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### Investingating the Link Between Adderall Abuse, Mood, and Diet in College Students

Catherine Ievolella

*Binghamton University--SUNY*

Evan Rasco

*Binghamton University--SUNY*

Danielle Chan

*Binghamton University--SUNY*

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# The Link Between Adderall Abuse, Mood, and Diet in College Students

Catherine Ievolella, Evan Rasco, Danielle Chan

Faculty: Dr Lina Begdache

## Abstract

- Unprescribed Adderall use on college campuses as a means of increasing cognitive ability has become an increasingly prevalent problem today. This research explores the question of how Adderall abuse may be influenced by a poor diet or mood.
- An anonymous online survey was administered through word of mouth and social media platforms, such as GroupMe. The survey included basic demographic questions such as age and gender, as well as questions on dietary patterns, lifestyle choices, mood, frequency of ADHD medication use, and symptoms experienced. The data was analyzed using Pearson's Correlation Coefficient, SPSS Version 25.0.
- In terms of diet, it was found that those who have taken Adderall were significantly more likely to have consumed frozen meals throughout the week, an indication of a low-quality diet. It was also found that those who reported being restless and fidgety during the past month were significantly more likely to have taken Adderall ( $p < .05$ ). Those who reported being restless and fidgety were also significantly more likely to have consumed components of the Western diet, such as fast foods, pre-made foods, and sweets ( $p < .01$ ) during the past week.
- Adderall abuse across college communities has been an increasing problem that has not been thoroughly acknowledged, so these results shed some light on the topic. Educating people about how their lifestyles may play a role in Adderall abuse is a step in the right direction to combat this problem.

## Introduction

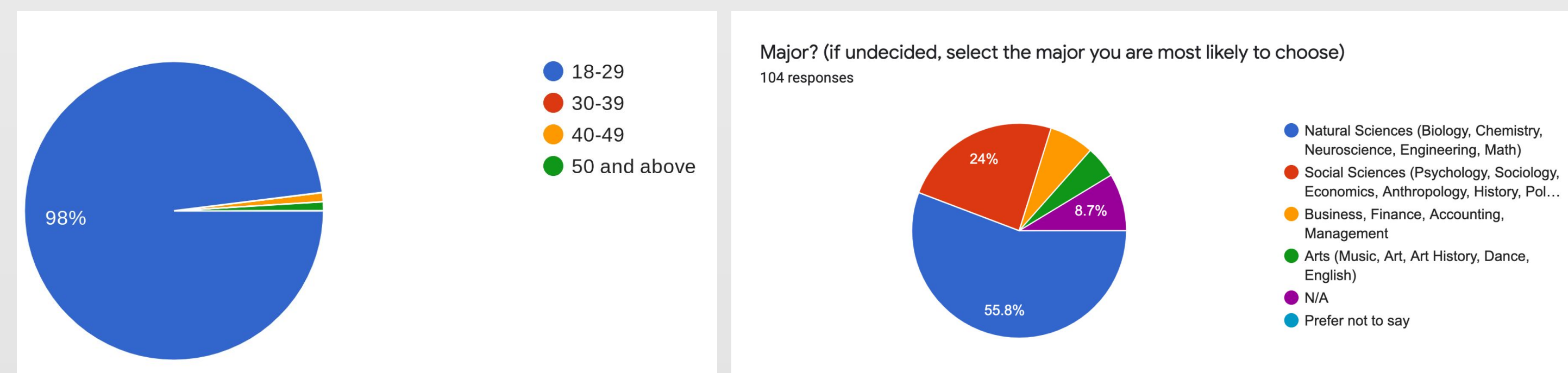
- Many college students use drugs intended for the treatment of ADHD, including Adderall, Vyvance, Ritalin, and Concerta. While some are prescribed these medications, many are not. This study focuses on the association between nutrition, mood, and adderall usage in college students. We hypothesized adderall usage to be correlated with a low quality diet and negative moods.
- A study conducted by Kim et al. (2017) found Adderall to be associated with poor mental health side effects, such as anxiety, sleep deprivation, and obsessive compulsive behaviors, as well as physical health side effects such as loss of appetite. This study monitored tweets containing the word "adderall", and found that 8.9% of these tweets talked about abusing another stimulant alongside adderall.
- Research from Kiernan, Reid, and Zavos, (2016) has shown that the reason for why Adderall is so popular among college students is that it is used as a tool for studying and staying more focused. They found that about a third of the sample has taken unprescribed adderall. However, there was only a small increase in GPA from the use of unprescribed adderall. It can be assumed that adderall doesn't reach its desired effects.
- In a survey conducted by Cregin, Koltun, Malik, Uzmeozor, Begdache (2021), it was found that the use of ADHD medication was significantly correlated to low GPA, as well as an increase in mental health side effects, such as depression, anxiety, and panic attacks, as well as physical side effects, like sleep disturbances, fatigue, headache, and weight loss.
- The purpose of our research is to find the association between nutrition, mood, and Adderall abuse in college students.

## Acknowledgement

- We would like to thank Dr. Begdache, our TA Eric Kam, the HWS Department for their dedication and knowledgeable resources that allowed us to carry out this research.
- We would also like to thank the whole class for helping with the collection of data. Thank you to all participants who have taken our survey!

## Methods and Demographics

- The means of collecting data was through the use of surveys pertaining to the research topic. Some of these questions asked about diet, mental health, and experience with ADHD medication. The means of deliverance was with word of mouth and communicating with others online. The following demographics show that the topic was relevant to sample, which were college students.
- Of all the 104 participants of our survey, 38.5% were male and 61.5% were female. 98% of those participants were between the ages of 18 and 29.



## Results

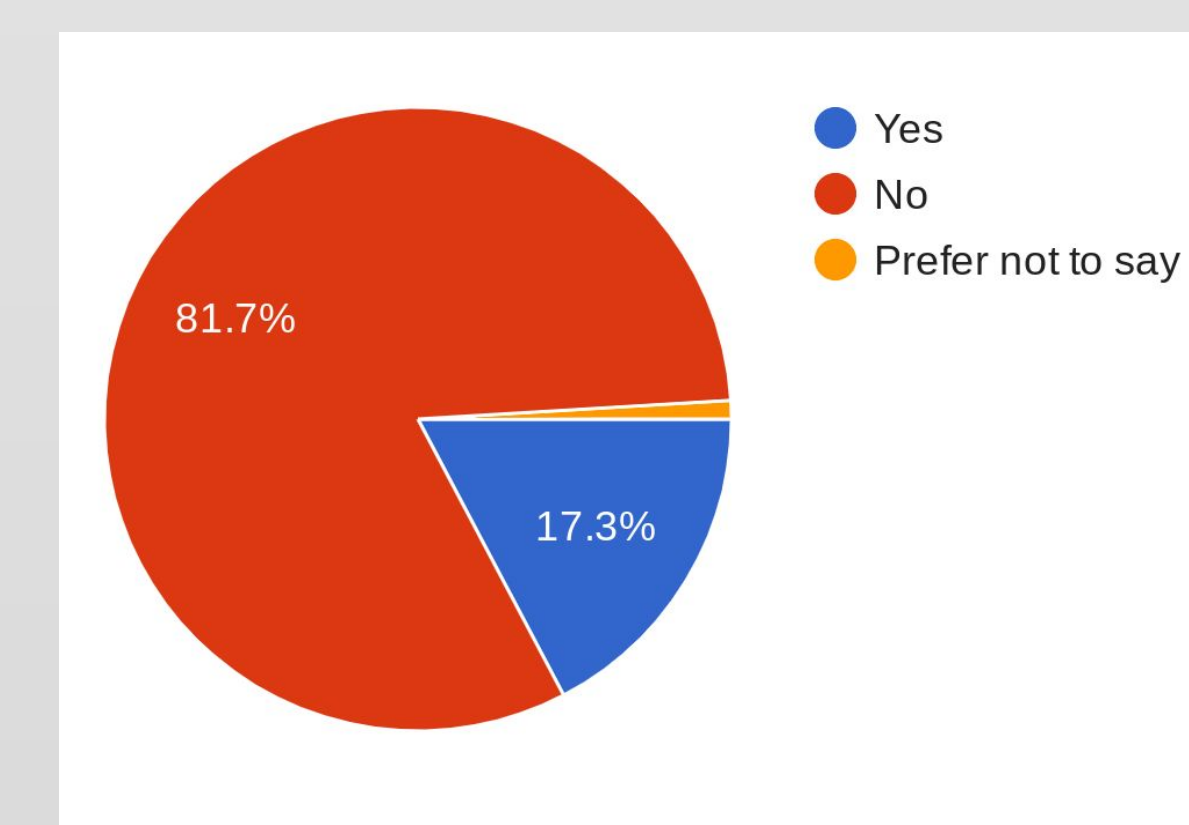


Figure 1. Results displays the answers to the question, "have you ever taken any medications for ADHD such as, but not limited to, Adderall, Ritalin, Concerta, or Vyvance?" 17.3% of participants responded "yes" to this question.

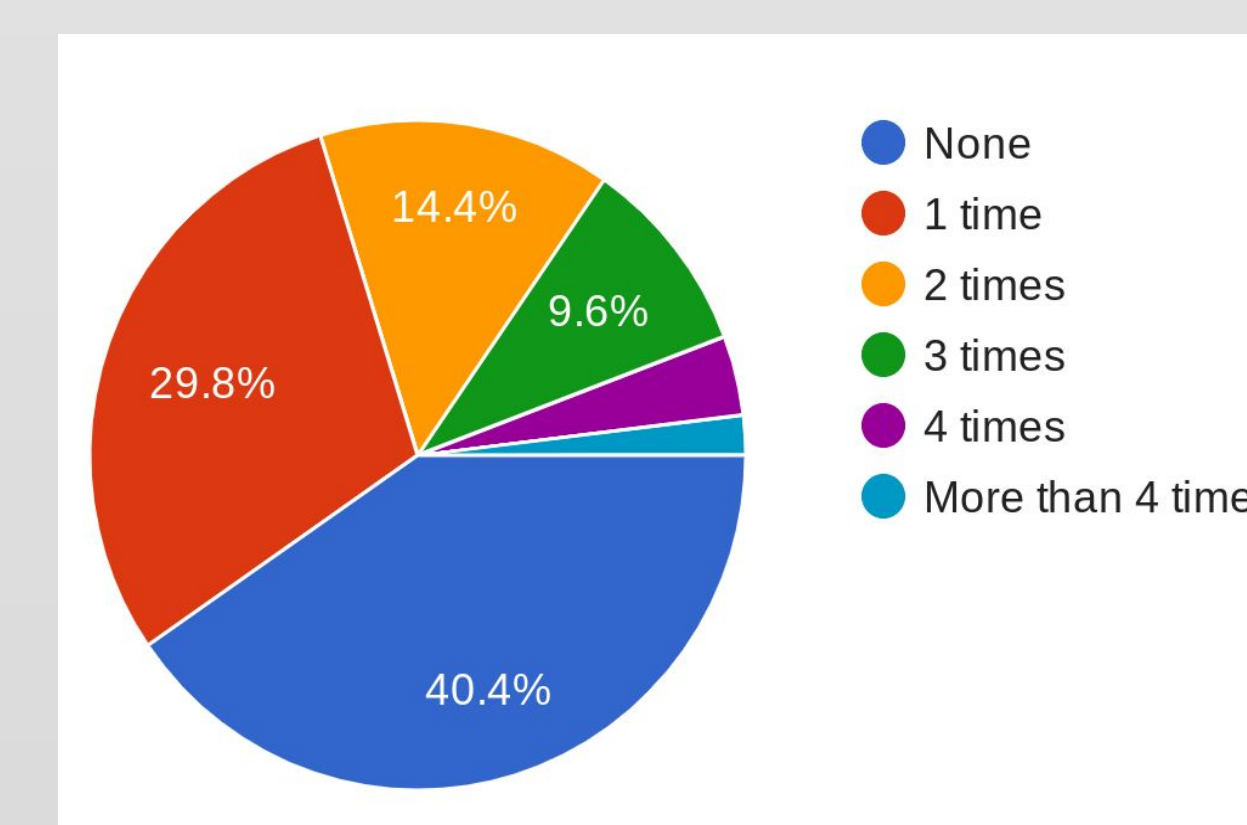


Figure 2. Results shows respondents' answers to the question, "on an average week, how many times do you eat frozen meals?"

- Table 1. Correlations between Adderall use and mental health.

Restless and Fidgety	$r = .212^*$
Everything Was an Effort	$r = .294^{**}$

- Table 2. Correlations between feeling restless and fidgety and dietary patterns.

Consumed caffeine in the past week	$r = .240^*$
Consumed fast foods or pre-made foods in the past week	$r = .324^{**}$
Consumed frozen meals	$r = .198^*$
Consumed sweets	$r = .272^{**}$

\* denotes  $p < .05$   
\*\* denotes  $p < .01$

## Discussion

- The purpose of this experiment was to understand the association between food, mood, and drug abuse in college students. Our findings suggest that a low quality diet, feeling anxious, and Adderall abuse are highly correlated.
  - In terms of diet, we found that those who have taken Adderall were more likely to have eaten more frozen meals throughout the week ( $r = .224$ ). Consuming frozen meals throughout the week is in indication of a low quality diet.
  - In terms of mood, those who have been more restless and fidgety in the last month were more likely to have taken Adderall ( $r = .212$ ). People who reported feeling this way were also more likely to have consumed caffeine in the past week ( $r = .240$ ), consumed fast food or pre-made foods in the past week ( $r = .324$ ), consumed frozen meals ( $r = .198$ ), or consumed sweets ( $r = .272$ ).
- This supports our hypothesis, as well as supplements findings of previous studies. It is known that healthy eating patterns, such as the Mediterranean diet, are associated with better mental health than "unhealthy" eating patterns, such as the Western diet. In fact, certain foods or dietary patterns have an effect on glycemia, immune activation, and gut microbiome (Firth, et al. 2020).
- From our research, we would recommend monitoring your diet to ensure you are getting the correct nutrients, regardless of whether or not you are taking Adderall, as this could ultimately prevent abuse of the drug and improve mood and overall health.
- The implications of this study give us important insight on how drug abuse can occur in stressful and unhealthy environments. Adderall is a drug that changes brain chemistry, and so it is not surprising that those who take the drug experience mental health related side effects, such as feeling restless and fidgety and feeling as though everything is an effort, as found in this study.
- Similarly, diet and mood are very interconnected, so it is very important to educate people, especially college students who are at a greater risk for abusing drugs, on the importance of eating a well-balanced diet low in highly processed foods.

## Conclusion

- In conclusion, monitoring diet is important because there is a clear correlation between eating unhealthy foods, experiencing changes in mental health, and using Adderall. Based on this research, one component of health clearly affects the other, that being diet affects mental health.
- Further research is needed to fully investigate the link between mood, behavior, and drugs. With additional time and funding, it is possible to look into the direct mechanisms into how each factor influence each other, especially on the biochemical level. Although the specifics of how one affects the other are unclear, it is enough for those to recognize the impacts of an unhealthy diet on mental health, and a call to action is needed.

## Literature Cited

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