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Investigating the Correlations Between Illicit ADHD Medication Use and Emotional Health

Introduction

Attention deficit hyperactivity disorder, or ADHD, is a neurodevelopmental condition characterized by inattention, hyperactivity, and impulsivity, which results in functional impairment (Mechler et al., 2022). Other mental problems, such as substance use disorders, anxiety, and affective disorders, are frequently linked to ADHD (Castells et al., 2018). The illicit use of Adderall is widely increasing on college campuses causing college students to increase their mental alertness and help with academic success. However, a number of studies reported that illicit use of psychostimulants have been associated with poorer academic performance (Begdache et al., Cregin et al., 2021). Schedule II drugs such as Adderall and ADHD medications are becoming known as, “Smart drugs” and their use of “smart doping” is becoming headlined across a variety of media outlets. This has led many college students to believe that using these drugs without the supervision of a medical practitioner is not dangerous and is generally harmless (Arria and Dupont, 2010). As a result, using ADHD medications while studying may be counterproductive in terms of improving knowledge of the content and may contribute to the inefficacy of such drugs in improving academic performance, particularly when used illicitly (Cregin et al., 2021). The relationship between illegal ADHD substance use and emotional health in college students is still an area in need of further research. Therefore, the purpose of this study is to elucidate this connection. Our findings may provide a framework to support development of mental health education programs to promote awareness of the widespread issue on college campuses.

Hypothesis

- If individuals consume less nutritious foods then they are more likely to engage in illicit Adderall use and experience mental distress because they will attempt to counter fatigue, lack of focus and loss of motivation by utilizing Adderall.

Methods

- Data was collected using an anonymous online survey via Google Forms asking participants to indicate illicit use of ADHD medication, dieting patterns, and notable symptoms of mental distress.
- Demographic questions including gender, age, college, and major were also collected.
- The survey was distributed to college students via email, social media, GroupMe, and outreach events at Binghamton University.
- Data for this study was collected and analyzed from 761 participants.

Results

Positive Correlations Between Various Hallmarks of Mental Distress

- Survey responses showed either a significant or a statistically significant positive correlation between weekly caffeine consumption and feelings of nervousness ($r=0.076$, $p>0.01$), restlessness ($r=0.096$, $p>0.01$), depression ($r=0.072$, $p>0.01$), worthlessness ($r=0.081$, $p>0.01$), high levels of stress ($r=0.085$, $p>0.01$), and that everything was an effort ($r=0.067$, $p>0.05$).
- Survey responses showed a statistically significant positive correlation between weekly consumption of frozen meals and feelings of nervousness ($r=0.119$, $p>0.01$), hopelessness ($r=0.128$, $p>0.01$), restlessness ($r=0.161$, $p>0.01$), depression ($r=0.145$, $p>0.01$), worthlessness ($r=0.142$, $p>0.01$), high levels of stress ($r=0.134$, $p>0.01$), and that everything was an effort ($r=0.174$, $p>0.01$).
- Survey responses showed either a significant or statistically significant positive correlation between weekly fast food consumption and feelings of nervousness ($r=0.073$, $p>0.05$), hopelessness ($r=0.100$, $p>0.01$), restlessness ($r=0.078$, $p>0.01$), depression ($r=0.156$, $p>0.01$), worthlessness ($r=0.128$, $p>0.01$), high levels of stress ($r=0.070$, $p>0.05$) and that everything was an effort ($r=0.088$, $p>0.01$).

Negative Correlations Between Various Hallmarks of Mental Distress

- Survey responses showed a negative correlation between weekly exercise and feelings of hopelessness ($r=-0.126$, $p>0.01$), restlessness ($r=-0.071$, $p>0.01$), depression ($r=-0.133$, $p>0.01$), worthlessness ($r=-0.131$, $p>0.01$), and that everything was an effort ($r=-0.151$, $p>0.01$). There was a negative correlation between high levels of stress and exercise ($r=-0.077$, $p>0.01$).
- Survey responses showed a negative correlation between weekly meat, chicken or turkey consumption and feelings of hopelessness ($r=-0.126$, $p>0.01$), restlessness ($r=-0.071$, $p>0.01$), depression ($r=-0.133$, $p>0.01$), worthlessness ($r=-0.131$, $p>0.01$), and that everything was an effort ($r=-0.151$, $p>0.01$). There was a negative correlation between high levels of stress and exercise ($r=-0.087$, $p>0.01$).
- Survey responses showed a negative correlation between eating breakfast weekly and feelings of restlessness ($r=-0.128$, $p>0.01$), depression ($r=-0.067$, $p>0.01$), worthlessness ($r=-0.088$, $p>0.01$), and that everything was an effort ($r=-0.073$, $p>0.01$).

Table 1: Correlations of Various Hallmarks of Mental Distress

Diet Intake	Nervous	Hopeless	Restless	Depressed	Required Extra Effort	Worthless	High Levels of Stress
Caffeine	0.076**	N/A	0.096**	0.072**	0.067*	0.081**	0.085**
Exercise	N/A	-0.126**	-0.071**	-0.133**	-0.151**	-0.131**	-0.077**
GPA	N/A	-0.134**	-0.099**	-0.154**	-0.149**	-0.109**	N/A

Table 2: Diet Intake and Various Hallmarks of Mental Distress

Diet Intake	Nervous	Hopeless	Restless	Depressed	Required Extra Effort	Worthless	High Levels of Stress
Breakfast	N/A	N/A	-0.128**	-0.067**	-0.073**	-0.088**	N/A
Meat, Chicken, and Turkey	.0.128**	-0.100**	-0.078**	-0.084**	-0.078**	-0.077**	-0.087**
Frozen Meals	0.119**	0.128**	0.161**	0.145**	0.174**	0.142**	0.134**
Fast Food	0.073*	0.100**	0.078**	0.156**	0.088**	0.128**	0.070*

Discussion & Conclusion

- The purpose of this study was to investigate the relationship between illegal ADHD substance use and emotional health in college students. We hypothesized that individuals will consume less nutritious foods than they are more likely to engage in illicit Adderall use and experience mental distress because they will attempt to counter fatigue, lack of focus and loss of motivation by utilizing Adderall.
- Our findings provided a framework to support development of mental health education programs to promote awareness of the widespread issue on college campuses. From our study, we found positive correlations between weekly caffeine consumption and feelings of nervousness, between weekly consumption of frozen meals and feelings of nervousness, and as well as weekly fast food consumption and feelings of nervousness.
- There were multiple negative correlations found, such as weekly exercise and feelings of hopelessness, between weekly meat, chicken or turkey consumption and feelings of hopelessness, and as well as weekly meat, chicken or turkey consumption and feelings of hopelessness.
- Based on these findings, we recommend that college campuses provide students guidance on navigating the workload and promotions for good study habits, as well as educating them on the dangers of illegal drug abuse. More research should be conducted in order to fully determine the effects of illicit ADHD usage on an individual’s emotional health.

Future Works

- Conduct analysis of coping skills and other methods used by college students when responding to high levels of stress
- Investigate the use of illicit study drugs or other contraband on emotional health and various hallmarks of mental distress
- Determine if there’s a relationship between degree of study, illicit study drug use, and emotional health
- The relationship between antidepressant and anti-anxiety medications in reducing negative mental health symptoms
- Evaluate the correlation between family health history, diet intake, and emotional health

References

Arria AM, DuPont RL (2010) Nonmedical prescription stimulant use among college students: why we need to do something and what we need to do. *J Addict Dis* 4:417–26

Castells X, Blanco-Silvente L, Cunill R. (2018). Amphetamines for attention deficit hyperactivity disorder (ADHD) in adults. *Cochrane Developmental, Psychosocial, and Learning Problems Group*. 8(8).

Cregin D, Koltun R, Malik S, Umeozor D, Begdache L. (2021). The Adderall Epidemic: A Proposed Cyclic Relationship between ADHD Medication Use, Academic Performance, and Mental Distress. *The Premier Undergraduate Neuroscience Journal*, 13.

Begdache L, Kianmehr H, Sabounchi N, Marszalek A, Dolma N. (2020). Common and differential associations between levels of alcohol drinking, gender-specific neuro behaviors and mental distress in college students. *Trends in Neuroscience and Education*, 19.

Mechler K., Banaschewski T., Hohmann S., Hage A. (2022). Evidence-based pharmacological treatment options for ADHD in children and adolescents. *Pharmacology & Therapeutics*. 230.

Pliszka SR. (2019). ADHD and Anxiety: Clinical Implications. *Journal of Attention Disorders*, 23(3): 203–205. Roland AD, Smith PJ. (2017). Aided by Adderall: Illicit Use of ADHD Medications by College Students. *Journal of the National Collegiate Honors Council*. 18(2):41-77

Weyandt LL, White TL, Gudmundsdottir BG, Nitenson AZ, Rathkey ES, De Leon KA, Bjorn SA. (2018). Neurocognitive, Autonomic, and Mood Effects of Adderall: A Pilot Study of Healthy College Students. *Pharmacy*. 6(3):58.