

University of Hawaii Cancer Center

**Potential Negative Consequences of Marijuana use among Hawaii youths and
young adults**

Executive Summary

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Executive Summary

1. PURPOSE

The purpose of this report to highlight the potential negative consequences of marijuana use among youths and young adults from Hawaii in terms of the associations of marijuana use on academic performance and risk-taking tendencies among adolescents; and on marijuana use disorder, poor mental health symptoms (i.e., anxiety and depression), and use of other illicit or “hard” drug use (e.g., methamphetamine, cocaine, heroin) among young adults.

2. BACKGROUND

As the state of Hawaii considers legalizing recreational marijuana use, it is important to consider the potential effects of marijuana use on the health, social adjustment, and overall well-being of Hawaii youths and young adults. The present report provides findings from epidemiological research conducted among Hawaii youths and young adults that suggest the potential adverse consequences of marijuana use among young people from Hawaii.

3. METHODS

This report presents findings from two data sources, an **Adolescent Study** and a **Young Adult Study**. At baseline the Adolescent Study collected data from 3,072 students from nine public and private schools on Oahu, Hawaii. The sample was 51% female and mean age was 12.60 years (SD 0.86); 51% were 7th graders and 49% were 8th graders. Regarding race/ethnicity, 30% of the participants were of East Asian background (Chinese, Japanese, or Korean), 17% were Caucasian, 28% were Filipino, and 25% were Native Hawaiian or other Pacific Islander.

The Young Adult Study is based on data collected from 1985 individuals who were originally recruited from four-year and two-year colleges on Oahu. The sample was 54% female and mean age was 24.9 (2.1). Regarding race/ethnicity, 26% of the participants were of East Asian background, 18% were Filipino, 24% were Caucasian, 21% were Native Hawaiian or other Pacific Islander, and 11% were other ethnicity.

3.1. Measures, Adolescent Study

Academic involvement: To assess academic involvement, adolescents were provided several statements and asked to rate each on a 5-point scale, ranging from “1: Not at all True” to “5: Very True”: For example, “Doing well in school is important to me;” “In general, I like school a lot;” and “At my school, I feel like I really belong.”

Sensation seeking/risk taking: To assess sensation seeking/risk taking, adolescents were provided several statements and asked to rate each on a 5-point scale, ranging from “1: Not at all True” to “5: Very True”: For example, “I like to do

things that are a little frightening;" "I like new and exciting experiences;" and "I like to do dangerous things for fun."

Rebelliousness: To assess rebelliousness, adolescents were provided several statements and asked to rate each on a 5-point scale, ranging from "1: Not at all True" to "5: Very True": For example, "I like to break the rules;" "I do things my parents wouldn't want to do;" and "I argue a lot with teachers."

3.2. Measures, Young Adult Study

Marijuana Use Disorder: Marijuana Use Disorder was assessed using the Cannabis Use Disorders Identification Test (CUDIT), which is a brief screening instrument designed to identify patterns of problematic cannabis use and potential cannabis use disorder in adolescents and adults. The CUDIT assesses frequency of cannabis use, symptoms of dependence, loss of control, and cannabis-related problems. Respondents answer a series of items rated on validated scales.

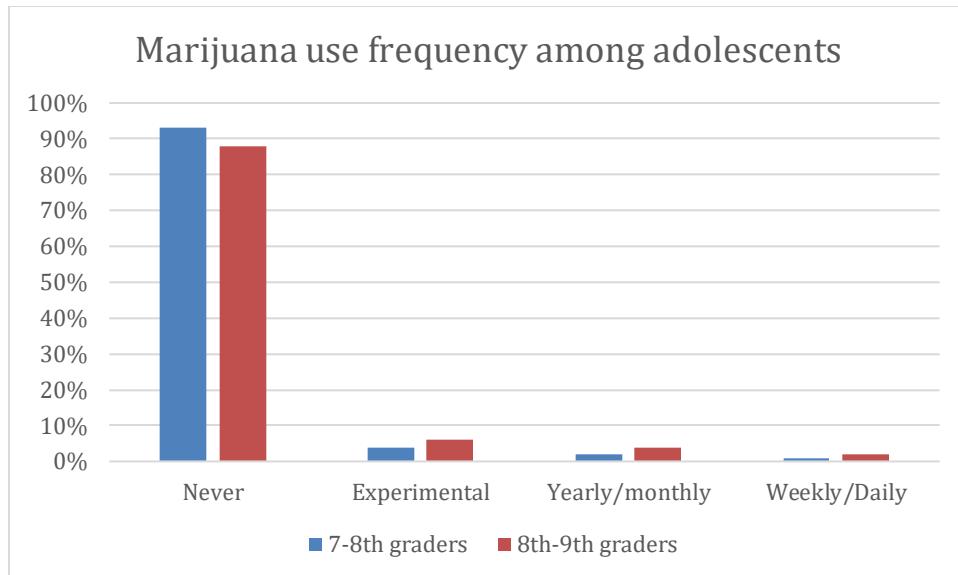
Depression: Depressive symptoms were assessed using the Center for Epidemiologic Studies Depression Scale (CES-D), which is a 20-item self-report measure designed to assess the frequency and severity of depressive symptoms experienced in the past week. The CES-D captures key components of depressive affect, including depressed mood, somatic complaints, interpersonal difficulties, and anhedonia. Respondents rate how often they experienced each symptom using a 4-point scale.

Anxiety: Anxiety symptoms were assessed using the Generalized Anxiety Disorder Scale (GAD-7). The GAD-7 is a brief, validated 7-item self-report measure designed to assess the frequency and severity of generalized anxiety symptoms over the past two weeks. The scale evaluates core domains of generalized anxiety disorder, including excessive worry, restlessness, irritability, tension, and difficulties controlling worry. Respondents indicate how often they have been bothered by each symptom using a 4-point response scale.

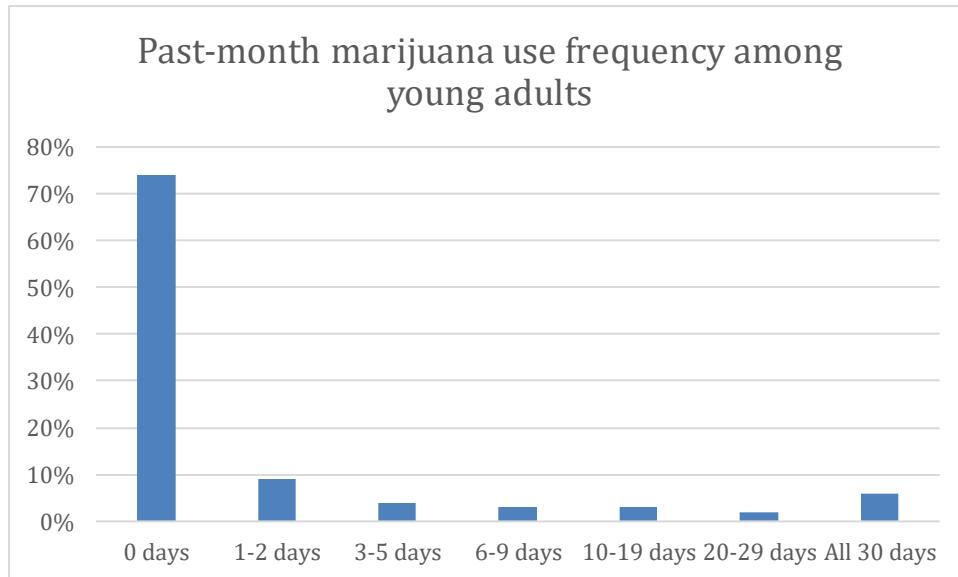
Illicit ("Hard") drug use: Hard drug use was assessed in terms of lifetime use (i.e., "Have you ever in your lifetime used _____?" Response options: Yes or No) and past-month use (In the past month (last 30 days), on how many days did you use _____?). Lifetime and past-month use were assessed for the following drugs: Methamphetamines (meth, ice, crank), other Amphetamines, MDMA (ecstasy), Cocaine (crack, rock, freebase), Opiates (heroin, smack), PCP (angel dust), Inhalants (poppers, snappers), Hallucinogens (LSD, salvia, peyote), and Sedatives (downers, ludes).

4. KEY FINDINGS

4.1. Marijuana use frequency in the adolescent sample

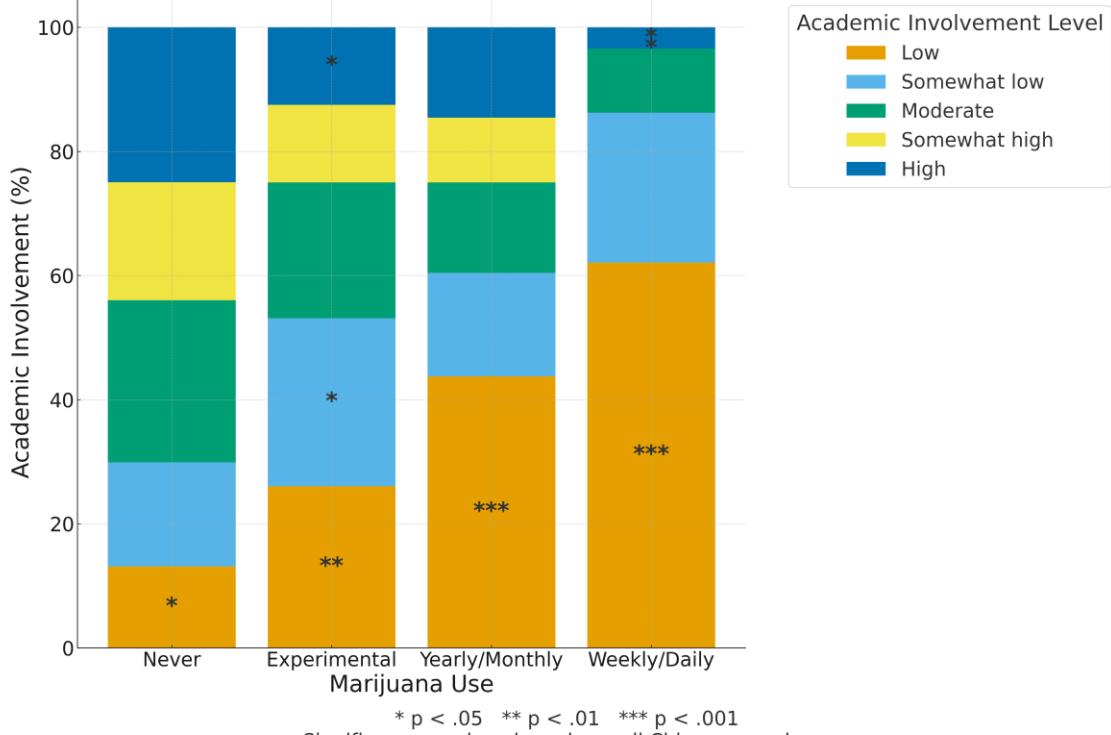


4.2. Marijuana use frequency in the young adult sample



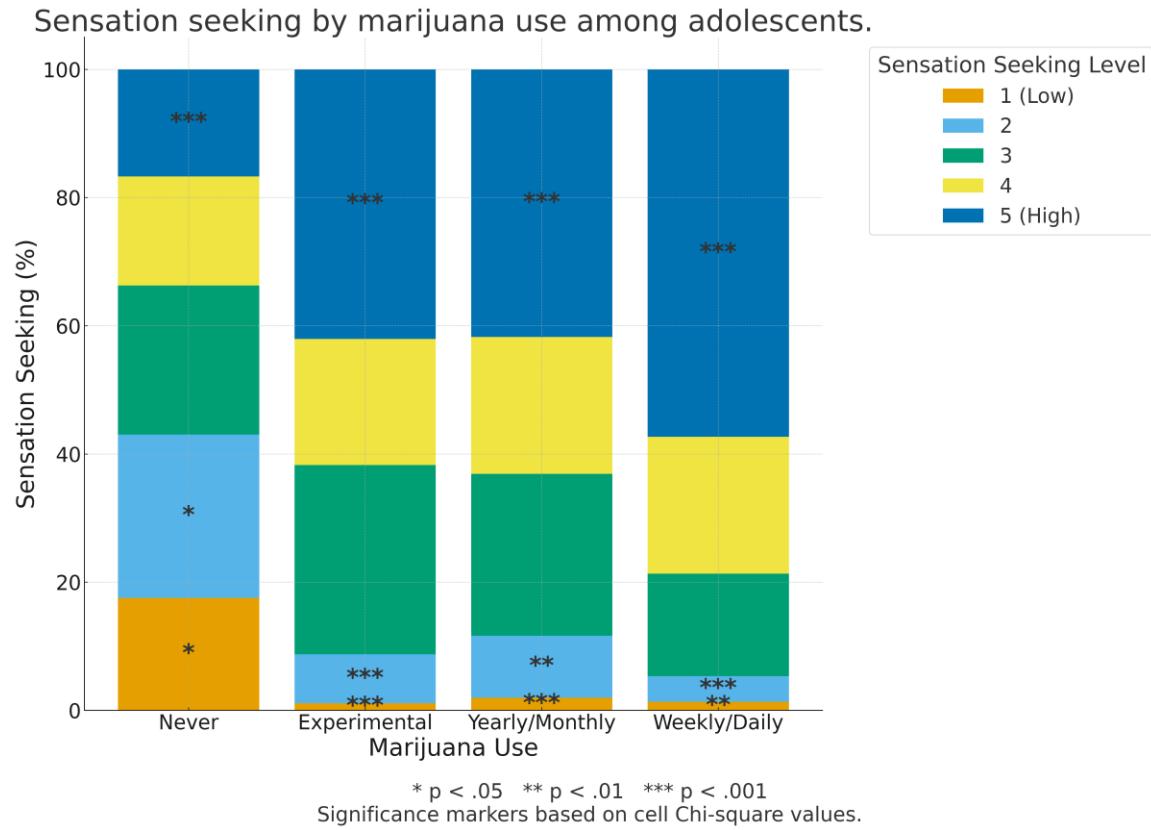
4.3. Marijuana use and academic involvement among adolescents

Academic involvement by marijuana use among adolescents.



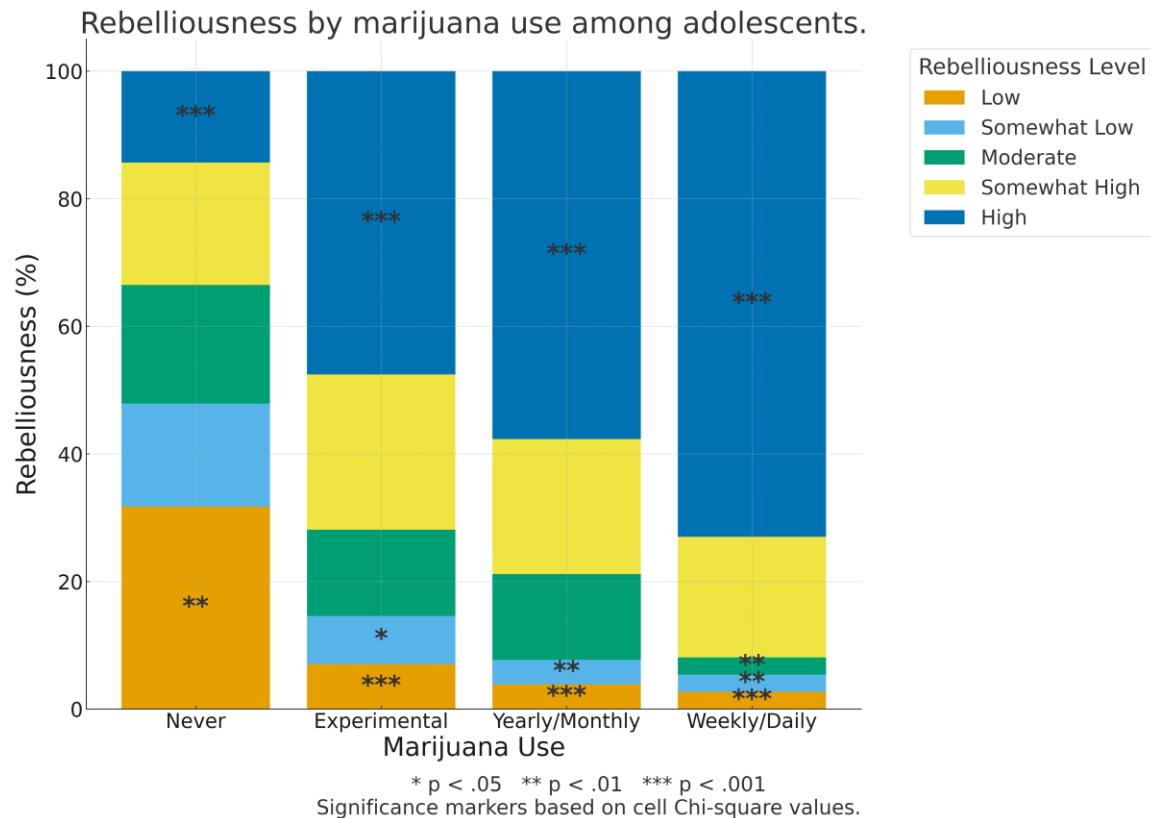
Note. Students with more marijuana use were more likely to show low academic involvement. Further analyses showed that the results are not attributable to demographic characteristics, such as gender and race/ethnicity.

4.4. Marijuana use and sensation seeking/risk taking tendencies among adolescents



Note. Students with no marijuana use were more likely to low risk taking, whereas students with greater marijuana use were more likely to show high risk taking. Further analyses showed that initial level of marijuana use was related to increases in sensation seeking over the next year.

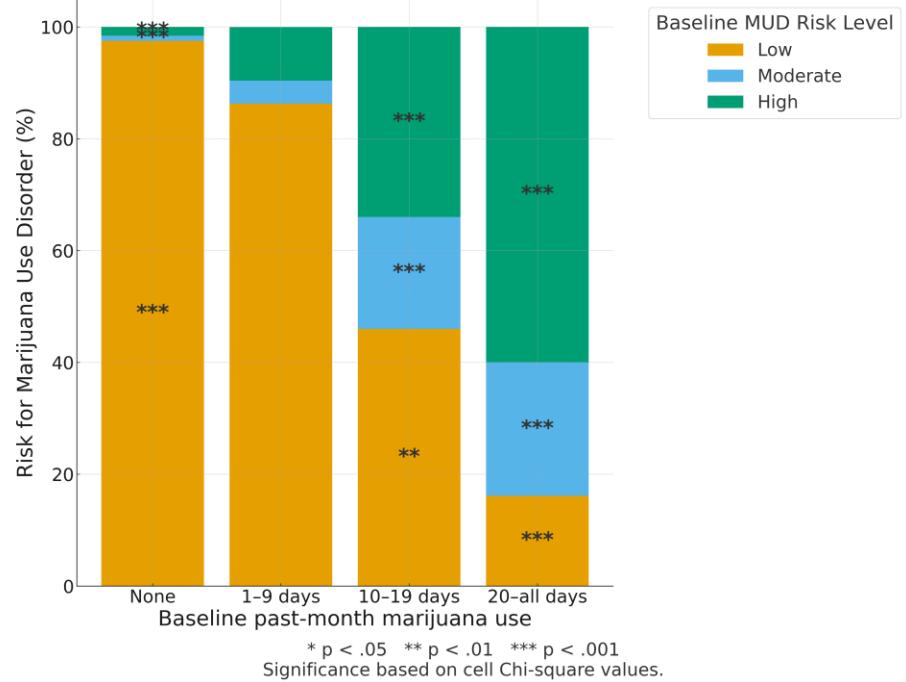
4.5. Marijuana use and rebelliousness among adolescents



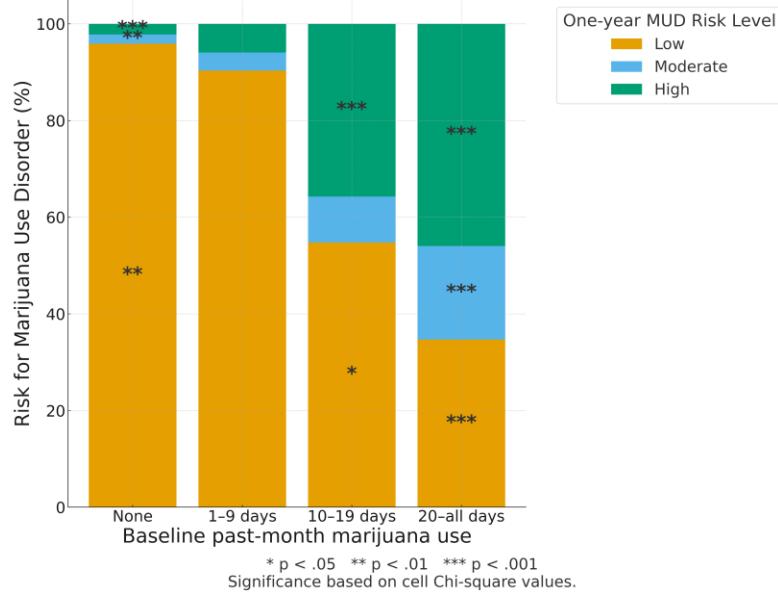
Note. Students with no marijuana use were more likely to show low rebelliousness, whereas students with greater marijuana use were more likely to show high rebelliousness. Further analyses showed that initial level of marijuana use was related to increases in rebelliousness over the next year.

4.6. Marijuana use and marijuana use disorder among young adults

Risk for marijuana use disorder at baseline by past-month marijuana use rates at baseline among young adults.



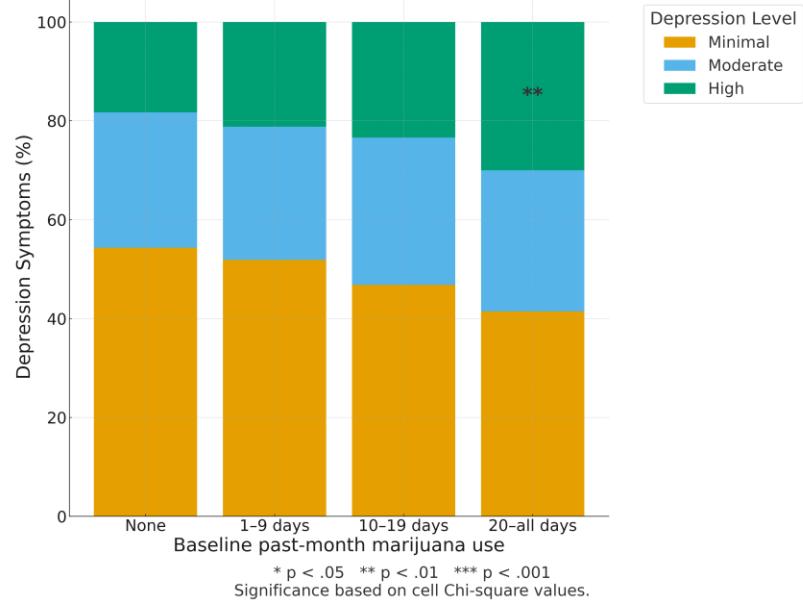
Risk for marijuana use disorder at one-year follow-up by baseline past-month marijuana use rates among young adults.



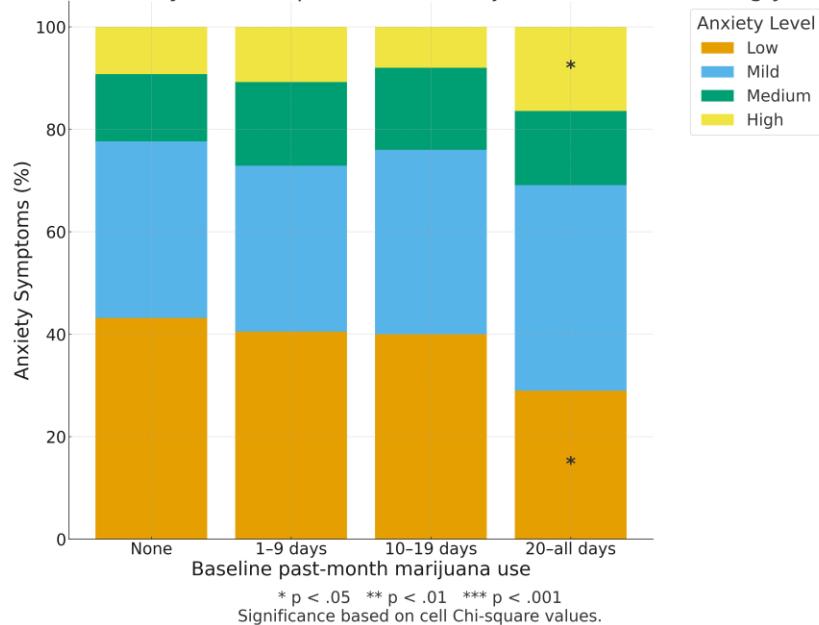
Note. The analysis was based on individuals who reported having used marijuana at least once in their lifetime. Risk for marijuana use disorder progressively increased with frequency of use. Non-negligible proportions of non-daily users were likely to be at risk for marijuana use disorder, even a year later.

4.7. Marijuana use and poor mental health symptoms among young adults

Depression symptoms at baseline by baseline past-month marijuana use rates among young adults.



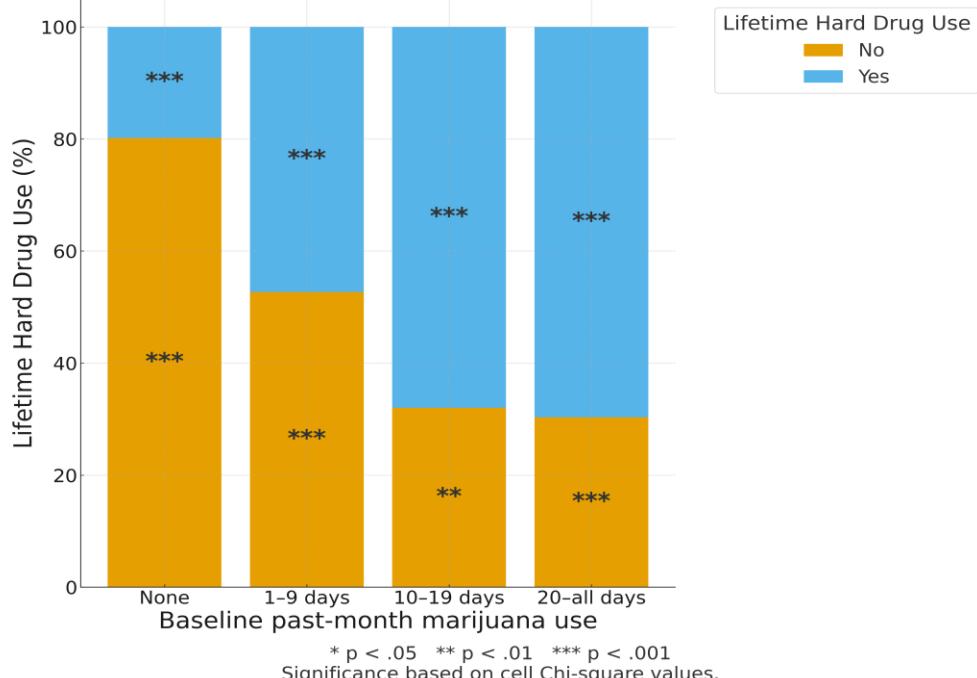
Anxiety symptoms at baseline by baseline past-month marijuana use rates among young adults.



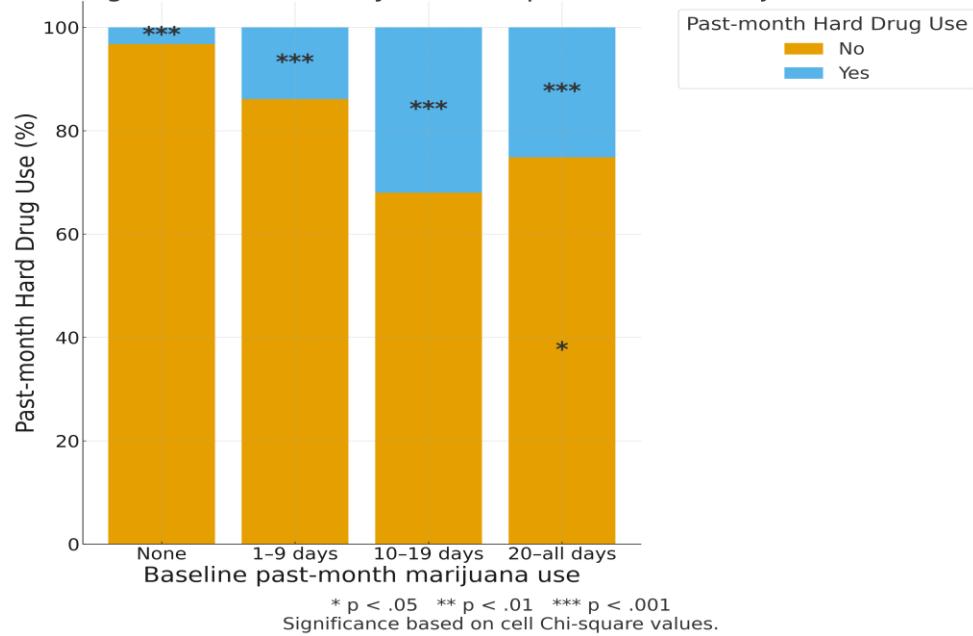
Note. Those who used marijuana more frequently in the past month were more likely to report depression and anxiety symptoms.

4.8. Marijuana use and other illicit (“hard”) drug use among young adults

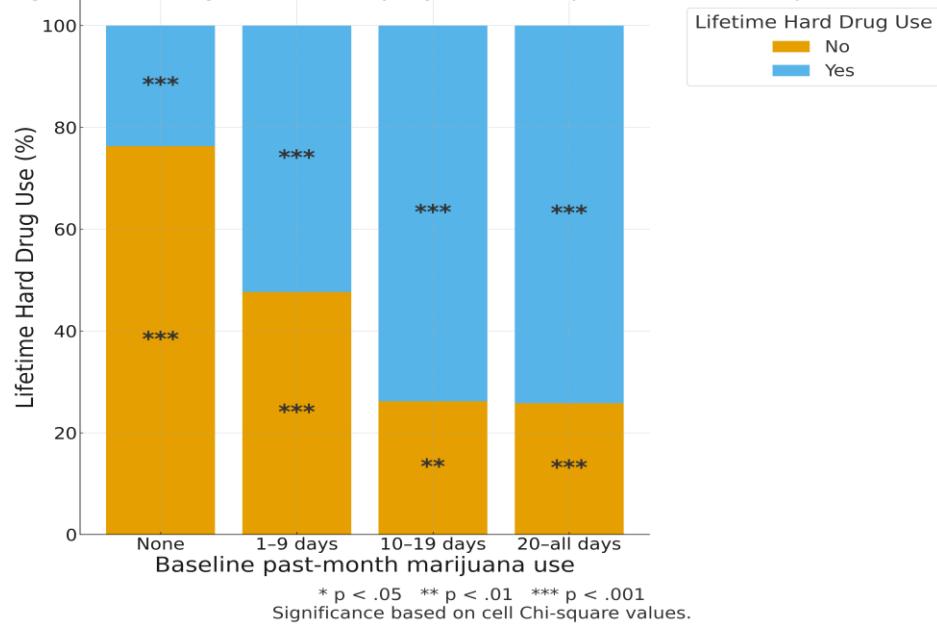
Lifetime hard drug use at baseline by baseline past-month marijuana use.



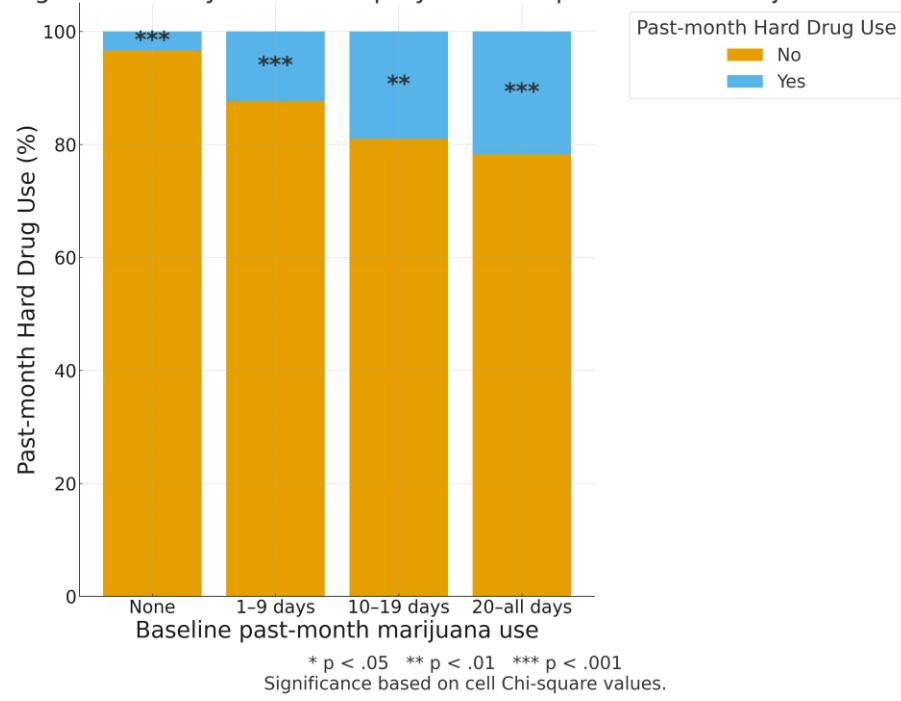
Past-month hard drug use at baseline by baseline past-month marijuana use.



Lifetime hard drug use at one-year follow-up by baseline past-month marijuana use.



Past-month hard drug use at one-year follow-up by baseline past-month marijuana use.



Note. Hard drug use assessed included methamphetamine, amphetamine, cocaine, opiates, inhalants, hallucinogens, and sedatives. Lifetime and past-month hard drug use prevalence tended to increase with higher past-month marijuana use frequency, even one year later. However, a caveat regarding these findings is that the association between marijuana use and hard drug use may be confounded by some shared risk factors.

5. Conclusions

We found that among adolescents, higher marijuana use was associated with poorer academic involvement, higher sensation seeking/risk taking tendencies, and higher rebelliousness. Among young adults, we found that marijuana (frequent and relatively infrequent) use was associated with increased risks for marijuana use disorder, poorer mental health symptoms (depression and anxiety), and increased likelihood of engaging in “hard” drug use.