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Adderall Abuse Among College Students: Unveiling Underlying Motivations

Giordana Paige Scanni
Bard College, gs2886@bard.edu

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Adderall Abuse Among College Students: Unveiling Underlying Motivations

Senior Project Submitted to
The Division of Science, Mathematics, and Computing
of Bard College

by
Giordana Paige Scanni

Annandale-on-Hudson, New York

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Abstract

Adderall is the most common stimulant prescribed to individuals with Attention-Deficit Hyperactivity Disorder (ADHD). There is a growing body of evidence revealing how Adderall abuse is most commonly linked to academic enhancement. But there is limited research suggesting why Adderall abuse is still on the rise, and why it is so easily accessible despite its detrimental effects on the body. To assess this growing issue, the current study investigated whether doctors are properly monitoring the side effects of Adderall, while uncovering a potential underlying motivation of Adderall abuse for weight loss. This study identified a large sample of college students with and without a prescription for Adderall who I predicted were all at risk of abusing Adderall for weight loss ($N=70$). All participants were asked to complete a self-survey questionnaire which included questions from the adult ADHD self-report scale given as one of the predominant approaches in diagnosing ADHD in adults, measures of the participants' Adderall usage, and a measure of the individual's attitude toward eating. Results revealed that individuals with a script for Adderall scored higher on the ADHD self-report questions, and took Adderall more frequently than individuals without a prescription. While there was no significant relationship between individuals with or without a prescription for Adderall and uses for weight loss, 27.5% of the participants reported being satisfied with experiencing weight loss due to Adderall and six of those participants had a prescription for Adderall. Three of those participants had asked for an increase in their dose after noticing weight loss and four of those participants reported not telling anybody about their weight loss due to Adderall. I hope to shed light on the importance of receiving and acknowledging adequate and competent information towards Adderall to ensure doctors are prescribing Adderall for the proper reasons, and patients are more aware and informed of the harmful side effects.

Prognostic Methods in Diagnosing ADHD in Adults

Attention-deficit/hyperactivity disorder (ADHD) is one of the most common psychiatric disorders among children, adolescents, and adults (Gualtieri & Johnson 2005). The DSM-5 is broken down into two main categories of ADHD symptoms. Based on the DSM-5, these are defined as: “inattention and/or hyperactivity-impulsivity that interferes with functioning or development.” Both the Inattention and Hyperactivity-impulsivity criteria of ADHD include nine symptoms considered to be the most indicative of ADHD. To be diagnosed with ADHD, the DSM-5 states as follows: “Inattention: Six or more symptoms of inattention for children up to age 16 years, or five or more for adolescents age 17 years and older and adults; symptoms of inattention have been present for at least 6 months, and they are inappropriate for developmental level. Hyperactivity and Impulsivity: Six or more symptoms of hyperactivity-impulsivity for children up to age 16 years, or five or more for adolescents age 17 years and older and adults; symptoms of hyperactivity-impulsivity have been present for at least 6 months to an extent that is disruptive and inappropriate for the person’s developmental level.”

When it comes to ADHD, there are many misconceptions about what it entails. There is no conclusive evidence of where or how a person gets ADHD, and there is no universal method of diagnosing a person with ADHD. The most accurate and reliable information that is most commonly used by doctors to diagnose ADHD is in accordance with the DSM-5 criteria. With that said, the criteria needed to meet a diagnosis for ADHD simply rely on subjective symptoms. In that matter, how does any doctor or person truly know whether they have ADHD? Authors Gualtieri & Johnson (2005) wrote a critical review on the ways ADHD is diagnosed. They argue that although most symptoms required for a diagnosis come from the DSM criteria, it is not enough and certainly not adequate. This article delves into the usual diagnostic procedures

conducted by physicians which are based substantially, if not solely, on subjective assessments of perceived behavior (Gualtieri, 2005). As stated by the National Institute of Mental Health, doctors typically use systematized behavior scales or ADHD self-symptom checklists to determine whether an adult meets the criteria for a diagnosis of ADHD. As referred to in this article, Gualtieri states these self-report rating scales are: “systematic and quantitative, but not objective. They are a necessary component of the diagnostic process, but not sufficient”(Gualtieri, 2005). The equivocal nature of these rating scales certainly poses a lot of questions in regards to their accuracy and validity in diagnosing ADHD.

Comorbid Symptoms of ADHD and Other Mental Diagnoses

Not only does the subjectivity of an ADHD diagnosis give rise to issues regarding overdiagnosis, but it is also difficult to diagnose ADHD in adults because many of the symptoms share a lot of the same symptoms as other mental health disorders including, borderline personality disorder, anxiety, depression, and obsessive-compulsive disorder. These disorders also include symptoms such as impulsivity, excessive talking, racing thoughts, difficulty focusing, and trouble starting and completing tasks (Low, 2020). Another small difference in diagnosing adults and children with ADHD is that Adults only need to have at least five of the symptoms listed in the DSM-5, whereas children must show at least six of the symptoms listed in the DSM. Symptoms can also look significantly different in adults than in children because hyperactivity can be demonstrated through many behaviors such as disorganization, trouble focusing, poor time management skills, etc. Another distinction between diagnosing adults and children with ADHD is that in diagnosing adults, doctors rely solely on subjective reports from the patients themselves. Therein, doctors may not always recognize other underlying mental or

physical health issues — history of eating disorder behaviors, depression, or anxiety— the patient may not be disclosing.

Currently, there are approximately 4% of adults in the United States diagnosed with ADHD (Kessler et.al., 2006). Adderall has become the most common medication prescribed to individuals diagnosed with ADHD. The use of non-medical prescription stimulants such as Adderall were found to be the highest among college-aged students ranging from 18–25 years old (Sweeney et.al., 2012). Additionally, In 2012, there were reports of 16 million prescriptions written for stimulants for Adderall, three times the amount written in 2008 (Fel, 2021). Given how complicated the diagnosis of ADHD is and the potentially uncontrollable circumstances that may occur, these issues could lead to a misdiagnosis or a written script for Adderall for an individual who does not have ADHD or for an individual who may be at risk of abusing it otherwise.

History of Adderall

The generic name for Adderall is Dextroamphetamine-amphetamine, which came from the chemical mixture of salts Gordon Alles inadvertently discovered when trying to develop a new drug for asthma. Amphetamine exists in two forms: the Dextro- (or *d*-) and Levo- (or *l*-) isomers or enantiomers. In 1937, Smith, Kline, and French (SKF) synthesized both isomers and began the marketing of *d*-amphetamine, which was seen as the more potent of the two isomers, under the trade name of Dexedrine (Heal et. al, 2013). Alles performed the first human test trial on himself in 1929 by injecting 50mg of racemic amphetamine (Rasmussen 2015). He noted the effects experienced were “nose cleared-dry,” “feeling of well-being—palpitation,” and sometimes “sleepless nights” and racing thoughts “from one subject to another.” After unimpressive results in treating asthma, the “sleeplessness” and “well-being” effects (i.e.

wakefulness and increased motivation), sparked curiosity and became the next foreseeable attempt for finding a different profitable function for the drug (Rasmussen, 2015). In a few earlier amphetamine test trials, individuals for this experiment were subjects diagnosed with and without any psychiatric disorder. Both controls widely reported: “a sense of efficiency along with ‘increased energy’ and ‘pep’; perceived working performance on amphetamine may have also been enhanced by the increased talkativeness and assertiveness” which was generally reported among all participants in the study. Rasmussen’s literature review on the history of amphetamine also mentions that the first most commonly reported effects of amphetamine were pleasurable sensations, and boosts of energy. Physicians and scientists felt that these intended effects had met the requirements for antidepressant medications, and thus was initially advertised as one of the first medications to treat depression labeled by the brand name “Benzedrine Sulfate.” By 1940, Benzedrine Sulfate had achieved great medical approval, and sales for Benzedrine Sulfate increased at exponential rates throughout the United States and the United Kingdom (Rasmussen, 2015).

Nevertheless, appetite suppression was another common effect of Adderall reported among many individuals in the early test trials. However, this was not an intended effect for treating any psychiatric disorder which also sparked interest and curiosity among scientists. In one of the first psychiatric studies in 1937, it was reported that 40 patients and 80 hospital staff controls (i.e. individuals who did or did not have a psychiatric diagnosis) lost weight after only a few weeks of ingesting Adderall (Nathanson, 1937). Before weight loss was considered to be a harmful side effect, it was considered to be the most “useful effect of amphetamine.” Once these appetite suppressant effects became well known, nutritionists started to prescribe them for weight loss purposes, and ultimately, this demand began to attract small drug-making businesses. People

who took out a patent for SKF manufactured both copies of Benzedrine Sulfate tablets and the brightly colored “rainbow” diet pills containing amphetamine and thyroid hormones too. By the late 1940s, patent infringers were producing enough amphetamine that Benzedrine Sulfate sales produced by SKF were declining. SKF eventually sued the largest of these competitors, and in 1945, SKF won the lawsuit due to unfair competition and having their patent (i.e. Allen's) upheld. In turn, the diet pill producers immediately switched to methamphetamine. Methamphetamine produced almost identical effects to amphetamine, but at the time of its discovery in the 1920s, the pharmacological compounds in methamphetamine were not taken up in the medical field because they were known to be too dangerous for your health. Consequently, methamphetamine “was free from patent encumbrance.” In the meantime, during the 1930s and 1940s, SKF had discreetly sponsored clinical trials to test amphetamine’s efficiency for weight loss purposes. However, these trials did not gain approval from the American Medical Association (AMA) to advertise amphetamine for weight loss until 1947. Initially, the AMA did not approve amphetamine use for weight loss because they thought amphetamine reduced appetite in dangerous, unprecedented ways. In 1947, a study done by SKF vouched for the effectiveness of amphetamine for reducing weight by revealing how amphetamine affects brain regions responsible for appetite, rather than through metabolic or harmful unintended effects. By the late 1960s, weight loss became the most prevalent and authorized indication for amphetamine and methamphetamine. As a result, the use of amphetamine as an antidepressant slowly declined (Rasmussen, 2015).

Case reports of addiction and psychosis among American patients prescribed amphetamine have been recognized since the 1930s (Rasmussen, 2015). However, the first quantitative evidence to determine the abuse of amphetamine came from Britain in the 1960s.

Several comprehensive studies on the topic of amphetamine abuse prescribed in general practice in Newcastle, England, revealed that within the population of Newcastle, mainly young, female individuals who were given amphetamine in equal portions for weight loss, depression, and other psychiatric symptoms— around 10% of these women prescribed amphetamine became dependent to some extent, and a third of these women who had initially taken amphetamine by prescription became addicted to amphetamine (Brandon et. al., 2008).

Amphetamines' effects on cognitive performance, appetite, and mood-elevation were considered the three most beneficial pharmacological effects of this drug class. Towards the end of amphetamine's first decade as a medicine, these effects were rigorously explored in controlled trials. By 1970, this drug was classified as a schedule II drug due to its high potential for abuse, and once doctors became aware of this drug's addictive qualities, the Food and Drug Administration (FDA) declared that the only people eligible to use this drug were individuals diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). Data from a survey conducted in the United States on household substance use found that almost half of the 3.2 million people who reported nonmedical use of stimulant drugs used "non-methamphetamine psychiatric stimulants" which today are ADHD medications. Users who reported nonmedical use of ADHD stimulants accounted for one-third of about 300,000 Americans considered being addicted to amphetamine (Kroutil et. al., 2006). In 1996 the mixture of salts, amphetamine, and dextroamphetamine was labeled with the brand name Adderall (Rasmussen, 2015).

How Adderall Targets ADHD Symptoms

Adderall has become the most common treatment for the pharmacotherapy of ADHD (Palamar, 2017). Adderall contains a mixture of two stimulant drugs, amphetamine, and dextroamphetamine which target two primary neurotransmitters in the brain, dopamine, and

norepinephrine. Dopamine is responsible for many of our actions, and behaviors constantly sending signals to and from the brain which affect the ways we think, feel, and behave.

Norepinephrine also affects numerous aspects of our brain, and inherently affects our blood pressure, heart rate, and blood vessels, as its primary function is to increase arousal and alertness throughout the day. Reviewed by Clinical Pharmacy Specialist, Jessica Pyhtila, Adderall

increases dopamine levels in the brain which ultimately affects our central nervous system.

When our nervous system is stimulated by Adderall, it helps reduce ADHD symptoms by alleviating impulsive behaviors, and improving attention and focus (Carmona, 2021).

There are two forms of Adderall that doctors typically prescribe, Adderall XR (extended-release) and Adderall IR (immediate-release). In an article published in 2018 that distinguishes Adderall IR vs. XR reported by Mental Health Daily, both forms of Adderall contain the same active ingredient with 75% dextroamphetamine and 25% levoamphetamine.

The main difference between the two types is the duration of time the pill affects the body.

Adderall XR provides continuous effects throughout the day, typically effective for about ten to twelve hours before it begins to wear off. On the other hand, Adderall IR starts working the instant it is taken, and lasts for a significantly shorter duration, lasting about four hours before wearing off.

There is an extensive amount of evidence revealing the positive effects Adderall can have for a person diagnosed with ADHD. For the past decade, stimulants like Adderall have been seen to be the most effective treatment in targeting ADHD symptoms (Faraone et. al., 2007). Adderall is intended to improve hyperactivity, impulsive behavior, and one's attention span (Pietrangelo 2015). In a laboratory school study, children ages 6 to 12 with ADHD who had taken either Adderall XR and Vyvanse (MAS-XR; Adderall) were compared with children who took

Strattera. These children were evaluated over a 3-week trial on their academic and behavior improvements and results revealed that the children who took MAS-XR; Adderall showed greater improvements in attention, math problems, and overall clinical functioning than the children who took Strattera (Faraone et. al., 2007). As reported by the Cleveland Clinic, stimulants like Adderall improve symptoms of ADHD in 70 to 80 percent of children, and in 70 percent of adults. The effects of Adderall on an individual's body depend on several factors including height, weight, age, etc. but the main reason people with ADHD take Adderall is to stimulate the central nervous system. The neuroscience behind those who have ADHD is quite complex. Essentially, those who do have ADHD are subjected to dysregulation of the brain catecholaminergic systems in the prefrontal cortex, and its connections to subcortical regions including the striatum. Neuroimaging studies in subjects with ADHD have also revealed anatomical alterations and functional changes consistent with a reduced dopaminergic function in various dopamine-rich areas of the brain including the frontal cortex, striatum, and globus pallidus (Heal et. al., 2013). Furthermore, because of Adderall's potent qualities individuals who do not have ADHD and take Adderall will also experience the same cognitive enhancement effects, but to a greater degree. The most common prescription stimulants include Adderall, Ritalin, and Dexedrine, typically used to treat ADHD or narcolepsy. However, because stimulants are drugs that increase levels of activities that are primarily associated with the central nervous system of the body, these effects are also seen in many illicit drugs such as cocaine, MDMA, and Methamphetamine. These drugs are well known for their addictive qualities as they are also considered schedule II drugs. Individuals who have ADHD experience various neurotransmitter deficits, and those who do not have ADHD and use Adderall illicitly, produce an overload of chemicals in the brain. The overload of artificial chemicals creates a euphoric

effect very similar to the effects of cocaine. Consequently, this increases the likelihood of addiction (Varga et al., 2012).

Other Effects of Adderall on the Body

Although research has suggested that there are many positive effects of taking Adderall for those diagnosed with ADHD, it is just as important to acknowledge the negative side effects of this stimulant. According to an article that primarily investigated how students perceive ADHD stimulants, and the illicit use of Adderall, Desantis & Hane (2009) briefly touch on the potent qualities of Adderall. They note that Adderall has become progressively popular among college students and in addition to its high potential for abuse, Adderall warrants immense concern over its adverse effects; Increased heart rate, increased blood pressure, extreme weight loss, strokes, and seizures which are just a few of the most commonly experienced side effects of taking Adderall. Given that Adderall is a schedule II drug, it is extremely likely for any individual to overdose if taken in large amounts. Because Adderall is a stimulant drug made to stimulate levels of activity in the body including heart rate and blood pressure, this increases the chances of a heart attack or stroke. The United States FDA Adverse Event Reporting System (FAERS) reported 6,145 adverse events related to the use of Adderall and Adderall XR from 1994 to March 2020, and of those reports, 3,251 cases were considered serious and included 202 deaths (Llamas, 2022). It is imperative that individuals recognize the dangerous effects of stimulant abuse, as many emphasize the appalling reality behind Adderall's euphoric effects.

Adderall Abuse on College Campuses: Student's Perspectives

According to the United States Food and Drug Administration, substance abuse is defined by the "inappropriate, excessive and persistent use of a drug" for non-medical purposes. In this case, intentionally taking Adderall solely for the euphoric effects or the appetite suppressant effects, would be considered Adderall abuse (Team PharmaEducation, 2021). Adderall has become notorious for its popularity, and acceptance among college students. As

argued in the preceding sections, Adderall abuse on college campuses is a serious problem.

However, the reasons as to how and why it is so easily obtained are in need of investigation. In a comprehensive literature review that interviewed 175 undergraduate college students on their perception of Adderall, a majority of the students argued various objections as to why they believe stimulant drugs are both physically harmless and morally acceptable. More specifically, these students justify their drug use behavior with the *comparison and contrast* argument.

Essentially, these students compared and contrasted ADHD stimulants with “party drugs” which created a juxtaposition between good prescription stimulants and bad street narcotics (e.g. cocaine and methamphetamines). This argument was demonstrated through four sub-arguments including, “I’m-doing-it-for-the-right-reasons”, “It-comes-from-the-medical-establishment”, “There’s-no-high”, “No-internal/physical-side-effects”, and “No-external/societal-side-effects” argument. The logic behind the first argument is that because the intentions of taking stimulants are to benefit the individual and gain a positive result (i.e. better grades, euphoric sensations) then it is morally ethical to be taking it. One student during their interview stated, “Adderall is definitely not a drug. No way. It is a study tool. You don’t get high or anything like that. I take it to do good in school. How can that be bad? So it’s all good.” The second argument reveals how these students ultimately underestimate the dangers of prescription stimulants and note that because experts and doctors are the ones who prescribe them, then they must be safe. One third-year student claims, “to not worry about [dangers] because it is really looked at by drug officials and the government. I mean, you hear the news, they are always testing and making sure that everything is safe” and another student also mentions that “it could not be sold to the public if it wasn’t safe.” Another student who believed that stimulants such as Adderall do not alter or impair cognitive functioning and says: “I think if it doesn’t alter your mind, it is OK . . . If you

can still go to class and think and talk to people and not be ‘out there,’ it’s OK, especially if it helps you in school.” In the last two arguments, students contrasted the side effects of recreational drugs to the side effects of ADHD medications. As claimed by all students in this study, ADHD side effects were perceived as harmless and not life-threatening. This view of ADHD medications was so common among the students in the interviews that none of the participants admitted that stimulants present a “significant” health risk, and certainly not enough to justify any concerns or abstention. In conclusion, it is evident that there is a shared misconception about the severity of stimulant drugs amongst every participant interviewed in this study. Every participant of this study had significantly minimized the adverse effects of stimulant drugs. They considered stimulants to be “safe” because they did not produce the same euphoric high as street narcotics and they referred to them as “nothing more than other commonly used anti fatigue aids” (Desantis, 2009). Seeing these appalling views of how students feel towards amphetamine substances alludes to the fact that young adults are not being properly informed of the serious consequences associated with substances like Adderall.

Why Adderall Continues to Rise

According to a 2016 National Drug Use and Health survey published by the department of psychology at the University of Wisconsin-Madison, results from this survey affirmed that 65% of young adults using Adderall illicitly are obtaining it from their friends or roommates. Recent figures from an article discussing various ways to promote awareness around Adderall disclosed that many college students fake symptoms of ADHD when seeing college medical services to gain an unfair advantage in academics (Locke, 2013). When researching this specific topic on how individuals obtain Adderall so easily, one article in particular grabbed my attention immediately. Published in 2006, Magomedov wrote an article titled Adderall Tips: How to

Convince Your Shrink You Have ADD/ADHD (Magomedov, 2006). Magomedov wrote about his experience with an American psychiatrist where he went “undercover” and pretended to have ADHD. Sure enough, he walked out achieving his main goal of receiving a month's supply of Adderall XR. Clinical psychologist Lara Honos-Webb was interviewed on Huffington Post news about the increasing rates of ADHD. Honos-Webb agrees that “ADHD diagnoses are being thrown around too loosely” and asserts that ADHD diagnoses are “sloppy,” and changes in the DSM are needed (Gregoire, 2014). Authors Conrad & Bergey (2014) published an article in the Social Science and Medicine Journal investigating the rampant rates of ADHD diagnoses across five countries including the United States. Throughout the article, Conrad & Bergey discuss evidence that may suggest why we continue to see escalating rates of ADHD diagnoses, and why ADHD diagnoses are not as common in other countries. These reasons are due to the lack of medication available in these other countries, restrictions on ADHD medications, and limited doctors who are qualified to diagnose ADHD. Nonetheless, this article notes that the widespread ADHD diagnosis would not be possible without the influence of American-based psychiatry. This article discusses that “the DSM criteria’s lower threshold for ADHD diagnosis” may also be a driving factor in the overdiagnosis of ADHD. Before the DSM was introduced, the International Classification of Diseases (ICD) criteria was the predominant instrument used to provide essential knowledge, and causes of psychiatric disorders. Compared to the DSM, the ICD was much more “restrictive” and had a “higher threshold” for psychiatric disorders. The logic behind why the DSM was adopted by other countries was because most research used the DSM’s criteria as the standardized tool in diagnosing ADHD. Furthermore, Conrad & Bergey go on to speak about how the media especially, has made information and treatment on ADHD so easily accessible. They note that they were “particularly struck by the ADHD checklist” and

other “simple screening devices” created using the DSM criteria. These “U.S./DSM based checklists” have been made “easily usable by professionals, consumers, and putative patients” looking for a simple way to diagnose ADHD (Conrad & Bergey, 2014).

As reported by Garnier-Dykstra et al who examined trends in non-medical use of prescription stimulants, data indicated that from 2004–2009, 61% of the college students (of 1,253 college students) who took part in the study were offered prescription stimulant medications at least once, and 31% of participants reported using them illicitly (Teter et al. 2003). Given that the increasing rates of Adderall abuse among college students have become extremely problematic, an article that examines the most common factors contributing to Adderall abuse among college students, reveals that “the diagnoses of these disorders, specifically Attention Deficit Disorder and ADHD, have significantly increased over the past 10 to 15 years with little signs of slowing down (Howe & Strauss, 2000); consequently, written prescriptions for stimulants have also increased during the same time (Varga, 2012). Additionally, Desantis & Hane (2010) found that “American adults who are prescribed medication to treat the disorder [ADHD] has increased by 90% from 2002 to 2005, with adults receiving one-third of all prescriptions” (Desantis & Hane, 2010). College students are excessively abusing Adderall mainly for academic and party enhancements (Weyandt et al., 2016). Although researchers are aware that students abuse Adderall typically for academic motives, there could also be other underlying motivations for this growing problem. As previously noted in the Negative Side Effects of Adderall Section, reduced appetite is one of the most common, and likely underdressed side effects of Adderall. Lastly, an article that evaluated the outcomes of individuals who had taken agonist medications due to drug abuse with cocaine or amphetamine-type substances noted that the global market for amphetamine and

methamphetamine continues to grow, and as of 2017, about 29 million individuals were reported to have used amphetamines in the past year, with an upward trend seen in the United States (Tardelli et. al., 2020).

Adderall For Weight Loss

The adverse effects Adderall has on appetite have been evident since Adderall was first discovered in the 1920s. An article published in 2014 on the non-medical use of prescription stimulants for weight loss, highlights that there has been relatively little research done on this topic since. Benotsch & Jeffers (2014) investigates the prevalence and relationships of this issue through a large sample of college students, with the majority of participants identifying as female. This study found that about 31 out of 707 participants had abused Adderall for weight loss purposes. However, many questions still remain. A few notable limitations of this study were that they had excluded individuals with a prescription for Adderall, they did not assess the participant's medication knowledge, and they did not assess the participants frequency of Adderall use (Benotsch & Jeffers, 2014). These are crucial variables this study will address.

The fact that Adderall has the ability to make our body feel like it is not hungry, even if you have not eaten the entire day, speaks volume about its powerful qualities. As mentioned previously under How Adderall Targets ADHD Symptoms, Dopamine is one of the primary neurotransmitters constantly sending messages to your brain throughout the day. This includes sending messages to the brain when you are satisfied with food. In addition to the chemical alterations Adderall creates towards your appetite. Adderall can also inadvertently make you lose weight. After you take Adderall, you can become so focused on what you are doing, such as studying, reading, work etc., hours could go by and you may forget to eat all day. Adderall also increases your blood pressure and heart rate making you feel more energetic and awake. While

on Adderall, one may feel more active and want to exercise more frequently. People also tend to experience weight loss and decreased appetite with Adderall because it boosts your metabolism. When you have a fast metabolism, your body breaks down food quicker and turns it into fuel for the body to use for energy (Policastro, 2015). Authors Benotsch & Jeffers (2014), emphasize how many individuals may be motivated to misuse stimulants for weight loss, but this motivation has been studied minimally and has rarely been a focal point of research. This article highlights that it is one of the only studies to focus on the concern of the misuse of prescription stimulants for weight loss purposes (Benotsch & Jeffers, 2014).

Another alluring factor that Benotsch & Jeffers alludes to in their study is how sociocultural factors such as social media may contribute to substance use for weight loss. An empirical study conducted by Erica Stice & Heather Shaw (1994) evaluated 157 female college students behaviors and reactions towards the exposure to the “thin-ideal body image” characterized by the media. Results point out that the exposure to these images brought out depression, stress, guilt, shame, insecurity, and body dissatisfaction. These results further predicted bulimic symptomatology (Stice & Shaw, 1994). Today, we see that college-aged students are living in a generation where the exploitation of unrealistic standards and expectations is constantly seen through social media, television, and praise given to celebrities who indulge in and promote this behavior. Due to the immense influence of technology, many people are turning to dangerous and extreme ways to change their bodies as quickly as possible. A recent article published in 2019 on the dangers of Adderall for weight loss, highlights that the association between social media and body dissatisfaction is largely the reason that Adderall prescriptions have doubled in a 5-year time frame (The dangers of adderall for weight-loss, 2019). An article that sheds light on the relationship between the frequency of comparing one’s

own body to that of people on social media and body dissatisfaction, emphasizes how the last decade has witnessed individuals becoming exponentially dictated by eating disorders, and body dissatisfaction due to the rise of social media popularity (Jiotsa et. al., 2021). Substance abuse is generally common in individuals with eating disorders and those who have the potential to abuse Adderall are typically biologically predisposed toward disordered eating. Adderall can also bring out disordered eating behavior in someone who has not been predisposed to disordered eating habits which would suggest that someone who experiences weight loss or decreased appetite after taking Adderall may become satisfied with Adderall's ability to help lose weight in a short amount of time. Women who have experienced disordered eating behaviors or have eating disorders such as anorexia or binge eating disorder may even convince themselves that they have ADHD to obtain Adderall to help deprive their bodies of food (The Meadows Ranch Blog 2020). A study that assessed the relationship between risk factors and symptomatology of eating disorders and the illicit use of stimulants among 131 college-aged women found that about 19 of these women reported using stimulants for weight loss purposes. Although this was a preliminary study, these results propose that women who indulge or associate with extreme weight loss behaviors are more at risk for initiating and maintaining illicit stimulant use for weight loss purposes (Bruening et. al., 2018).

Hypotheses

Seeing the ubiquity of Adderall use on college campuses, commonly used for academic improvement, and its association with weight loss, relatively little is known about how common this is among young adults, and why it has become so easily accessible despite its detrimental effects on the body. As mentioned in Jeffers & Bentoch's article published in 2014 on the nonmedical use of prescription stimulants for weight loss purposes, research has begun to unveil

the prevalence of Adderall for weight loss purposes. However, unlike Jeffers & Bentoch's assessment of individuals who abuse Adderall illicitly, this current study will investigate this issue further by assessing individuals with, and without a prescription for Adderall in hopes to shed light on the possibility of college-age adults being at risk for abusing Adderall for weight loss purposes.

To fully evaluate this pressing matter, this experiment studied three groups of people. Firstly, individuals who are diagnosed with ADHD and have a prescription for Adderall (group 1). Secondly, individuals who do not have ADHD, but still have a prescription for Adderall (group 2), and finally, individuals who do not have ADHD or a prescription for Adderall (group 3). These three groups of people have led to my main research questions: Are people who have access to Adderall and have taken it with or without a prescription, using it for weight loss purposes? Are doctors who specialize in diagnosing ADHD taking the proper steps to ensure their patient meets the required criteria for an ADHD diagnosis before prescribing a schedule II stimulant? To address my first question, my main hypothesis is that female-identifying participants with a prescription for Adderall are most likely to abuse Adderall for weight loss purposes. I believe these individuals are at the highest risk of abusing Adderall because they are able to obtain Adderall more frequently. Individuals under group two are individuals who may have overestimated symptoms of ADHD or perhaps, lied to their doctors, solely to obtain Adderall for weight loss due to an underlying eating disorder that went unrecognized by the doctor. Lastly, individuals in group three are individuals who consistently obtain Adderall illicitly for the purpose of weight loss.

To evaluate my second research question, my survey includes an adult ADHD self-survey symptom checklist, which is the most common diagnostic instrument used by doctors to

diagnose ADHD. This survey also consists of questions about the individuals starting dose if they have a prescription, the individuals frequency of Adderall use, and questions regarding the individuals eating behaviors from a self report Body Image Avoidance Questionnaire. I anticipate that the individuals in group one will be revealed through their responses on the ADHD screener—if their responses do meet the criteria for a diagnosis of ADHD—and if they responded yes to having a prescription for Adderall. I predict that individuals in group two will also be revealed through their responses on the ADHD screener—if their responses do not meet the criteria for ADHD—and also respond yes to having a prescription for Adderall. Finally, individuals in group three will be revealed through their responses regarding their knowledge towards the side effects of Adderall, and their responses to the eating behavior questions.

Method

Recruitment

Recruitment for this study relied heavily on the snowball sampling method. Participants were recruited through a combination of social media (i.e. Instagram and Facebook) with an attached link, as well as flyers advertised and distributed throughout Bard College campus in Annandale, New York (*Appendix A*). To initiate the snowball sampling method, I asked a group of friends from surrounding schools in New York if they would take the survey, and pass it along to their group of friends at their school. Recruitment for this study ran from January to late February, 2022.

Participants

Participants had to meet several inclusion criteria in order to be eligible to participate: (1) They must be 18 years of age or older; (2) They must currently be an undergraduate or graduate student; and (3) They had to have ingested Adderall at least once in their life. The final sample of participants who had consented to participate consisted of 143 participants, predominantly

students from schools in New York, and one school outside of New York. The exact number of participants from each school are not known because all responses remained anonymous, however the survey was advertised to Bard College, University of Binghamton, University of Oneonta, Iona College, Fashion Institute of Technology, Marist College, and University of Delaware. There were a total of 11 male identifying participants, 47 female identifying participants, 11 nonbinary identifying participants, and 2 participants who preferred not to disclose their gender identity (*Figure 1*). All participants, whether their participation ended after the exclusion criteria or whether they continued through to the final survey question, were prompted to enter their email for a chance to win a \$50 Amazon gift card (113 of the 143 participants who were given this option chose to enter their email). Three of these emails were chosen via a random number generator through Microsoft excel. All participants provided informed consent, for this study approved by the Institutional Review Board at Bard College (*Appendix B*).

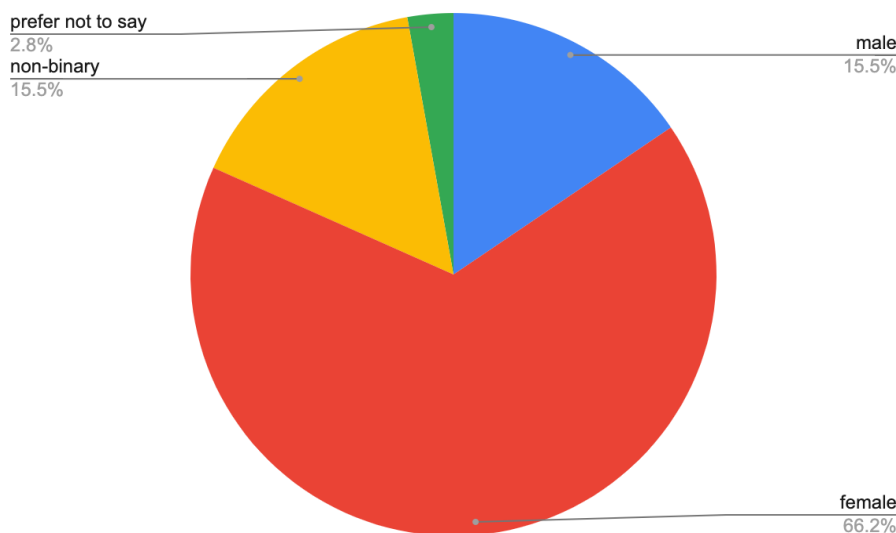


Figure 1 Participant gender

Measures

ADHD Symptom Checklist (Adult ADHD Self-Report Scale ASRS-v1.1 Symptom Checklist)

My survey includes the ASRS-v1.1 symptom checklist which is one of the most common instruments used among many doctors to diagnose ADHD in adults (*Appendix C*). The eighteen item ASRS-v1.1 symptom checklist consists of questions assessing inattentive or hyperactive behaviors that the individual must rate using a Likert scale ranging from 1 (“Never”) to 5 (“Very often”). These questions were displayed on the survey as items 5–22. These questions would allow me to assess participants’ ADHD symptomatology using a standardized instrument.

Eating Attitudes Test

The participants' attitudes and behavior towards eating were assessed using the 26-item self report Body Image Avoidance Questionnaire adapted from Garner et al. (1982) (*Appendix D*). All questions from the Body Image Avoidance Questionnaire were scored using a 5-point likert scale: 1 = Never; 2 = Sometimes; 3 = About Half the Time; 4 = Most of the Time; 5 = Always. These questions were presented after the ADHD symptomatology questions; items 33–64 on the survey. Individuals were only presented with these questions if they had responded to experiencing weight loss and/or decreased appetite on item 24, and had to have responded “somewhat satisfied” or “extremely satisfied” on item 27; which were the most extreme responses on this question.

Procedure

Respondents answered a survey designed on Qualtrics containing the Adult ADHD Self-Report Scale ASRS-v1.1 Symptom Checklist (items 5–22), and the 26-item self report Body Image Avoidance Questionnaire adapted from Garner et al. (1982) (items 34–65). Participants were first asked whether they had ingested Adderall (item 3) and then asked what their gender

identity was (item 4). The final sample of participants who consented to take the survey was 141, and the final sample of participants who were eligible to participate (i.e. if they responded “yes” to “Have you ever ingested Adderall?”) was 71.

All the ADHD symptom questions were scored depending on the frequency of occurrence of each of the symptoms (Never, Sometimes, About half the time, Most of the time, Always) 1=Never and 5= Always. The range of possible scores a participant could receive on the ADHD symptomatology questions was between 18 and 90. Questions from the eating attitudes survey were also ranked on a scale of 1–5 (Never, Sometimes, About half the time, Most of the time, Always) 1=Never and 5= Always. The range of possible scores a participant could receive in this part were between 30 and 150.

The full survey created on Qualtrics consisted of 66 questions (including the consent and debrief form) which assessed the individual's thoughts, feelings, and behaviors on organization as they generally experience them, and questions regarding the individuals attitude and behavior towards eating (*Appendix E*). Participants were first presented with the consent form and were instructed to click “continue” on the same page if they have read the consent form and were 18 years of age or older (*Appendix F*). Once they clicked continue they were asked whether they consent to participate and if they clicked “yes” the official research questions were presented beginning with, “have you ever ingested Adderall?” If the participants responded “no”, the survey was terminated. Those who responded “yes” ($N= 70$) proceeded to the first item on the ADHD self survey questions beginning with; “how often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?” After being presented with the eighteen questions from the ADHD survey, there were several places where participants were redirected to alternate subsequent questions based on previous responses (*See Figure 2*).

Following the ADHD self-report questions, participants were assessed on their knowledge of Adderall side effects; “before taking Adderall, which of these side effects were you aware of? (item 23).” Response choices included: “fatigue” ($N=18$), “insomnia” ($N=35$), “anxiety” ($N=37$), “depression ($N=19$) headaches ($N=21$), weight loss ($N=25$), and decreased appetite” ($N=41$). Participants were then asked “after taking Adderall, which of these side effects have you personally experienced? (item 24)” Responses were the same as item 23: “fatigue ($N=18$), “insomnia ($N=25$), anxiety ($N=27$), depression ($N=10$), headaches” ($N=15$), “weight loss” ($N=11$), and decreased appetite” ($N=36$). Next, participants were assessed on their frequency of Adderall use and were asked the following questions: “what best characterizes how often you take Adderall? (item 25)” Responses included: “everyday ($N=9$), every other day ($N=4$), once or twice a week ($N=4$), once a month ($N=10$), once every two to four months ($N=9$), and once or twice a year ($N=19$).” Participants were then asked whether they had a prescription for Adderall (item 26) and responses were either; “yes” ($N=17$), and “no” ($N=38$). The 17 participants with a prescription for Adderall were asked six more follow up questions regarding their diagnostic experience starting with item 29: “how convinced were you that you had ADHD before seeking treatment?” Responses to this question included: “not convinced ($N=1$), a little convinced ($N=2$), “moderately convinced ($N=2$), very convinced ($N=6$), and completely convinced” ($N=6$). Next, they were asked: “how many appointments did you have before being prescribed Adderall?” Responses consisted of: 1 ($N=3$), 2 ($N=7$), 3 ($N=1$), 4 ($N=0$), and more ($N=6$). Following this question they were asked “what was your starting dose?” Responses were: 5mg ($N=7$), 10mg ($N=9$), 20mg ($N=1$). Next they were asked “have you ever sold any of your Adderall?” “yes” ($N=5$), “no” ($N=12$). If participants were prompted with item 27, and responded “somewhat satisfied” or “extremely satisfied” they were asked “have you ever asked for an increase in your

dosage after noticing weight loss?” Responses were; “yes” ($N=3$) and “no” ($N=5$). In addition, these participants were asked “have you told people about your weight loss due to Adderall?” “yes” ($N=5$) “no” ($N=8$). These participants were also presented with the eating attitudes questions. Finally, only if participants responded to personally experiencing either “weight loss or decreased appetite” on item 24, were they presented with item 27; “after experiencing weight loss/ decreased appetite, how satisfied were you?” Responses for this question included; “extremely dissatisfied ($N=3$), somewhat dissatisfied ($N=7$), neither satisfied nor dissatisfied” ($N=19$), somewhat satisfied ($N=6$), and extremely satisfied” ($N=5$). The survey was terminated for those who responded “extremely dissatisfied” , “somewhat dissatisfied” , and “neither satisfied nor dissatisfied.” The remaining participants were presented with the thirty-six eating attitudes questions, all the way through item 65: “have you ever been treated for an eating disorder?” The final number of participants who completed the survey to item 65 was 12. Once the survey came to an end for every participant, they were presented with the debrief form explaining the purpose of the study (*Appendix G*). Lastly, questions 23–33 in the survey were all created by the researcher.

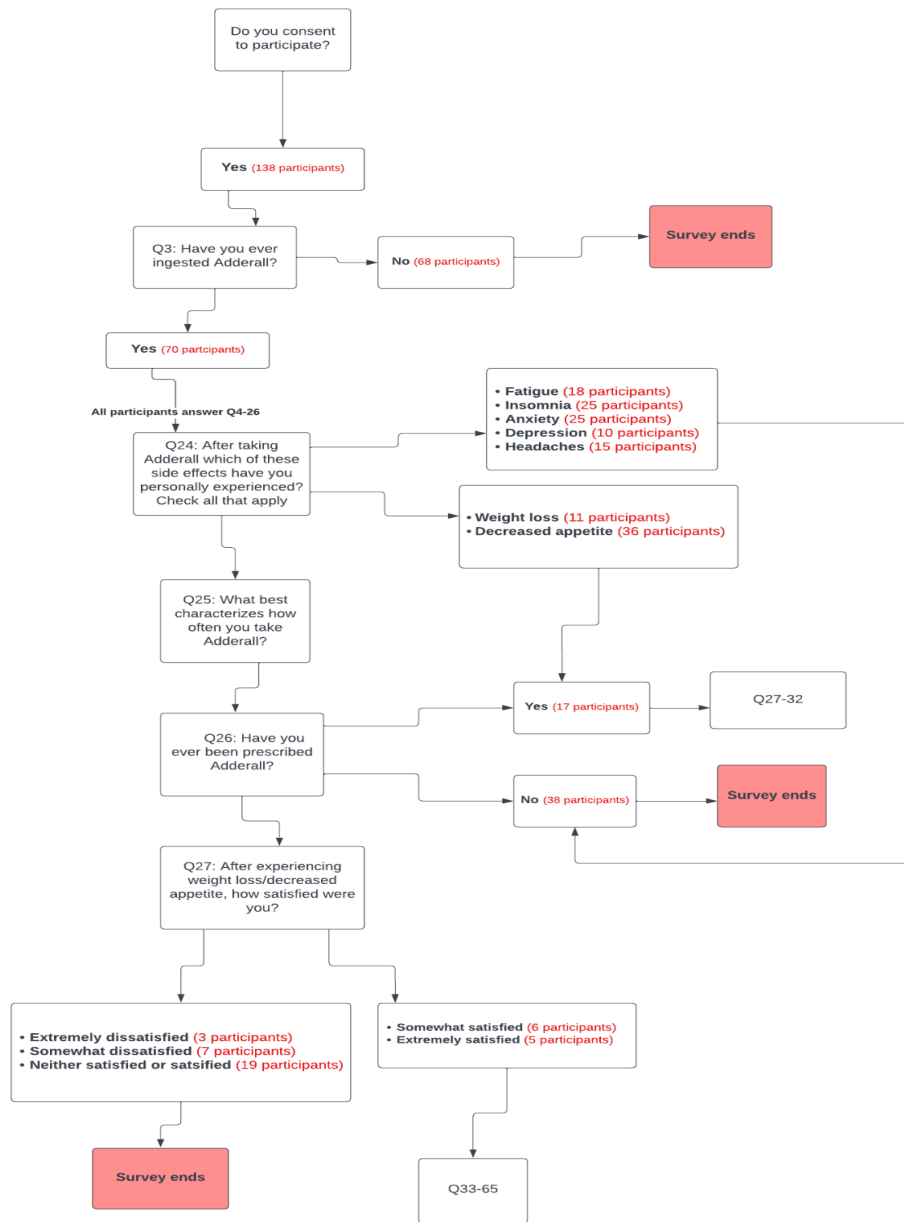


Figure 2 Questions displayed to participants on Qualtrics depending on previous responses

Results

One-way Analysis of Variance (ANOVA)

My first hypothesis was that female participants with a prescription for Adderall would report more disordered eating symptoms than the other three groups (males with a prescription, males without a prescription, and females without a prescription). After an ANOVA test was run the results revealed that the three groups of participants (men without a script $M = 67.5$, women with a script $M = 76.0$, and women without a script $M = 78.0$) did not differ on the eating attitudes questions: $F(2, 4.11) = 1.27, n.s.$ (Figure 3). Next, an ANOVA was run on the same three groups of participants. The three groups of participants (men without a script $M = 45.3$, women with a script $M = 59.1$, and women without a script $M = 47.4$) differed on their ADHD symptom checklist score: $F(2, 15.3) = 5.05, p < .05$ (Figure 4).

T-Tests

Several T-tests were run for the comparison of male and female participants on their scores on the ADHD symptom checklist and the eating attitude questions. Results revealed that males ($M = 45.3$) and females ($M = 50.5$) did not differ on scores on the ADHD symptom checklist, $t(43) = -1.136, ns$ (Figure 5). Males ($M = 67.5$) and females ($M = 76.8$) did not differ on scores on the Eating Attitudes Survey, $t(40) = -.943, ns$ (Figure 6). A T-test was also conducted comparing the individuals with and without a prescription for Adderall on their ADHD symptom scores, and the results revealed that people with an Adderall prescription scored higher on the ADHD symptom checklist ($M = 59.1$) than people without a prescription ($M = 46.9$), $t(42) = -3.33, p < .001$ (Figure 7). Additionally, male and female participants with an Adderall prescription ($M = 76$) did not differ on scores on the Eating attitudes questions compared to male and female participants without a prescription ($M = 73.8$), $t(8) = -.27, ns$ (Figure 8).

Lastly, frequency of Adderall use was also assessed in the survey. Due to the small sample size which will be discussed further in the limitations section, there were no significant results. However, five of the nine participants who reported taking Adderall “everyday” had also responded “satisfied” or “extremely satisfied” to “after experiencing weight loss/decreased appetite, how satisfied were you?”

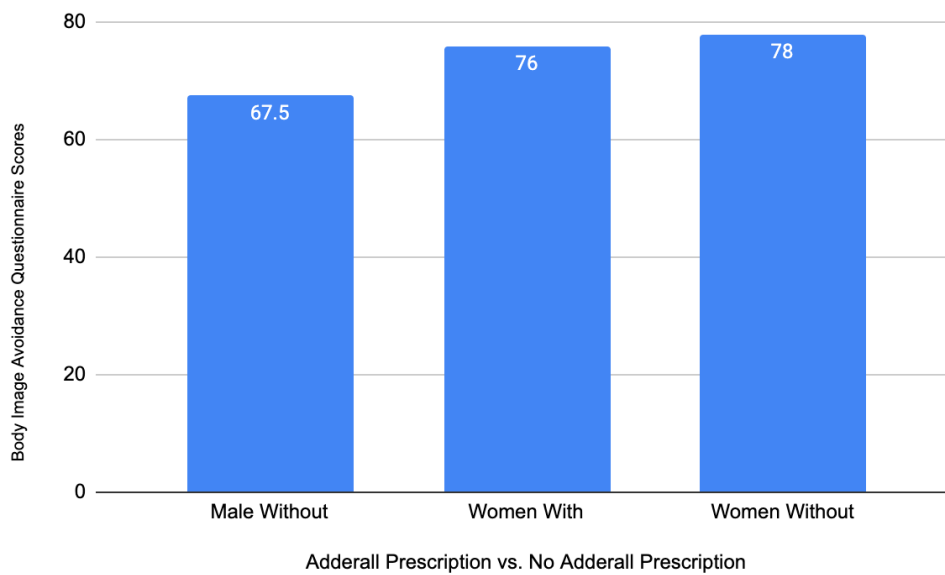


Figure 3 ANOVA test comparing men without a prescription for Adderall, women without a prescription for Adderall, and women with a prescription for Adderall on their Body Image Avoidance Questionnaire scores. All three groups did not differ on their scores. $F(2, 4.11) = 1.27$, *n.s.*

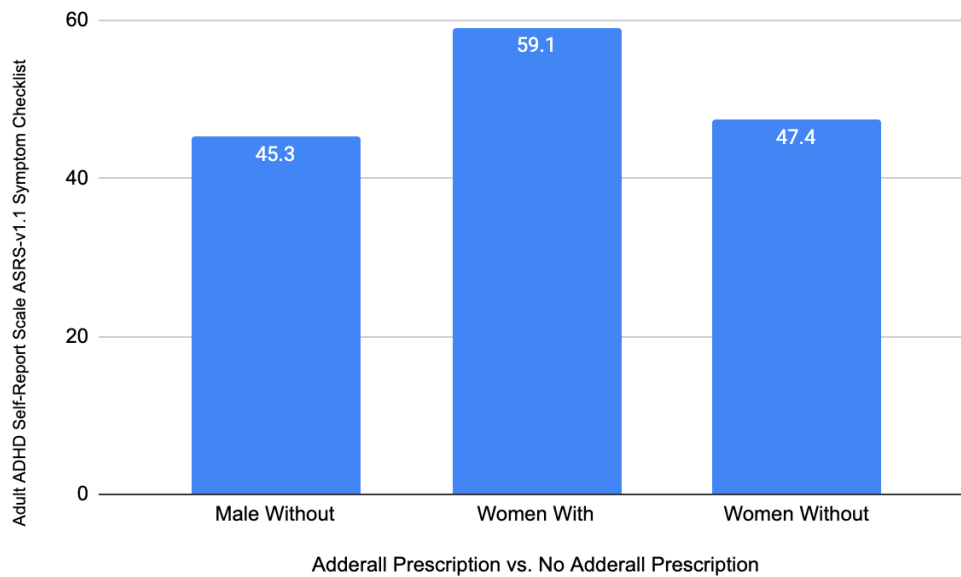


Figure 4 ANOVA test comparing men without a prescription for Adderall, women without a prescription for Adderall, and women with a prescription for Adderall on their Adult ADHD Self-Report scores. Women with a prescription for Adderall scored higher on the ADHD Self-Report questions: $F(2, 15.3) = 5.05, p < .05$

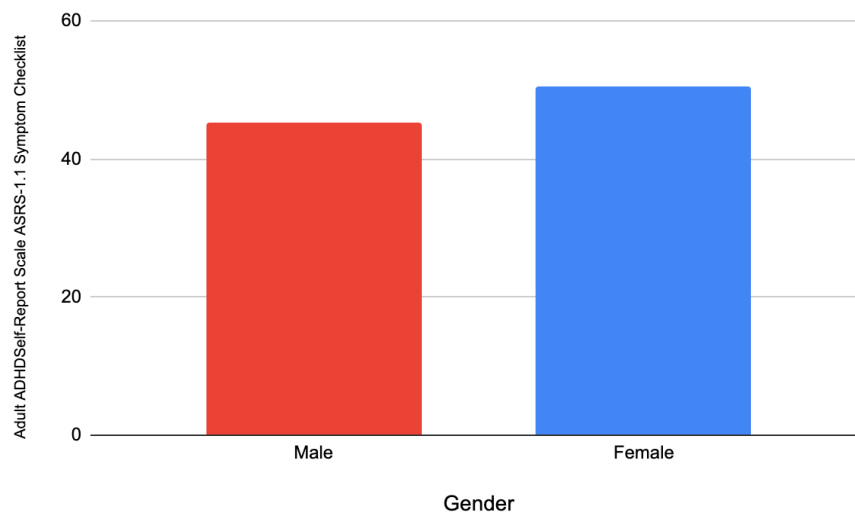


Figure 5 A T-test comparing males and females on their ADHD symptom scores. Males ($M = 45.3$) and females ($M = 50.5$) did not differ on scores on the ADHD symptom checklist, $t(43) = -1.136, ns$

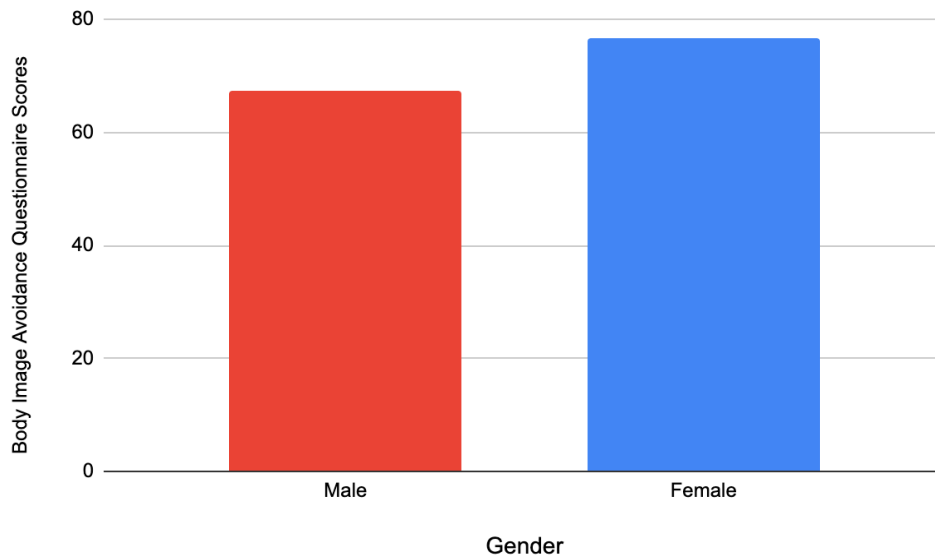


Figure 6 A T-test comparing males and females on the Body Image Avoidance Questions. Males ($M = 67.5$) and females ($M = 76.8$) did not differ on scores on the Eating Attitudes Survey, $t(40) = -.943, ns$

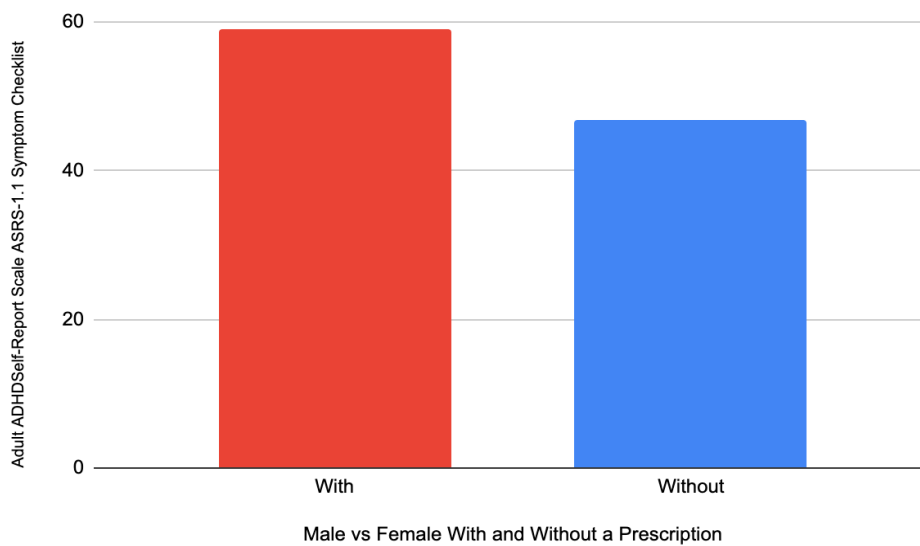


Figure 7 A T-test comparing individuals with and without a prescription for Adderall on their ADHD symptom scores. People with an Adderall prescription scored higher on the ADHD symptom checklist ($M = 59.1$) than people without a prescription ($M = 46.9$), $t(42) = -3.33, p < .001$

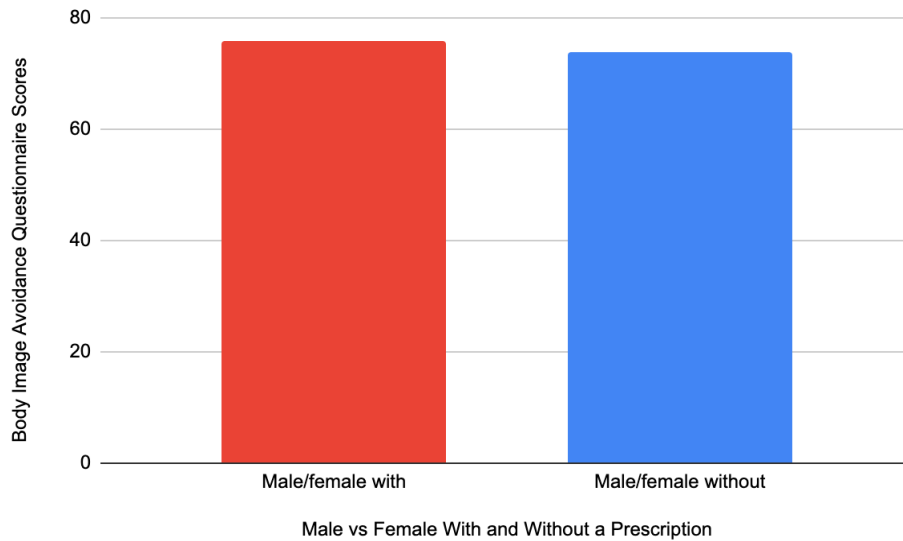


Figure 8 A T-test comparing male and female participants with and without an Adderall prescription on their Eating attitudes questions. Participants with a prescription did not differ on scores on the Eating attitudes questions compared to male and female participants without a prescription ($M = 73.8$), $t(8) = -.27$, *ns*

Discussion

Limitations and Future Directions

The current study closely examines a potential underlying motivation of Adderall use for the purpose of weight loss, while also investigating whether doctors are appropriately prescribing Adderall and properly monitoring the side effects. To assess how reliable the diagnostic method for diagnosing adults with ADHD is, my survey included an Adult ADHD Self-Report Scale ASRS-v1.1 Symptom Checklist which is one of the most common methods used in diagnosing adults with ADHD. The purpose of including this in my survey was to reveal whether there were individuals who did not report having a prescription for Adderall, but did meet the required amount of symptoms for a diagnosis, or individuals who did report having a prescription for Adderall, but did not meet the required amount of symptoms for a diagnosis. This could have

likely suggested that this method of diagnosis is not the most reliable or sufficient method, and could possibly indicate why ADHD is the most common diagnosis, and misdiagnosis in adults. In addition, it could likely be the reason why there has been an increase in prescription stimulants over the past few years. The Adult ADHD Self-Report Scale ASRS-v1.1 Symptom Checklist is split into two parts; part A and part B. As determined by doctors, the first six questions on the checklist which are 5–10 on my survey, are considered to be “the most predictive of symptoms consistent with ADHD”, and the remaining twelve questions, which in my survey are 11–22 “provide additional cues and can serve as further probes into the patient’s symptoms” (World Health Organization, & the Workgroup on Adult ADHD). If an individual who reported not having a prescription for Adderall, but reported mostly fours or fives, or an individual who did report having a prescription scored relatively lower than an individual without a prescription for ADHD would suggest that this method of diagnosing may need to be altered. In addition, questions 28–32 were asked to ensure that regardless of the method used by doctors, they are prescribing Adderall after a suitable amount of time of assessing the individuals behavior and symptoms and not after one appointment, and prescribing their patient an appropriate amount of Adderall as their initial dose and carefully monitoring them afterward.

After evaluating my results, individuals who did report having an ADHD diagnosis did in fact receive higher scores on the ADHD symptom checklist than individuals without a diagnosis of ADHD. Those same individuals also took Adderall more frequently. My survey also included questions regarding individuals’ diagnostic experiences when seeking treatment for ADHD. Including these questions were essential because they disclosed how soon doctors prescribed Adderall, what dosage of Adderall they are starting their patient at, and questions that would indicate the type of relationship the patient has with the doctor. Questions on my survey allowed

me to better understand the individual's knowledge of Adderall and the serious side effects of Adderall. After reviewing the results for the individuals with a prescription for Adderall, the average amount of appointments an individual had before receiving a prescription was 3.4 and almost every one of those same participants had started with 10mg of Adderall. Doctors will generally start their patient at the smallest dose that will potentially help, and moderately increase it over time (Strum, 2021). It is highly recommended that individuals start at 5 mg once a day, and increase in increments of 5 mg during weekly breaks until a satisfactory response to the treatment is seen. (IBM Watson Micromedex & Cerner Multum, 2022). The order of which individuals with a prescription for Adderall were the most familiar with the side effects of Adderall was; anxiety, decreased appetite, insomnia, depression, weight loss, headaches, and fatigue. Similarly, the order of which individuals without a prescription for Adderall were the most familiar with the side effects was; decreased appetite, anxiety, insomnia, weight loss, headaches, fatigue, and depression. Given that decreased appetite was reported as the most familiar side effect *before* taking Adderall for all participants, it would be an interesting to see these results explored in future research with a larger sample and questions that could directly answer whether individuals aware of decreased appetite or weight loss ever abused Adderall as an easy and quick method to lose weight and whether these individuals struggle with body dissatisfaction before taking Adderall.

To further investigate whether individuals are abusing Adderall for weight loss purposes my survey includes questions from the Body Image Avoidance Questionnaire adapted from Garner et al. (1982). These questions were given after the ADHD symptomatology questions and individuals were only presented with these questions if they had answered certain subsequent questions in the survey that would suggest they could be abusing Adderall for weight loss.

There are several limitations of this empirical study that could be addressed in future studies. Given this study solely relied on snowball sampling, the final sample of this study was smaller than intended because it was difficult to call attention to the study at colleges other than Bard College. This recruitment process posed a significant limitation of the study because Bard College was the only school that had flyers advertising the study throughout the campus. The other schools were solely recruited through social media platforms such as Instagram and Facebook. Using only social media as a way to recruit participants from colleges other than Bard was not sufficient enough to gain participants. As reported in the method section, there is a significant difference between the genders who participated in the study. There were exactly 66.20% of the participants identifying as female which demonstrated a significant sampling bias between males, females, non-binary, and participants who chose not to identify. This also made it difficult to run tests comparing male-identifying participants to female-identifying participants. Likewise, 69.09% of individuals in this study reported not having a prescription for Adderall and 30.90% reported having a prescription for Adderall. This made it very difficult to analyze any differences between these two groups of people because the sample size for participants with a prescription for Adderall was very little. As of 2018, Adderall use among college students was 11.1% compared to 8.1% of non-college students (Person, 2022). In addition, there is a significant difference between male and female college students, with males having a natural inclination for Adderall use at 14.6% and females at 8.8% (Person, 2022).

Another limitation of this study was due to a short time frame of data collection. This study was only able to recruit participants through snowball sampling for about five weeks. This poses a limitation because allowing for more time to recruit participants could have given me more individuals who had taken Adderall from other larger Universities which would have been

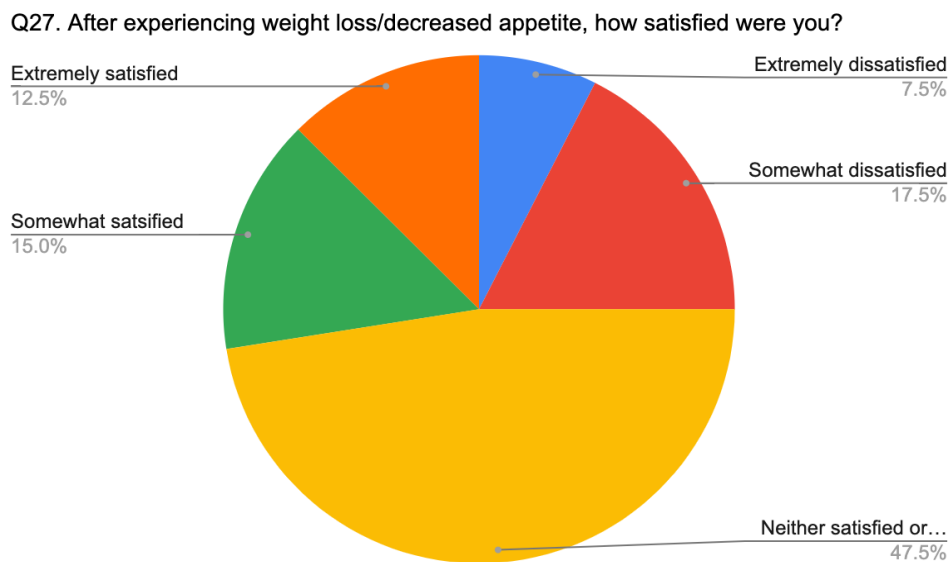
a greater representative of Adderall use among college campuses. Lastly, the participant demographics of the present study reflect the demographic makeup of only five colleges in New York state, with a significant sampling bias from Bard College. The consumption of Adderall continues to rise in the United States and although there is an extensive amount of research the United States has put into ADHD diagnoses, an article which shed light on the universality of ADHD has shown that ADHD is just as common in many other countries than it is in the United States (Faraone et. al., 2003). Bard college is a small private school with a population of about 1,900 undergraduate students. Future research on this topic may want to expand the participant demographics to better represent more college-age students within the United States and globally. It would then be interesting to include questions regarding students' affiliations to organizations such as Greek life or the competitiveness of their athletic programs.

Using a survey as my predominant method of assessing my research questions also posed a few limitations. As previously mentioned in the methods section, there were several areas where participants were directed to alternate subsequent questions. This also created an even smaller sample size because a majority of participants did not meet the criteria for filling out the remaining items on the survey depending on previous responses on certain questions. Instead, it would have been beneficial to have every participant with or without a prescription for Adderall answer the same questions in the same order. Another limitation of using a survey as a method for this study is that all the questions were optional so participants were given the opportunity to skip any item on the survey. This constitutes a limitation because it made it difficult to interpret data for participants who skipped questions, or ended the survey before finishing which meant their results could not be counted for. Additionally, results from participants who identified as male, non-binary, or preferred not to say, could not be interpreted due to the fact there were so

few of those participants. For example, item 27 asks participants “after experiencing weight loss/decreased appetite, how satisfied were you?” Only if the participant responded with “satisfied” or “extremely satisfied” were the participants presented with the eating attitude questions. Something worth noting was that of all the participants who answered this question, 47.50% of the participants had selected “neither satisfied nor satisfied” (*Figure 9*). However, due to the fact that the survey was set up so that only participants who responded with “satisfied” or “extremely satisfied” continued on to answer questions about their eating behaviors, future replications might stand to benefit from presenting a similar survey that would allow every participant to answer the same amount of questions with no redirection to other questions within the survey. What is interesting is that every one of those participants had reported being aware of either or both decreased appetite, and weight loss before taking Adderall, and every one of those participants had also reported that they experienced either or both weight loss and decreased appetite after taking Adderall. These results raise some thought provoking questions considering those participants were aware of and experienced those side effects before and after ingesting Adderall. It would be interesting to see if those participants generate concerns about body image if the survey did not end for them there. Comparably, the total sample of participants who reported having a prescription for Adderall, and responded to questions regarding their diagnostic experiences was only 17 participants, some of the responses from these participants warrant some questions and concerns. Item 33 asked participants whether they had told anyone about their weight loss due to Adderall and eight participants responded “no.” Item 32 asks participants if they had ever asked for an increase in their dose after noticing weight loss, and three individuals responded “yes.” Notwithstanding these results, the total sample size of the study makes it difficult to say whether these responses are strong enough to provoke concern

over the relationship between Adderall and its uses for weight loss. Future replications with a larger sample size could likely reveal more reliable results as to whether doctors are taking the proper steps in making certain their patient has fully met the criteria for a diagnosis of ADHD, and ensuring that their patient is not seeking a prescription stimulant for other underlying reasons or behaviors, and finally, whether there is trust between the patient and their doctor.

Figure 9



Implications

Drugs like Adderall have had an enormous amount of impact on college campuses, and much research has begun to reveal the rapid increase in Adderall use on college campuses. In order to truly understand the influence of Adderall on college students, it is necessary to look at the potential underlying factors. As a matter of fact, as revealed through a survey conducted by the National Institute on Drug Abuse, the illicit use of Adderall and similar stimulants like Ritalin have doubled between 2008 and 2013 (Polansky 2020). Polansky discusses the most common reasons why college students in particular, are more likely to ingest Adderall. The most

common reasons were related to academic enhancements such as being able to study and focus longer, and enhancing the effects of other substances such as alcohol. Polansky's article also piqued interest in one of the more alluring side effects of Adderall which is its ability to cause unintended or intended weight loss given that Adderall acts as a stimulant for the body.

From 2009 to 2017, the prevalence of the non-medical use of Adderall for college students was 10% (Schulenberg, 2017). The rampant abuse of Adderall among college students has become so prevalent that students have normalized asking questions such as "do you still sell or know anyone that has Addy?" Consistent with Schulenberg's findings, a blog published in 2016 on the devastating rates of Adderall use among college students, states that 60% of college students account for all addiction and abuse reports (12 Keys Journal, 2016). As of 2021, the highest reports of Adderall use are seen among juniors, and over 61% of college students reported that they were provided Adderall from their peers (Ranch Creek Recovery, 2021). There is also a noticeable trend in the time of year students take Adderall which is around the time of finals which accounts for why students refer to Adderall as "the study drug." Nevertheless, the effects of Adderall have led many individuals to succumb to stimulant abuse due to lack of awareness towards Adderall (Ranch Creek Recovery, 2021). As I see it, there seems to be little attention or awareness on the detrimental effects Adderall can have on one's physical and mental health. Why is it that students feel the need to go to the extent of taking Adderall illicitly to study longer, or to lose weight? These are questions and concerns that future studies could examine further.

The pressure to achieve a socially desirable body could stem from a number of factors including your family, friends, genetics ect. but in today's highly hyperconnected world, it can be especially difficult when you are obsessively comparing yourself to others on social media.

Women especially have been seen to be more affected by body image ideologies projected through the media (Ossola, 2010). These pressures to look thin or fit have become major risk factors for body dissatisfaction (Frederick et. al., 2017). Social media platforms such as Instagram, Facebook, Tik Tok, etc. have gained a tremendous amount of notoriety when it comes to the relationship between body dissatisfaction and social media. These social media platforms have provided unprecedented ways of conveying unrealistic behaviors and impressions of individuals which ultimately result in unpleasant reactions from other individuals. It is very easy to forget that much of what people see through social media is curated and it can be very easy to compare yourself to others. With that said, there are also plenty of ways to change the way your body looks in a photo by using photoshop apps or face tuning apps, and these types of apps have become extremely popular, and useful for these reasons. Inevitably, individuals turn to these apps to alter their looks and body to make themselves feel better and to receive validation (Chua & Chang 2016). Filtering and photoshopping apps have become a “necessity” to be to feel “pretty enough” (Chua & Chang 2016). The continual pressure to achieve what is considered a socially desirable body through social media is also caused by constant external validation through remarks such as likes, and comments or the amount of followers one has. A study which explored the portrayal of self-presentation and peer comparison on social media pertaining to the idea of beauty standards from teenage girls aged 12-16 brought to light the daily struggles that teenage girls face from the comparison of others through social media (Chua & Chang 2016). This study delves into how much of an influence external validation has on one's self worth. For instance, comparing the number of likes or followers to others signified “better traits and capacities” and having fewer likes lead to “anger, jealousy, inadequacy, and doubts about self-worth.” The participants of this study also mention that these types of habits lead to

unhealthy behaviors such as poor dieting, and self harm (Chua & Chang 2016). Bearing all this in mind, the media can have an immense impact on the way we see ourselves, and to many people it has become a way in which we define our importance.

There is a large body of research showing the relationship between substance abuse and eating disorders. An article written by the Editorial Staff in 2014 examined the Substance Abuse and Mental Health Services Administration and found that 14% of women, in particular who had a substance abuse disorder developed anorexia and 14% also developed bulimia (Christiansen, 2021). A study evaluating the prevalence of substance abuse in 731 women with a variety of eating disorders, found that about 50% of women with an eating disorder developed an addiction to substances compared to 9% of the general population. Likewise, “over 35% of the individuals with substance abuse disorders reported having an eating disorder compared to 1–3% prevalence of eating disorders in the general population.” Interestingly, this study found that women with binge eating disorder and women with bulimia nervosa reported the most stimulant abuse compared to the other women in the study with different types of eating disorders (Root et. al., 2010).

According to the American Psychological Association written in an article on the relationship between Anorexia and substance abuse, of the 8 million people who suffer from an eating disorder around the world, around 90% are reported to be young females (River Oaks, 2020). This same article mentions that individuals who suffer from anorexia may also resort to abusing more illicit drugs to help avert their hunger. On the other hand, this article also discusses an opposite trend in case reports on the relationship between Anorexia and substance abuse on how it can also develop from side effects of abusing drugs, particularly stimulants such as Adderall and cocaine.

Conclusion

The detrimental effects of stimulant abuse are of paramount importance given how catastrophic the effects can be if taken inappropriately. Although my data did not support my hypotheses, there were a few questions that received responses warranting future exploration. In my perspective, despite the limitations, this study is valuable as it demonstrates a potential issue which has not yet been explored adequately in literature. Further, it suggests that some individuals are in fact taking Adderall, if not in addition to alleviating ADHD symptoms, but also for weight loss. These subtle indications are extremely important as they provide more information that can be used to raise more awareness on Adderall abuse on college campuses and data that can place more emphasis on the importance of knowing the harmful effects of Adderall if not taken properly. More research is needed to determine whether written prescriptions for Adderall are being overly prescribed, and whether diagnostic procedures for ADHD are in need of improvement. Lastly, it is imperative to understand the potential implications of why people are adopting strategies to lose weight, and why these individuals who are dissatisfied with their eating are finding their way to Adderall.

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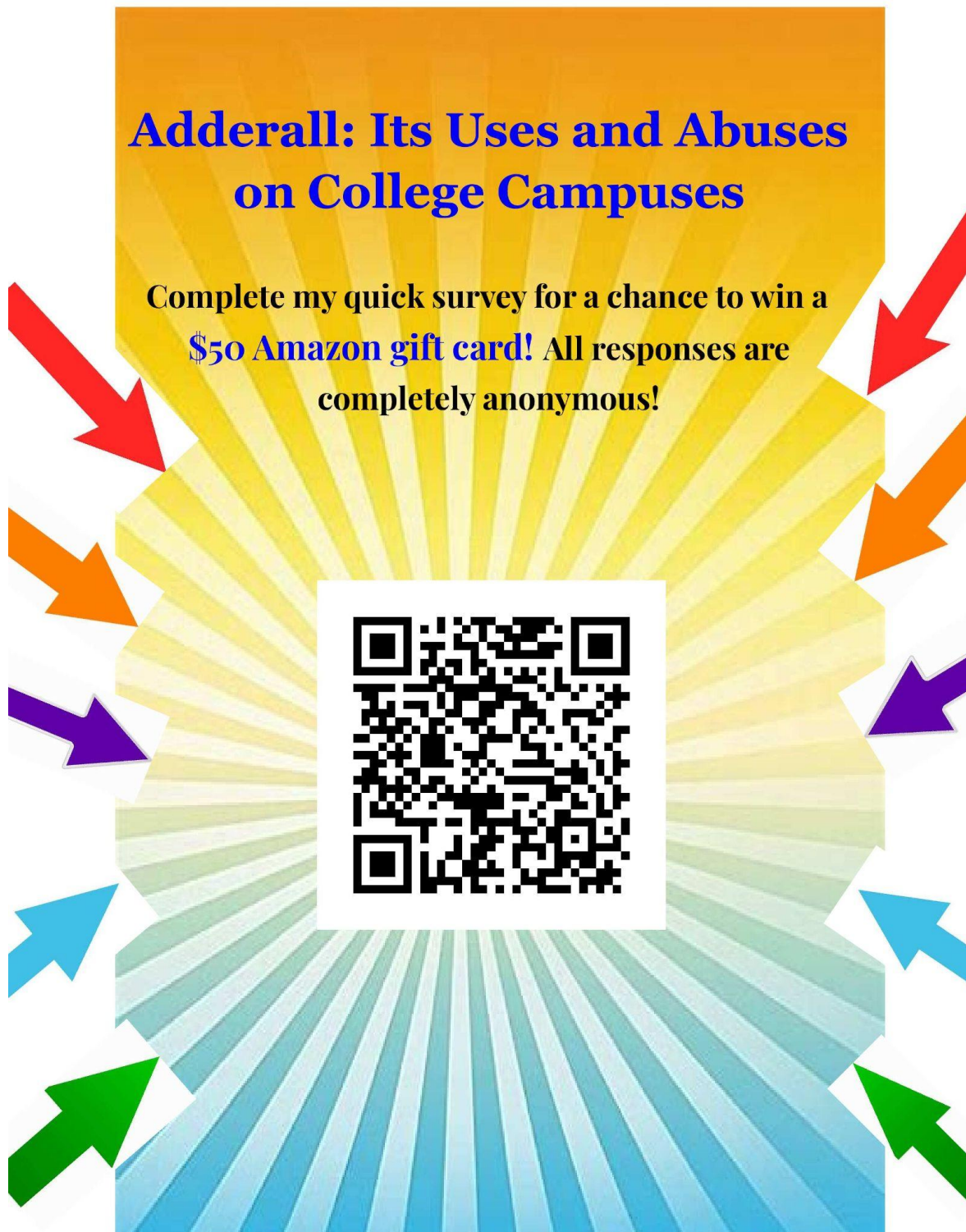
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Appendix A: Recruitment Poster



Appendix B: Institutional Review Board Approval Letter

Bard College

Institutional Review Board

Date: January 10, 2022
To: Giordana Scanni
Cc: Sarah Dunphy-Lelii, Deborah Treadway, Brandt Burgess
From: Tom Hutcheon, IRB Chair
Re: Adderall Abuse Among College Students: Unveiling Underlying Motivations

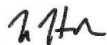
DECISION: APPROVED

Dear Giordana,

The Bard Institutional Review Board has reviewed your revisions and approved your proposal entitled, "Adderall Abuse Among College Students: Unveiling Underlying Motivations." Your proposal is approved through January 10, 2023 and your case number is 2022JAN10-SCA.

Please notify the IRB if your methodology changes or unexpected events arise.

We wish you the best of luck with your research!



Tom Hutcheon, Ph.D.
IRB Chair
Assistant Professor of Psychology
Bard College
thuttheo@bard.edu

Appendix C: Adult ADHD Self-Report Scale ASRS-v1.1 Symptom Checklist

Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist

Patient Name	Today's Date				
Please answer the questions below, rating yourself on each of the criteria shown using the scale on the right side of the page. As you answer each question, place an X in the box that best describes how you have felt and conducted yourself over the past 6 months. Please give this completed checklist to your healthcare professional to discuss during today's appointment.					
1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?	Never	Rarely	Sometimes	Often	Very Often
2. How often do you have difficulty getting things in order when you have to do a task that requires organization?					
3. How often do you have problems remembering appointments or obligations?					
4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?					
5. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?					
6. How often do you feel overly active and compelled to do things, like you were driven by a motor?					
Part A					
7. How often do you make careless mistakes when you have to work on a boring or difficult project?					
8. How often do you have difficulty keeping your attention when you are doing boring or repetitive work?					
9. How often do you have difficulty concentrating on what people say to you, even when they are speaking to you directly?					
10. How often do you misplace or have difficulty finding things at home or at work?					
11. How often are you distracted by activity or noise around you?					
12. How often do you leave your seat in meetings or other situations in which you are expected to remain seated?					
13. How often do you feel restless or fidgety?					
14. How often do you have difficulty unwinding and relaxing when you have time to yourself?					
15. How often do you find yourself talking too much when you are in social situations?					
16. When you're in a conversation, how often do you find yourself finishing the sentences of the people you are talking to, before they can finish them themselves?					
17. How often do you have difficulty waiting your turn in situations when turn taking is required?					
18. How often do you interrupt others when they are busy?					
Part B					

Appendix D: Body Image Avoidance Questionnaire

Part B: Check a response for each of the following statements:		Always:	Usually:	Often:	Some times:	Rarely:	Never:
1.	I Am terrified about being overweight.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	I Avoid eating when I am hungry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	I Find myself preoccupied with food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	I Have gone on eating binges where I feel that I may not be able to stop.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	I Cut my food into small pieces.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	I Am aware of the calorie content of foods that I eat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	I Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	I Feel that others would prefer if I ate more.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.	I Vomit after I have eaten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	I Feel extremely guilty after eating.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11.	I Am occupied with a desire to be thinner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.	I Think about burning up calories when I exercise.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13.	I Other people think that I am too thin.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14.	I Am preoccupied with the thought of having fat on my body.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15.	I Take longer than others to eat my meals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16.	I Avoid foods with sugar in them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17.	I Eat diet foods.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18.	I Feel that food controls my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19.	I Display self-control around food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19.	I Display self-control around food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20.	I Feel that others pressure me to eat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21.	I Give too much time and thought to food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22.	I Feel uncomfortable after eating sweets.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23.	I Engage in dieting behavior.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24.	I Like my stomach to be empty.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25.	I Have the impulse to vomit after meals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26.	I Enjoy trying new rich foods.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Part C: Behavioral Questions:		Never	Once a month or less	2-3 times a month	Once a week	2-6 times a week	Once a day or more
In the past 6 months have you:							
A.	Gone on eating binges where you feel that you may not be able to stop?*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B.	Ever made yourself sick (vomited) to control your weight or shape?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C.	Ever used laxatives, diet pills or diuretics (water pills) to control your weight or shape?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D.	Exercised more than 60 minutes a day to lose or to control your weight?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E.	Lost 20 pounds or more in the past 6 months	YES <input type="radio"/>			NO <input type="radio"/>		
F.	Have you ever been treated for an eating disorder?	YES <input type="radio"/>			NO <input type="radio"/>		

Appendix E: Qualtrics Survey

1. Consent form: **Click continue if you have read and understood the consent**
2. Do you consent to participate in this survey? **yes/no**
3. Have you ever ingested Adderall: **yes/no**
4. What is your gender identity?: **Male, Female, nonbinary, prefer not to say**
5. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done? **Never, sometimes, about half the time, most of the time, always**
6. How often do you have difficulty getting things in order when you have to do a task that requires organization? **Never, sometimes, about half the time, most of the time, always**
7. How often do you have problems remembering appointments or obligations? **Never, sometimes, about half the time, most of the time, always**
8. When you have a task that requires a lot of thought, how often do you avoid or delay getting started? **Never, sometimes, about half the time, most of the time, always**
9. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time? **Never, sometimes, about half the time, most of the time, always**
10. How often do you feel overly active and compelled to do things, like you were driven by a motor? **Never, sometimes, about half the time, most of the time, always**
11. How often do you make careless mistakes when you have to work on a boring or difficult project? **Never, sometimes, about half the time, most of the time, always**
12. How often do you have difficulty keeping your attention when you are doing boring or repetitive work? **Never, sometimes, about half the time, most of the time, always**
13. How often do you have difficulty concentrating on what people say to you, even when they are speaking to you directly? **Never, sometimes, about half the time, most of the time, always**
14. How often do you misplace or have difficulty finding things at home or at work? **Never, sometimes, about half the time, most of the time, always**
15. How often are you distracted by activity or noise around you? **Never, sometimes, about half the time, most of the time, always**
16. How often do you leave your seat in meetings or in other situations in which you are expected to stay seated? **Never, sometimes, about half the time, most of the time, always**
17. How often do you feel restless or fidgety? **Never, sometimes, about half the time, most of the time, always**
18. How often do you have difficulty unwinding and relaxing when you have time to yourself? **Never, sometimes, about half the time, most of the time, always**
19. How often do you find yourself talking too much when you are in social situations? **Never, sometimes, about half the time, most of the time, always**

20. When you're in a conversation, how often do you find yourself finishing the sentences of the people you are talking to, before they can finish it themselves? **Never, sometimes, about half the time, most of the time, always**
21. How often do you have difficulty waiting your turn in situations when turn taking is required? **Never, sometimes, about half the time, most of the time, always**
22. How often do you interrupt others when they are busy? **Never, sometimes, about half the time, most of the time, always**
23. Before taking Adderall, which of these side effects were you aware of? **Checkboxes: Fatigue, Insomnia, Anxiety, Depression, Headaches, Weight loss, Decreased appetite**
24. After taking Adderall, which of these side effects have you personally experienced? **Checkboxes: Fatigue, Insomnia, Anxiety, Depression, Headaches, Weight loss, Decreased appetite**
25. What best characterizes how often you take Adderall? **Everyday, every other day, once or twice a week, once a month, once every 2-4 months, once a year**
26. Have you ever been prescribed Adderall? **yes/no**
27. After experiencing weight loss/decreased appetite, how satisfied were you? **Extremely dissatisfied, somewhat dissatisfied, Neither satisfied nor satisfied, somewhat satisfied, extremely satisfied**
28. How convinced were you that you had ADHD before seeking treatment? **not at all convinced, slightly convinced, extremely convinced**
29. How many appointments did you have before being prescribed medication? **1, 2, 3, 4, more**
30. What was your starting dose? **5mg, 10mg, 15mg, 20mg, 25mg, higher**
31. Have you ever sold any of your Adderall? **yes/no**
32. Have you ever asked for an increase in your dosage after noticing weight loss? **yes/no**
33. Have you told people about your weight loss due to Adderall? **yes/no**
34. I am terrified about being overweight. **Never, sometimes, about half the time, most of the time, always**
35. I avoid eating when I am hungry. **Never, sometimes, about half the time, most of the time, always**
36. I find myself preoccupied with food. **Never, sometimes, about half the time, most of the time, always**
37. I have gone on eating binges where I feel that I may not be able to stop. **Never, sometimes, about half the time, most of the time, always**
38. I cut my food into small pieces. **Never, sometimes, about half the time, most of the time, always**
39. I am aware of the calorie content of food I eat. **Never, sometimes, about half the time, most of the time, always**
40. I Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc.) **Never, sometimes, about half the time, most of the time, always**

41. I Feel that others would prefer it if I ate more. **Never, sometimes, about half the time, most of the time, always**
42. I Vomit after I have eaten. **Never, sometimes, about half the time, most of the time, always**
43. I Feel extremely guilty after eating. **Never, sometimes, about half the time, most of the time, always**
44. I Am occupied with a desire to be thinner. **Never, sometimes, about half the time, most of the time, always**
45. I Think about burning up calories when I exercise. **Never, sometimes, about half the time, most of the time, always**
46. Other people think that I am too thin. **Definitely true, probably true, unsure, probably not, definitely not**
47. I Am preoccupied with the thought of having fat on my body. **Never, sometimes, about half the time, most of the time, always**
48. I take longer than others to eat my meals. **Never, sometimes, about half the time, most of the time, always**
49. I avoid foods with sugar in them. **Never, sometimes, about half the time, most of the time, always**
50. I eat diet foods. **Never, sometimes, about half the time, most of the time, always**
51. I feel that food controls my life. **Never, sometimes, about half the time, most of the time, always**
52. I display self control around food. **Never, sometimes, about half the time, most of the time, always**
53. I feel that others pressure me to eat. **Never, sometimes, about half the time, most of the time, always**
54. I give too much time and thought into food. **Never, sometimes, about half the time, most of the time, always**
55. I feel uncomfortable after eating sweets. **Extremely uncomfortable, somewhat uncomfortable, neither comfortable nor uncomfortable, somewhat comfortable, extremely comfortable**
56. I engage in dieting behavior. **Never, sometimes, about half the time, most of the time, always**
57. I like my stomach to be empty. **Never, sometimes, about half the time, most of the time, always**
58. I have the impulse to vomit after meals. **Never, sometimes, about half the time, most of the time, always**
59. I enjoy trying new rich foods. **Never, sometimes, about half the time, most of the time, always**
60. Gone on eating binges where you feel that you may not be able to stop? **Never, sometimes, about half the time, most of the time, always**

61. Ever made yourself sick (vomited) to control your weight or shape? **Never, sometimes, about half the time, most of the time, always**
62. Ever used laxatives, diet pills or diuretics (water pills) to control your weight or shape? **Always, often, sometimes, Rarely, Never**
63. Exercised more than 60 minutes a day to lose or to control your weight? **Never, sometimes, about half the time, most of the time, always**
64. Lost 20 pounds or more in the past 6 months? **yes/no**
65. Have you ever been treated for an eating disorder? **yes/no**
66. Debrief form

Appendix F: Consent Form

I am a student at Bard College and I am conducting an experiment through an anonymous online survey for my Senior Project. Participants for this study must be 18 years of age or older in order to participate. For this experiment, I will be investigating a potential underlying reason for Adderall use on college campuses, specifically whether students with or without a prescription are abusing Adderall for off label purposes.

During this study, I will ask you some questions regarding your thoughts, feelings, and behaviors on organization as you generally experience them, as well as questions regarding your attitude and behaviors towards eating. In addition, some questions ask about the illicit use of Adderall as well as questions relating to disordered eating. If you feel uncomfortable answering any question you have the option to skip it. Regardless, your responses will remain completely anonymous. This survey is designed to last approximately 8 minutes, and your responses to each question are very valuable.

The potential risks of participation includes the possibility of experiencing discomfort. Throughout the survey, you will at times reflect on things in your life that may bring you distress such as unhealthy eating behaviors or the illicit use of Adderall. If at any point you feel you may need resources please call the Substance Abuse and Mental Health Services Administration (SAMHSA) Helpline at 1 (800) 662- 4357. If you have any other questions or concerns please feel free to contact the student contact, Giordana Scanni, [@gs2886@bard.edu](mailto:gs2886@bard.edu), or her advisor sdl@bard.edu as well as IRB@bard.edu. As a reminder, if you do not feel comfortable answering any questions, you have the option to skip it at any time or end the survey completely. If you choose to end the survey at any time, your responses will not be included.

I want to remind you again that all information and responses provided towards this survey will remain completely anonymous and your participation is entirely voluntary. You also have the option to end the survey at any time without penalty. Once you reach the end of the survey, you will be prompted to enter your email for a chance to win a \$50 Amazon gift card. Ultimately, the information collected will be included in a senior project available in Stevenson Library at Bard college. No individually identifying information will be included there, and even the researcher will not be able to identify your responses individually. By clicking continue, you have read and agreed that you are 18 years of age or older. Thank you!

Appendix G: Debrief of Study

Thank you so much for participating in this study! Your participation was very valuable to us and we appreciate the time you devoted to participate. The goal of our study was to assess whether individuals who do or do not have a prescription for Adderall are using it for other underlying motivations not linked to academic enhancements. More specifically, our study's primary question: Are individuals with or without a prescription abusing Adderall for weight loss purposes?

By filling out our questionnaire and submitting your responses, you have provided data that can be used to raise more awareness on Adderall abuse on college campuses and data that can place more emphasis on the importance of knowing the harmful effects of Adderall if not taken properly. If you are uncomfortable submitting your data for this study, please let us know and we will delete your data. If you feel you may need resources please call the Substance Abuse and Mental Health Services Administration (SAMHSA) Helpline at 1 (800) 662- 4357.

If you have any questions or concerns feel free to contact the student contact, Giordana Scanni, [@gs2886@bard.edu](mailto:gs2886@bard.edu), or her advisor sdl@bard.edu as well as IRB@bard.edu. As a reminder, your responses to each and every question are completely anonymous. We thank you again for your time and participation!

Appendix H: Institutional Review Board Certification



CITI PROGRAM

Completion Date 01-Mar-2020
Expiration Date 29-Feb-2024
Record ID 35602604

This is to certify that:

Giordana Scanni

Has completed the following CITI Program course:

Human Subjects Research
(Curriculum Group)
Researchers and Staff (HSR)
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Bard College

Not valid for renewal of certification through CME.

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w7c908d6f-c904-43f9-9356-798d5ac57186-35602604