly increasing desire for more alcohol. (4)
3. **How do we prevent simultaneous use of alcohol and marijuana?** What are the motivations for simultaneous use and how do we address those? (6) One study showed young adults use marijuana and alcohol simultaneously for coping and social reasons, as well as “to get a better high.” (25) Some researchers have found that interventions to help people reduce alcohol use also reduce marijuana use. (4)

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