

Binghamton University

The Open Repository @ Binghamton (The ORB)

Research Days Posters 2023

Division of Research

2023

Associations between Frequent Cannabis Usage and Substance Abuse

Cara Patrissy

Binghamton University--SUNY

Julia Lin

Binghamton University--SUNY

Antionietta Raymond

Binghamton University--SUNY

Nicole Scott

Binghamton University--SUNY

Follow this and additional works at: https://orb.binghamton.edu/research_days_posters_2023

Recommended Citation

Patrissy, Cara; Lin, Julia; Raymond, Antonietta; and Scott, Nicole, "Associations between Frequent Cannabis Usage and Substance Abuse" (2023). *Research Days Posters 2023*. 70.

https://orb.binghamton.edu/research_days_posters_2023/70

This Book is brought to you for free and open access by the Division of Research at The Open Repository @ Binghamton (The ORB). It has been accepted for inclusion in Research Days Posters 2023 by an authorized administrator of The Open Repository @ Binghamton (The ORB). For more information, please contact ORB@binghamton.edu.

Marijuana as a Gateway Drug: the Association between Cannabis and Psychoactive Substance Use

Introduction

- Cannabis is a psychoactive drug from the cannabis plant. The use of this drug consists of recreationally and entheogenic uses. Cannabis consists of mind altering THC chemicals, which are associated with altering senses, mood, and memory (NIDA, 2019).
- Cannabis can induce chemical changes in the brain, and high doses can cause hyperdopaminergia: too little dopamine. This creates problems with the brain's reward system which can lead to addiction, inattentiveness, and behavior changes. Higher concentrations of THF are found in vaping cannabis products and make the younger generation more prone to addiction (Blum, K.et. al., 2021).
- Cannabis is the most common form of illicit drug use among college students, relying on the drug to cope with feeling overwhelmed with school work or mental health issues. However, studies have shown statistically significant associations between increased cannabis use and academic decline (Arria et al., 2013).
- The Gateway Hypothesis describes that hard-drug users began experimenting with less dangerous drugs, which escalated the use of increasingly more dangerous drugs. Studies have shown that the stepping-stone effects of marijuana on hard drugs are positive and statistically significant (Deza, 2015).
- This study was conducted to examine the role of cannabis in additional substance use, researching ADHD medication, alcohol, cocaine, adrenochrome, sniff/huff glue, nicotine and ecstasy.

Hypothesis

- We hypothesized that Cannabis usage will be significantly correlated with usage of alcohol, illicit ADHD medication, and additional psychoactive substances

Methods

- The study conducted was cross-sectional.
- Data was collected through an anonymous google form survey that was distributed via text message, email, class presentations, tabling, and social media platforms such as Instagram, Snapchat, and Twitter.
- The Survey was collected over a four month period, from August 2022- November 2022.
- The survey consisted of 80 questions regarding the demographics of participants, frequency and duration of ADHD medication use, alcohol, cannabis, and other psychoactive drugs, academic performance, and physical and mental distress
- Data were analyzed using Pearson's Correlation Coefficient in SPSS, version 25.0.

Results

- A total of 702 responses were generated from those who were over the age of 18 and were pursuing a higher education.

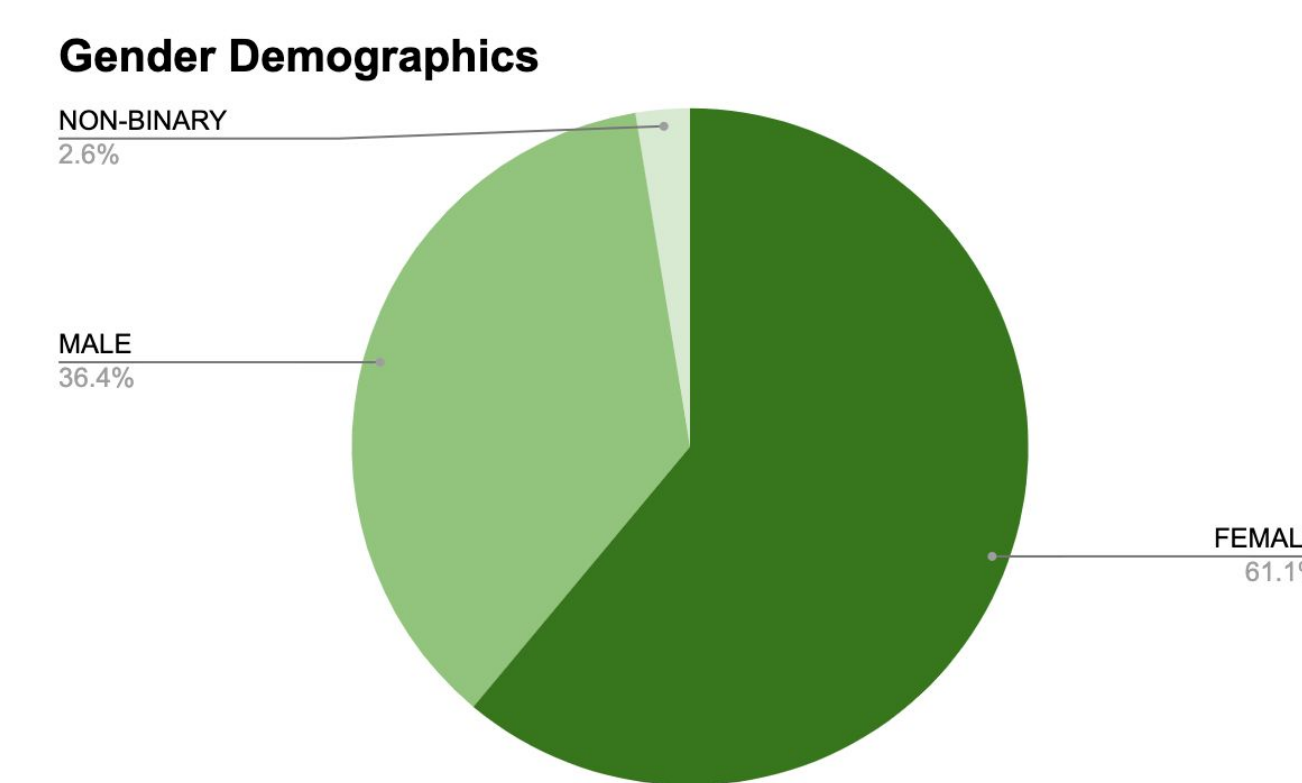


Table 1: Associations between Experience with ADHD medications and Psychoactive Drug Use

Cannabis Usage	Experience With ADHD Medications
Moderate†	-.438**
Semi-Frequent†	-.411**

†3-5 times in the past 12 months
‡10-19 times in the past 12 months

Table 2: Associations between Physician Prescribed/Non-Physician Prescribed ADHD Medication Use and Cannabis Usage

Cannabis Usage	ADHD medication was prescribed by a physician
Frequent†	-.163*

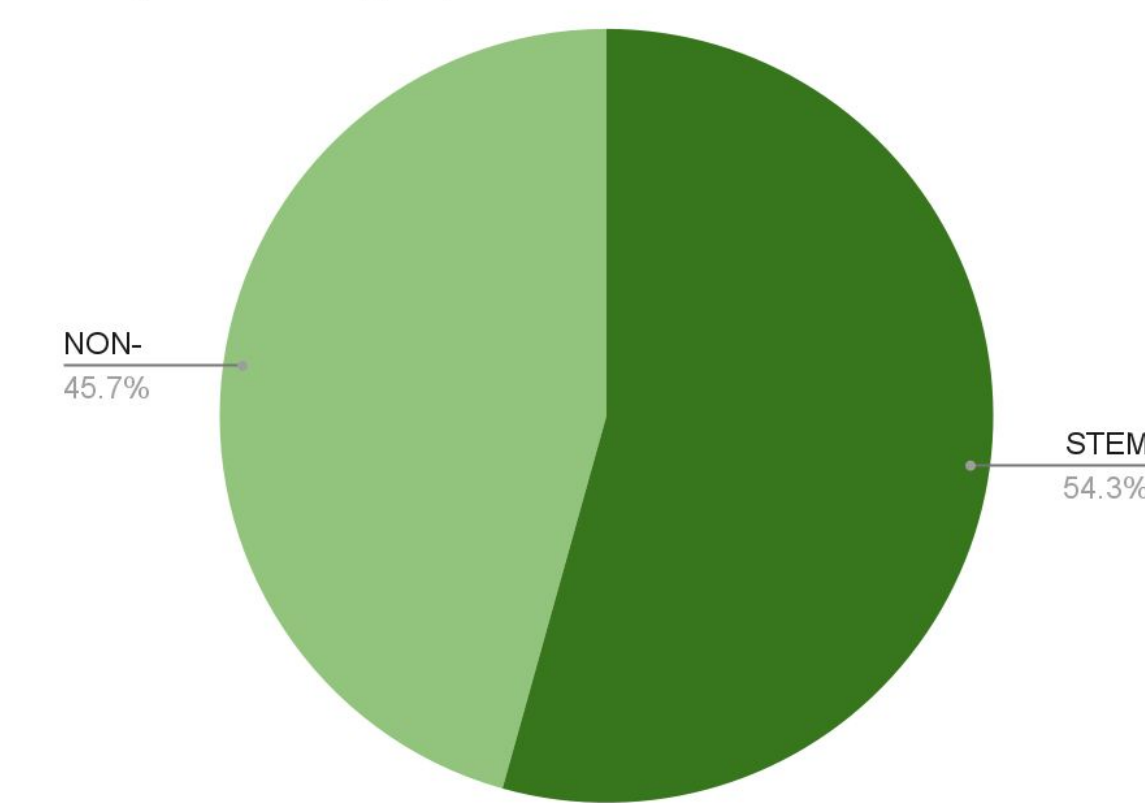
†20-29 times in the past 12 months

Table 3: Associations between Very Frequent Cannabis usage and Additional Drug Use

Stimulant Usage	Very Frequent Cannabis Use*
ADHD medication usage	.317**
Very Frequent cocaine usage†	.313**
Very Frequent adrenochrome usage†	1.00**
Very Frequent sniff/huff glue usage†	.452**
Frequent cigarette usage ††	.182**
Very Frequent ecstasy usage†	.267*

†40+ times in the past 12 months
††(100+ cigarettes in lifetime and at least 1 cigarette daily during past month)

Major Demographics



GPA Demographics

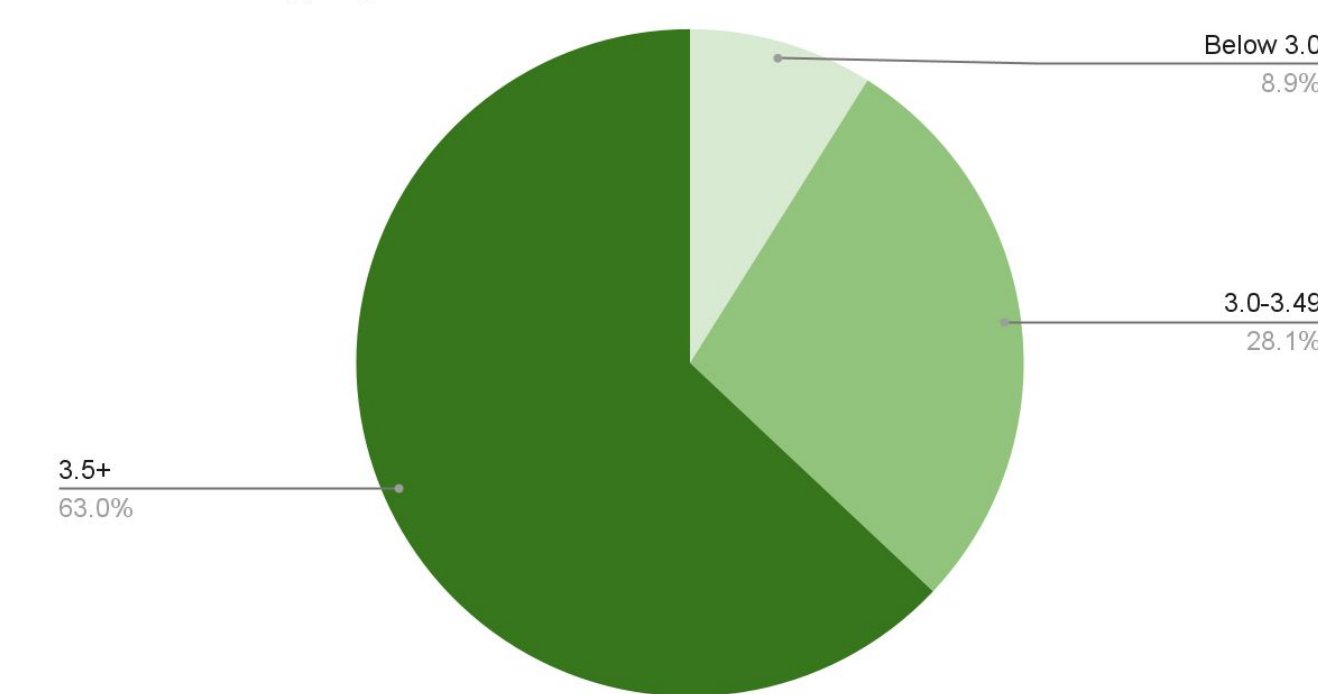


Table 4: Cannabis Usage and ADHD Medication Usage

Cannabis Usage	Have You Ever Used ADHD Medication?
Non-user	-.108*
Moderate†	-.95*
Very Frequent††	.317**

†3-5 times in the past 12 months
††40+ times in the past 12 months

Table 5: Cannabis Usage and Symptoms of Binge Drinking

Symptoms of Binge Drinking	Very Frequent Cannabis Usage†
Inability to stop drinking once you have started	.126**
Inability to remember what happened the night before because of drinking	.145**
Having friends, family, and healthcare providers be concerned about your drinking	.111*

†40+ times in the past 12 months
*p<0.05
**p<0.01

Discussion and Conclusion

- Different frequencies of cannabis use were significantly associated with negative experiences with ADHD medication (p < 0.01)
- Frequent cannabis use was significantly associated with illicitly obtaining ADHD medication (p<0.05)
- Very frequent cannabis use was significantly correlated with ADHD medication use and high frequency of cocaine, adrenochrome, sniff/huff glue, and cigarette (p < 0.01), and ecstasy use (p < 0.05).
- No cannabis use and moderate cannabis use had a statistically significant negative correlation with ADHD medication use (p < 0.05). Very frequent cannabis use had a significant positive correlation with ADHD medication use (p < 0.01).
- High frequency of Cannabis usage was significantly correlated with the inability to stop drinking once you have started and the inability to remember what happened the night before because of drinking (p < 0.01), and having friends, family, and healthcare providers be concerned about your drinking (p < 0.05).

Future Work and Limitations

- There were 702 responses to the survey, which is a relatively small sample size. The significance of the results would have more power if a larger sample size was obtained.
- Gender-Neutral and "Prefer Not to Say" responses were not coded, leading to the possibility in skewed data in unknown ways
- The survey was relatively long, taking about 10-12 minutes to complete, leading to the possibility for participants to submit inaccurate answers due to rushing and lack of thought in responses. Also potential for self-reporting bias.
- Future research would be interesting to analyze reasoning for taking cannabis as a mediator in its role as a gateway drug. Additional mediators such as sleep, exercise, and healthy habits would be interesting to study.

Acknowledgements

- We would like to thank the Binghamton University IRB, Health and Wellness Department, and B-SMART team for making our study possible

References

