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Associations Between Cannabis, Cocaine, MDMA “Ecstasy”, and Mental Distress

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Associations between Cannabis, Cocaine, MDMA “Ecstasy”, and Mental Distress

Introduction

- Abuse of psychoactive substances, including cocaine and MDMA/“Ecstasy,” are characterized by negative health and social consequences due to their addictiveness (Bonnet et al., 2020).
- High cannabis use has increased among college students over the past five years and the usage levels have been the highest recorded since the 1980s (National Institutes of Health., 2021).
- However, a growing number of studies have shown that illicit use of stimulants have been associated with poor academic performance with dangers including psychosis, myocardial infarction, cardiomyopathy, and even sudden death (Kirchgeßner and Lakhan, 2020).
- Dependence results from alteration in brain chemistry to structures such as the hypothalamus, which play a role in cue-induced tonic craving and addiction severity (Zhang et al., 2021).
- The purpose of this study was to assess the illicit use of Adderall, the use of psychoactive substances, including cannabis, cocaine, and MDMA/“Ecstasy,” and mental distress.

Methods

- Cross sectional anonymous online survey was sent over various social media platforms, and in Binghamton University through flyers and QR codes.
- 80 questions evaluating demographics, cannabis, cocaine, MDMA/“ecstasy,” other psychoactive substance usage, academic performance and mental distress using K6 Scale, Perceived Stress Scale, and the Ontario Student Drug Use and Health Survey.
- The 6-point likert scale was utilized for several respondents.
- Data was analyzed using Pearson’s Correlation Coefficient in SPSS version 25.0.

Results

Figure 1: Demographic Percentages of Gender Identity

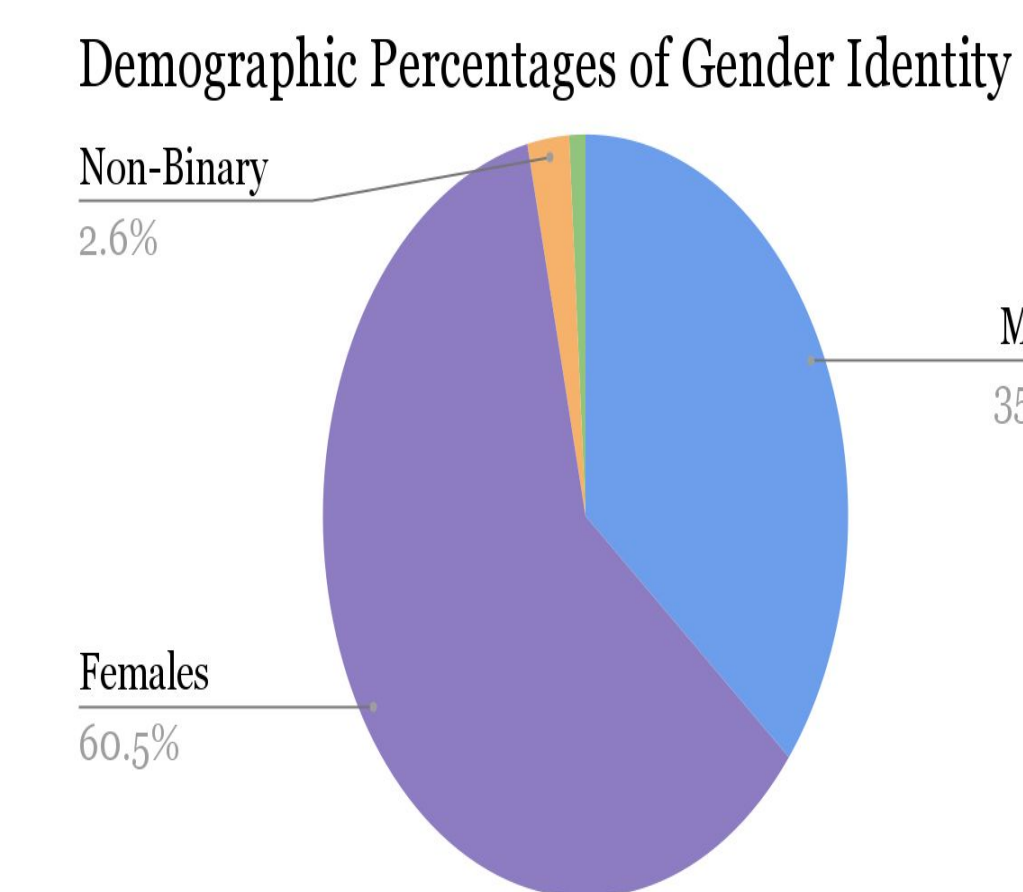


Figure 2: Demographic Percentages of Attended Colleges

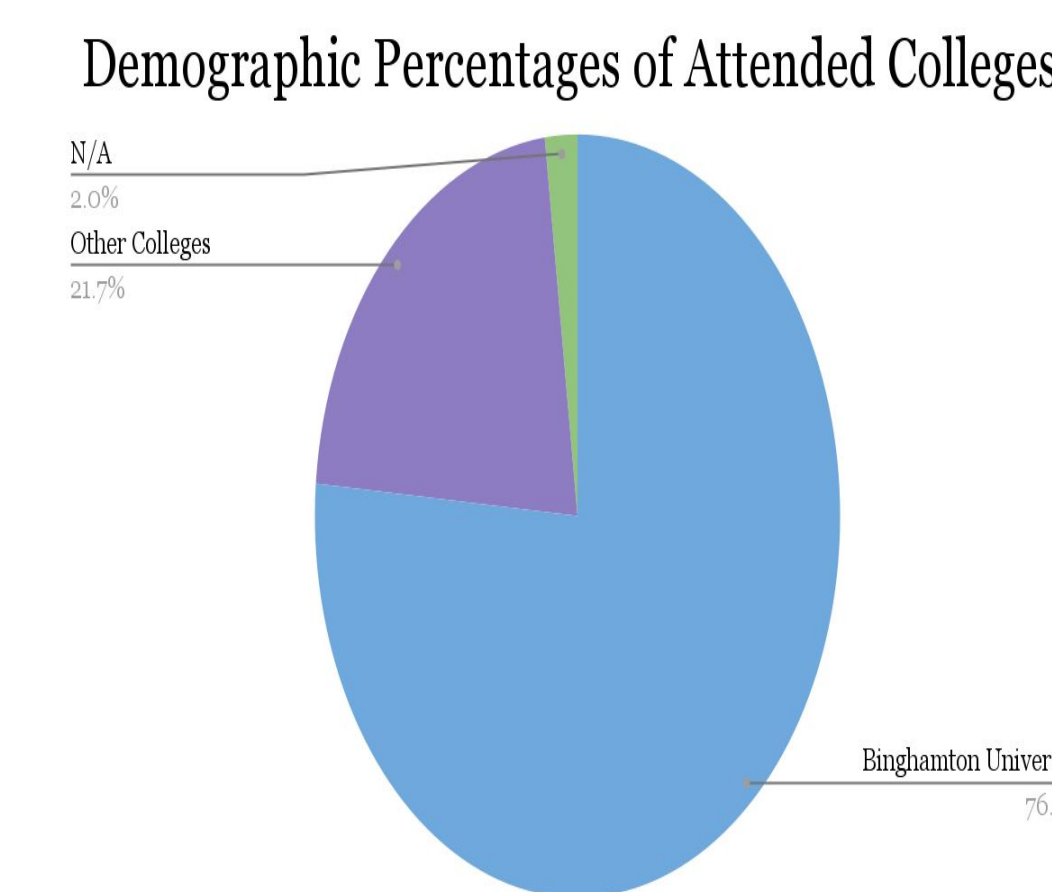


Figure 3: Demographic Percentages of Age Groups

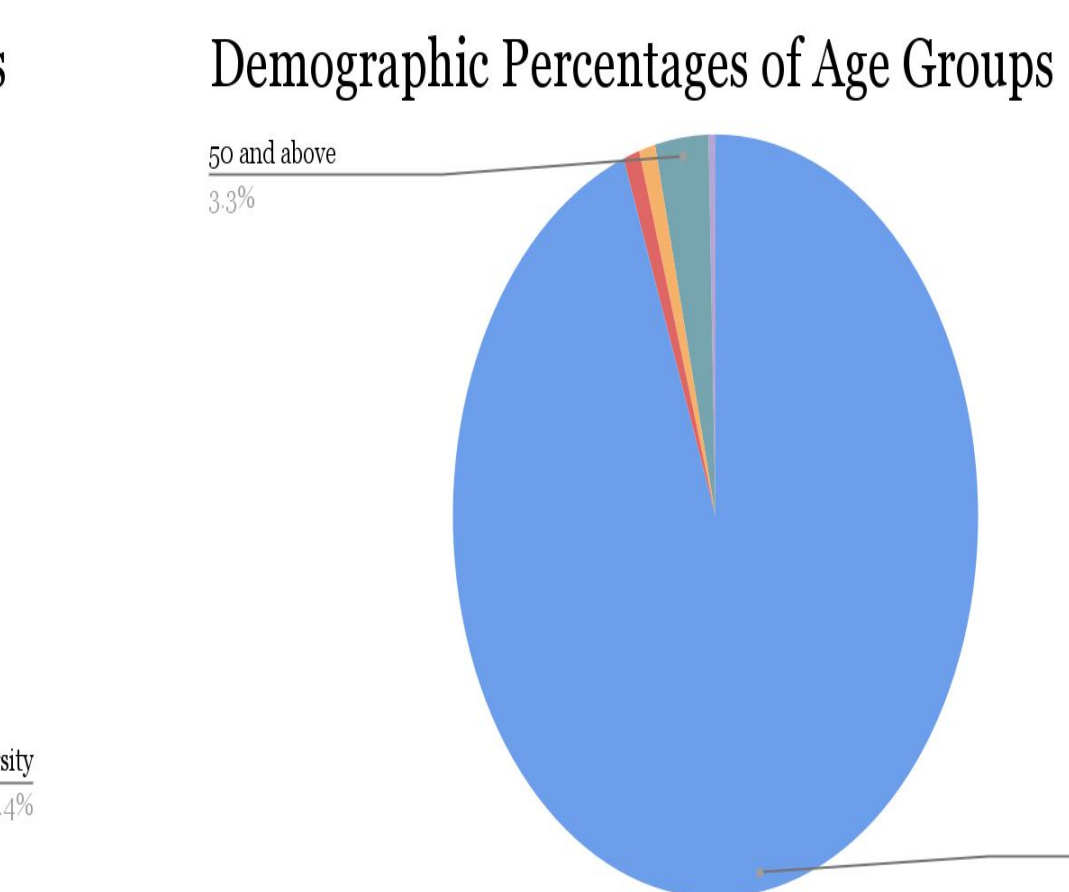


Table 1: Various Psychoactive Substances and Frequency paired with Feeling Incompetent

Psychoactive substance and frequency	Feeling Incompetent
Cannabis Very Frequent usage (40+ times in the last 12 months) of psychoactive substance	.102*
Cocaine Very Frequent usage (40+ times in the last 12 months) of psychoactive substance	.332**
Cocaine Low Usage (1-2 times in last 12 months)	-.254**
MDMA or “Ecstasy” Very Frequent usage (40+ times in the last 12 months) of psychoactive substance	.512**

Table 2: Various Psychoactive Substances and Frequency paired with Feeling Worthless

Psychoactive substance and frequency	Feeling Incompetent
Cannabis Very Frequent usage (40+ times in the last 12 months) of psychoactive substance	.102*
Cocaine Very Frequent usage (40+ times in the last 12 months) of psychoactive substance	.332**
Cocaine Low Usage (1-2 times in last 12 months)	-.254**
MDMA or “Ecstasy” Very Frequent usage (40+ times in the last 12 months) of psychoactive substance	.512**

Table 3: Various Psychoactive Substances and Frequency with Various Mental Distress Symptoms

Other Substances and Frequency	Feeling hopeless	Feeling so depressed that nothing could cheer you up	Rating mental or emotional health
Moderate Cocaine Usage (6-9 times in the last 12 months)	.228*	-	-
Moderate MDMA or “Ecstasy” Usage (6-9 times in the last 12 months)	-	.320*	-
Infrequent cannabis usage (not in the last 12 months)	-	-	.110*

*=p < 0.05 **=p < 0.01

A Total of 702 responses were collected

Discussion and Conclusion

- There was a positive statistically significant association between very frequent cannabis use (40+ in the last 12 months) and increased mental distress (Pederson et al., 2015).
- Our findings coincide with research by Cambridge University Press (2018) stating that statistically significant negative correlations exist between both non frequent and low cannabis usage and mental distress.
- A statistically significant positive correlation between both non frequent and low cocaine usage and mental distress.
- In this study (Sinha et al., 2000) the findings correspond to the statistically significant negative correlation between moderate and very frequent cocaine use and mental distress.
- A statistically significant positive correlation exists between moderate and very frequent MDMA/“Ecstasy” use and mental distress (Parrott et al., 2014).
- Possible sources of error include small sample size due to time constraint, self-report bias due to influence of social desirability, social norms, and other external factors.
- Further research should focus on assessing the relationship between mental distress and the frequency of psychoactive substance use.

References

